



Article

Therapeutic Uses of Wild Plants by Rural Inhabitants of Maraog Region in District Shimla, Himachal Pradesh, India

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Abstract: The main aim of this study is to document important ethnomedicinal plants from the Maraog region, located in the district of Shimla in Himachal Pradesh, India. A total of 110 medicinal plant species belonging to 102 genera and 57 families were reported from the study site. All of the species were collected from wild habitats. The rural people of the Maraog region were surveyed through interview methods, group discussions, and participatory observations. In the current study, data were collected from 88 informants through the snowball method. A total of 110 plant species

were collected from the study area, including 64 herbs, 24 shrubs, 9 trees, 5 climbers, 3 grasses, and 5 ferns. Most of the plant species, reported from the study area, belong to the Rosaceae and Asteraceae families, each contributing 12 plant species, followed by the Lamiaceae family with 6 plant species. The most used part of the plant in the preparation of herbal medications is the leaves, which have been reported in 62 plants, followed by roots in 14 plants, and flowers and other aerial parts in 9 plants. The ethnomedicinal data were analyzed using "Use Value," a statistical quantitative method, with *Artemisia vestita* having the highest use value (1.00), followed by *Cannabis sativa* (0.79), *Rhododendron arboreum* (0.79), and *Datura stramonium* (0.71). Older people were found to have a vast knowledge of wild medicinal plants, while the younger generation's knowledge was lacking. As a result, traditional knowledge about the use of plants as a source of medicine has decreased day-by-day. Therefore, there is a need to document traditional ethnobotanical knowledge. The data could serve as a basis for research by pharmacological and nutraceutical industries for the development of novel drugs.

Keywords: medicinal plants; traditional knowledge; use value; rural inhabitants

1. Introduction

Since ancient times, wild or naturalized plants have provided social security to millions of people globally, in the form of fuel, food, fodder, supplements, raw materials for industries, medicines, and especially a source of additional income [1–3]. According to the World Health Organization, about 65–80% of people in developing countries are reliant on herbal remedies made from medicinal plants [4]. About 90% of the plant species used in the Indian herbal industry come from the Western Himalayas [5]. The Indian Himalayan region was well-known for its floristic diversity, with approximately 1748 medicinal plant species reported from the region [6], which were used in various fields of chemistry, pharmacological research, pharmacognosy, and clinical therapeutic studies [7,8]. Himachal Pradesh is the northeastern state of India, geographically divided into three distinct regions; the outer Himalayas (Shivalik range), the mid-hills, and the greater Himalayas, which cover an area of 55,673 km² [9,10]. Due to its diverse climatic, topographic, and geographical position or altitude, the state of Himachal Pradesh represents a rich source of biodiversity [11,12]. According to the data of the Ayurvedic Pharmacopoeia Committee (Government of India), out of 1100 single-ingredient drugs, 350 plant species belong to native therapeutic groups, among which 225 species bloom in the state of Himachal Pradesh and were obtained commercially [13].

Shimla, the capital of Himachal Pradesh, is in the southwestern region of the Himalayas, lies at 31.61° N and 77.10° E and has a wide range of floristic diversity [11–15]. The area was represented by 1326 plant species belonging to 639 genera. Angiosperms, including 1003 species of dicotyledons, belonging to 498 genera and 313 species of monocotyledons, belonging to 133 genera. Whereas, the gymnosperms are characterized by only 10 species and 8 genera in the state [11,13]. The contribution of dicotyledons and monocotyledons to the world flora is approximately 81.3 and 18.7 percent, respectively, with the Shimla district accounting for 23.3 percent of monocotyledon species [11,13]. Approximately 500 species of medicinal plants have been reported from Himachal Pradesh [11,13]. From the very beginning of human civilization, people have been developing their knowledge of plant use, management, and conservation [16,17]. Indigenous people seem to have a hierarchical knowledge of these traditional medicinal plants for a variety of human diseases, and this knowledge has been passed on from one generation to the next [18–21]. This study documents the accumulated knowledge regarding plants in the Maraog region that has traditionally been employed for the treatment of different human diseases.

No such study has been conducted previously in this area, thus it will assist in providing valuable information to the ethnomedicinal research field, and such information is expected to be useful in the discovery of drugs [22]. Such studies have been done in

different parts of the world, including Pakistan, Nepal, Africa, America, Europe, Poland, Argentina, Australia, Iran, New Zealand, Turkey, Japan, Taiwan, Pakistan, China, Nepal, as well as different parts of South, North and East India. The declining rate of ethnomedicinal knowledge amongst younger generations was found to be a common problem in all the reported countries [23–25]. As the economic condition of people living in rural areas is improving day-by-day, people are becoming less dependent on traditional medicinal practices, thus knowledge in the use of medicinal plants is also diminishing [26]. Therefore, it is important to document ethnomedicinal knowledge of plants before it vanishes completely.

2. Materials and Methods

2.1. Study Site

The current survey was conducted in the rural areas of the Maraog region in the Shimla district, which is in the southwestern part of Himachal Pradesh [27,28], as shown in Figure 1. This area lies in the subtropical to temperate zone and is blessed with floristic diversity [29]. The Maraog village of tehsil Chopal is a far-flung area of the district of Shimla and is located between 77°24'30" and 77°49'00" East Longitudes and 30°46'30" to 31°04'30" North latitudes, having regular temperature fluctuations between 33 °C and 5 °C. This area witnesses up to 1200 mm of rainfall and winter snow annually [28,29].

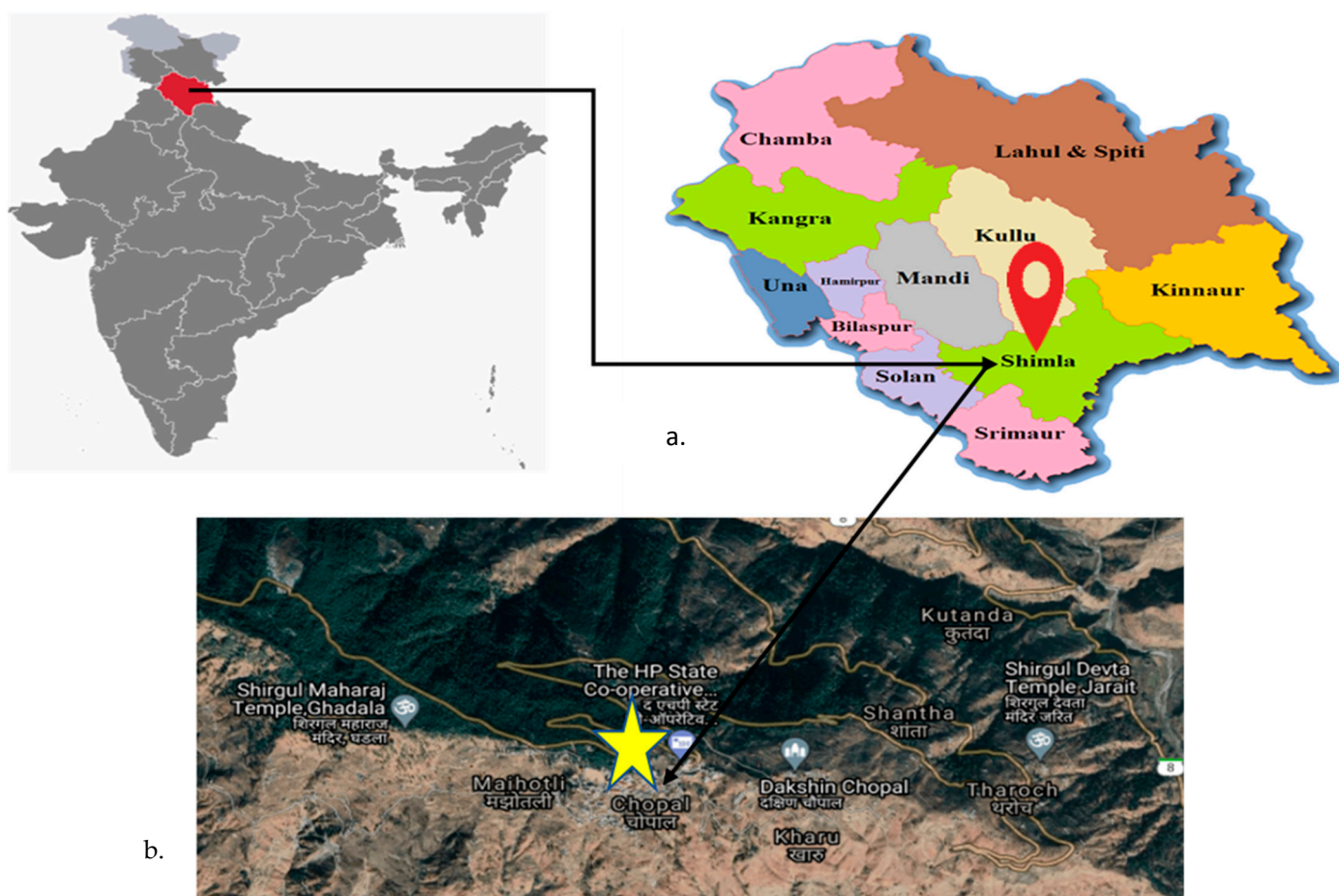


Figure 1. (a) Geographical identification of the study area; (b) satellite map.

2.2. Sampling Informants

During the survey, a total of 88 informants (57 males and 31 females) were interviewed by the snowball method. The age and educational background of informants were also

recorded during the interview. The informants were divided into 5 groups on the basis of their age (Table 1).

Table 1. Demography and literacy among informants.

| Sr. No. | Age Groups | No. of Informants | | | | |
|---------------------------|---|-------------------|-------|-------|-------|-------|
| 1. | 22–30 | 10 | | | | |
| 2. | 30–40 | 27 | | | | |
| 3. | 40–50 | 16 | | | | |
| 4. | 50–60 | 20 | | | | |
| 5. | 60–70 | 15 | | | | |
| Literacy among Informants | | Age Groups | | | | |
| | | 22–30 | 30–40 | 40–50 | 50–60 | 60–70 |
| 1. | Never attended school | 0 | 0 | 0 | 03 | 05 |
| 2. | Attended school up to primary level (1–5 class) | 0 | 02 | 03 | 09 | 08 |
| 3. | Attended school up to middle level (6–8) | 0 | 05 | 06 | 05 | 02 |
| 4. | Attended school up to metric level (9–10 class) | 10 | 20 | 07 | 03 | 0 |

2.3. Ethnomedicinal Data Collection and Ethical Considerations

The aim of the present study was to explore and identify wild medicinal plants, and to document their ethnomedicinal use as practiced by the rural inhabitants of the study area. The survey was conducted in July 2020 to June 2021. The information was gathered from 88 people, ranging in age from 22 to 65 years old. We briefly informed the locals about the study and asked them for their valuable knowledge of wild medicinal plants. Direct interviews, pre-tested questionnaires, group discussions, and field observations were the major information gathering methods from the inhabitants. The questionnaire was divided into 3 sections: Demographic data, ethnomedicinal plant uses, and the informant's declaration (Table 2). They were asked to share common names of plant species, parts used, and their application for various ailments. The samples of plants were collected from the study site and identified by BSI, Dehradun, Uttarakhand, India, then mounted on standard herbarium sheets and submitted to the herbarium of Shoolini University, India [30].

2.4. Data Analysis

Ethnomedicinal data were gathered from 88 randomly selected informants from the Maraog region in Tehsil Chopal. The ethnomedicinal collected data were analyzed using use value. The analysis of ethnomedicinal data, obtained from the informants, was done statistically by using the "use value", which is a quantitative approach for demonstrating the relative importance of a particular species known to folks. It was calculated using the following formula:

$$UV = \sum U_i/n$$

where UV is the use value of a species U_i , the number of citations per species and n is the number of informants. The high number of use value indicates the importance of that plant species, while the lower number of use value indicates that plant species was relatively less used [31,32].

Table 2. Questionnaire for Conducting the Ethnomedicinal Study.

| (A) DEMOGRAPHIC DATA | |
|--|-----------------------------------|
| Name of Tehsil..... | Name of Village.....Rural..... |
| Sr. No | Age Education |
| 1. | |
| 2. | |
| (B) ETHNOMEDICINAL PLANT USES | |
| 1. Plant (Local / Vernacular name) | |
| 2. Plant identified as..... (Botanical name) | |
| 3. Habit of the plant (Trees/Shrubs/Herbs/Climbers/Grasses/Other) | |
| 4. Part(s) of plant used..... | |
| 5. Nature of ailment treated..... | |
| 6. Route of administration (a) Oral (b) Topical. | |
| 7. Response of the informant(s). | |
| (a) Effective/Good..... (b) Fair..... (c) Poor..... | |
| (C) INFORMANTS DECLARATION | |
| We, the above-mentioned, have voluntarily agreed to participate in this study with our full consent, and we declare that the information and knowledge given in the interview and discussion is correct and complete to the best of our knowledge. | |
| Dated: | |

3. Results

It was found that the inhabitants of the study area used different plant species for the treatment of a wide range of diseases. The most reported diseases from this study area, include coughs, colds, skin infections, stomach disorders, oral diseases, and diarrhea. Data about traditional medicinal uses of plants were collected from 88 informants, including 57 males and 31 females. The local communities residing in the study area were highly dependent on forest produce to fulfil their daily requirements of fuel, food, fodder, shelter, and medicines. After noting the demographic data and literacy rate of the inhabitants, it was found that aged people possessed an immense knowledge of ethnomedicinal plants compared to the younger generation.

The rural people of the study area used 110 plant species from 102 genera belonging to 57 families for ethnomedicinal purposes. In this study, it was found that Rosaceae, Asteraceae, and Lamiaceae were the most reported families. The Rosaceae and Asteraceae families had 12 plant species each, followed by the Lamiaceae family with 6 plant species. The Apiaceae, Pinaceae, Brassicaceae, and Solanaceae families each contributed 3 plant species, while the Fabaceae, Ranunculaceae and Polygonaceae families each contributed 4 plant species. The Amaranthaceae, Berberidaceae, Oxalidaceae, Poaceae, Primulaceae, Pteridaceae, Plantaginaceae, Scrophulariaceae and Utricaceae contributed 2 species (Figure 2).

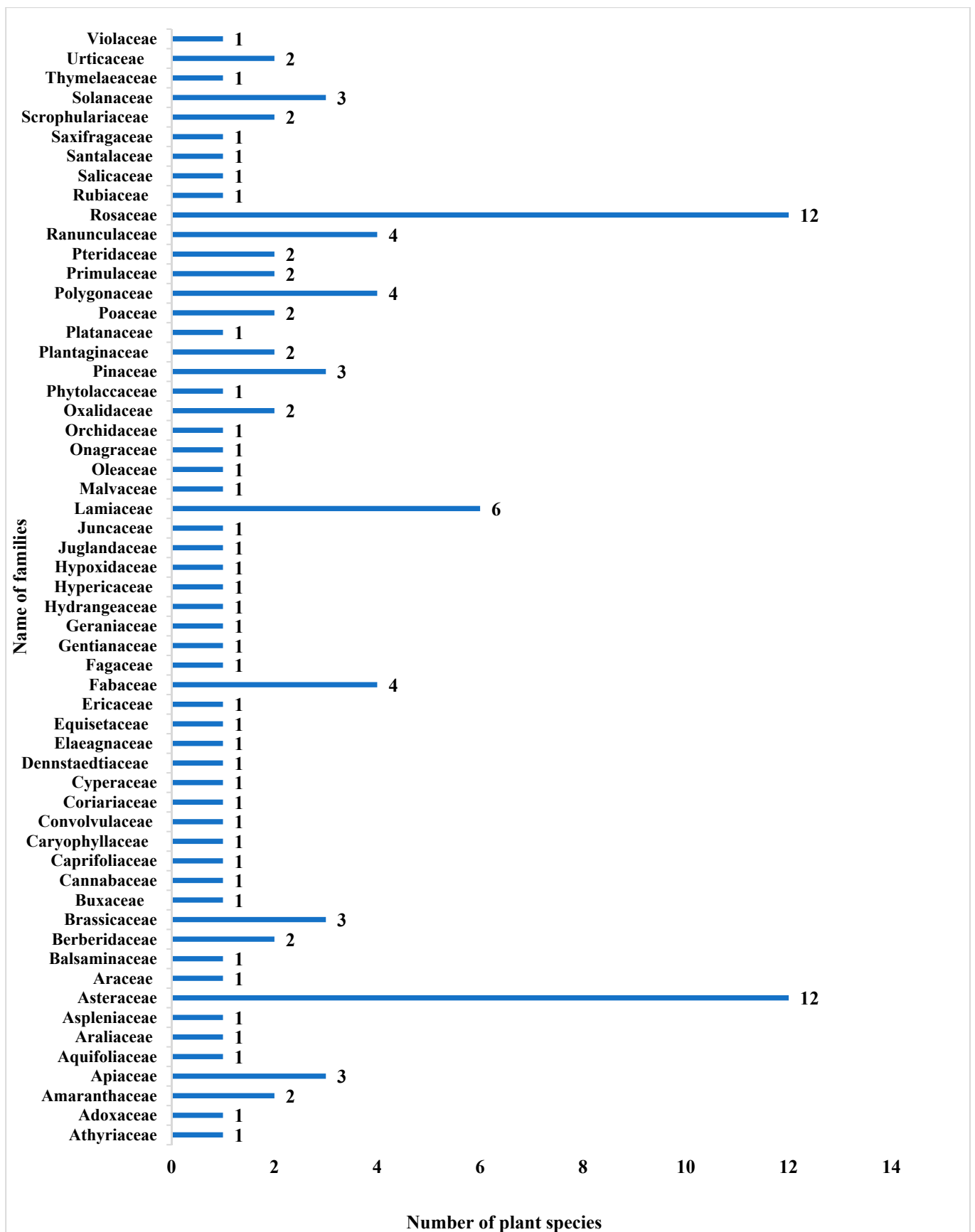


Figure 2. Representation of the number of species per family found in the study area.

The plants identified from the study area were herbs (64), shrubs (24), trees (9), climbers (5), grasses (3) and ferns (5) (Figure 3).

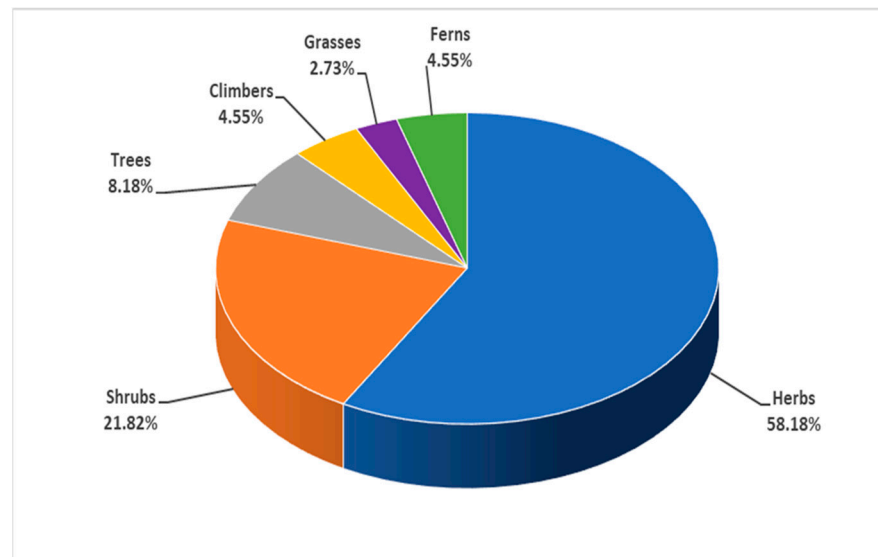


Figure 3. Percentage of growth forms of plant species at study site.

While documenting the data, it was found that, in the preparation of herbal medications, leaves were the most used plant part, followed by roots and flowers (Figure 4).

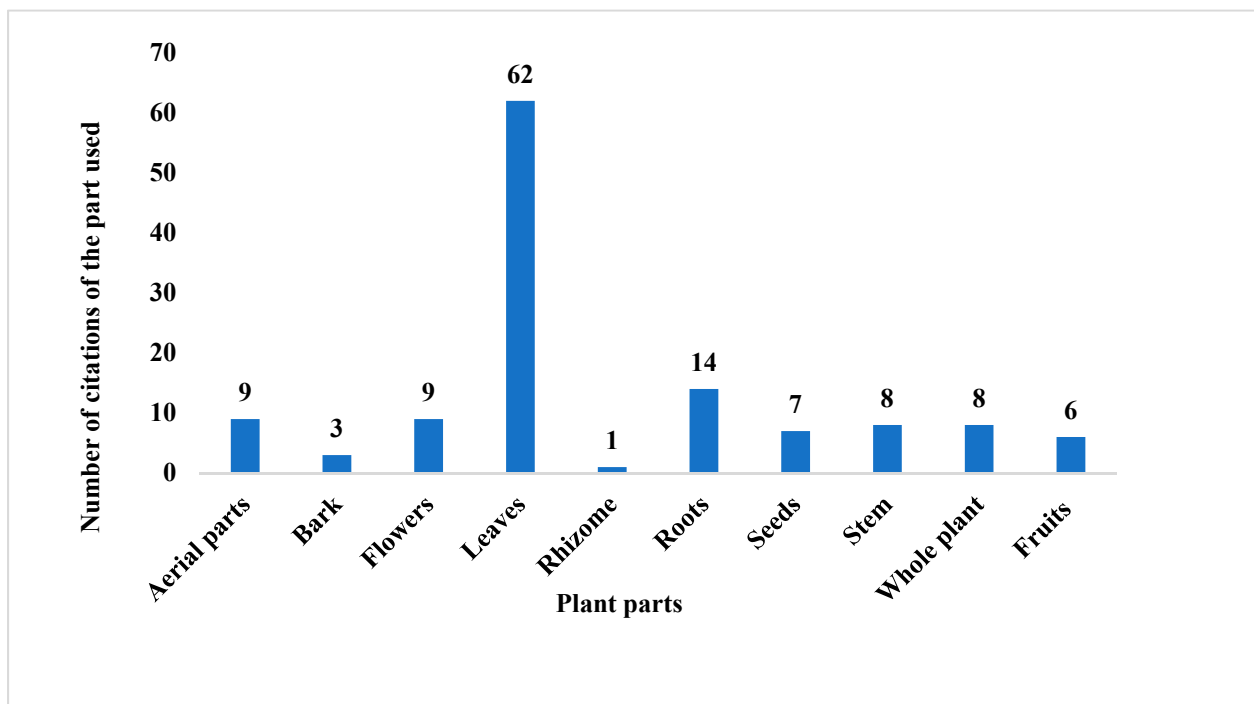


Figure 4. Representation of the number of citations of plant parts used.

Plant parts were used in the form of paste, juice, decoction, and infusion. Table 3 arranges the information about the collected plants in a systematic order with botanical names, family, common names, habits or growth forms, parts used as medicine, and mode of administration with description.

Table 3. Ethnomedicinal plants used in study area.

| Sr. No. | Botanical Name | Family | Vernacular Names Name | Voucher No. | Habit | Parts Used | Ailment Treated | Mode | Medicinal Use and Number of Citations | Use Value |
|---------|--|---------------|-----------------------|----------------|-------|-----------------|--|---------------|--|-----------|
| 1 | <i>Abies pindrow</i> (Royle ex D. Don) Royle | Pinaceae | Tonss | SUBMS/BOT-4184 | Tree | Leaves | Cough | Oral | Juice of fresh leaves is used to cure cough (14). | 0.15 |
| 2 | <i>Adiantum venustum</i> D. Don | Pteridaceae | Dmni tilli, Jamna | SUBMS/BOT-4185 | Fern | Leaves | Cough, Headache | Oral, Topical | Fresh leaves with hot water are used to cure cough. Paste of leaves is used to get relief from headache (9). | 0.10 |
| 3 | <i>Ajuga parviflora</i> Benth. | Lamiaceae | Neelkanthi | SUBMS/BOT-4186 | Herb | Aerial parts | Wounds, Diabetes | Topical, Oral | Paste of fresh leaves is applied on wounds. Fresh leaves are chewed by diabetic person to cure diabetes (45). | 0.51 |
| 4 | <i>Amaranthus blitum</i> L. | Amaranthaceae | Sukhichalayi | SUBMS/BOT-4187 | Herb | Whole plant | Tonic, Blood circulation | Oral | Juice of whole plant is used to improve circulation and also as tonic (8). | 0.09 |
| 5 | <i>Androsace sarmentosa</i> Wall. | Primulaceae | Phoolru | SUBMS/BOT-4188 | Herb | Leaves, Flowers | Skin infections | Topical | A paste of whole plant is used to cure skin infections (9). | 0.10 |
| 6 | <i>Arisaema concinnum</i> Schott | Araceae | Jangish | SUBMS/BOT-4349 | Herb | Whole plant | Snake bite | Oral | Decoction of whole plant is used in the treatment of snake bite (10). | 0.11 |
| 7 | <i>Artemisia vestita</i> Wall. Ex Besser | Asteraceae | Chamber | SUBMS/BOT-4189 | Herb | Leaves | Wounds | Topical | Paste of fresh leaves is applied on cuts or wounds to stop bleeding. Extract of leaves is used to get relief from inflammation (88). | 1.00 |
| 8 | <i>Aruncus dioicus</i> (Walter) Fernald | Rosaceae | Pothee | SUBMS/BOT-4190 | Herb | Roots | Internal bleeding, Diarrhea, Tonsillitis | Oral, Topical | Juice extract of roots is used to treat internal bleeding and diarrhea. Dry roots are used to cure tonsillitis in children (11). | 0.12 |

Table 3. Cont.

| Sr. No. | Botanical Name | Family | Vernacular Names Name | Voucher No. | Habit | Parts Used | Ailment Treated | Mode | Medicinal Use and Number of Citations | Use Value |
|---------|--|------------------|-----------------------|----------------|-------|---------------------------|--|---------------|--|-----------|
| 9 | <i>Asplenium dalhousiae</i> Hook. | Aspleniaceae | Nanwein | SUBMS/BOT-4191 | Fern | Whole plant | Skin infections | Topical | Paste of fresh as well as dried plant is used to cure skin infections (8). | 0.09 |
| 10 | <i>Berberis lycium</i> Royle | Berberidaceae | Kashmal | SUBMS/BOT-4192 | Shrub | Leaves, Roots, Stem, Bark | Wound, Fever, Jaundice, Dysentery, Piles | Oral, Topical | Paste of bark is used to cure wounds and dysentery and fever. Fresh leaves are used against jaundice. Decoction is used to treat piles (40). | 0.45 |
| 11 | <i>Berberis aristata</i> DC. | Berberidaceae | Chatra | SUBMS/BOT-4193 | Shrub | Leaves | Skin infections, Wound healing, | Topical | Paste of dried roots is used to cure skin infection and wounds (36). | 0.40 |
| 12 | <i>Bergenia ciliata</i> (Haw.) Sternb | Saxifragaceae | Daclambu | SUBMS/BOT-4194 | Herb | Roots | Common cold | Oral | The powder of dry roots with hot water is used to treat common cold (28). | 0.31 |
| 13 | <i>Bromus hordeaceus</i> L. | Poaceae | Jawi | SUBMS/BOT-4195 | Grass | Leaves | Constipation | Oral | Leaves are used to cure constipation (7). | 0.07 |
| 14 | <i>Buddleja crispa</i> Benth. | Scrophulariaceae | Taakla | SUBMS/BOT-4196 | Shrub | Leaves | Skin infections | Topical | Paste of fresh leaves is used against skin infections (13). | 0.14 |
| 15 | <i>Cannabis sativa</i> L. | Cannabaceae | Bhang | SUBMS/BOT-4197 | Herb | Leaves, Seeds | Inflammation, Skin burns | Topical | Paste of fresh leaves is used to cure skin infections. Oil extracts of seeds is used to heal burns (70). | 0.79 |
| 16 | <i>Capsella bursa-pastoris</i> (L.) Medik. | Brassicaceae | Khandwa | SUBMS/BOT-4198 | Herb | Aerial parts | Internal bleeding, Inflammation | Oral | Juice extracts from aerial part of plant with hot water is used in the treatment of internal bleeding. The plant is crushed and applied on inflammations (13). | 0.14 |

Table 3. Cont.

| Sr. No. | Botanical Name | Family | Vernacular Names Name | Voucher No. | Habit | Parts Used | Ailment Treated | Mode | Medicinal Use and Number of Citations | Use Value |
|---------|---|---------------|-----------------------|----------------|---------|-----------------|---------------------------|---------------|---|-----------|
| 17 | <i>Cedrus deodara</i> (Roxb. ex D. Don) G. Don | Pinaceae | Devdar, Kelti | SUBMS/BOT-4199 | Tree | Bark | Gastric ulcers | Oral | Powdered bark is used to cure gastric ulcers (16). | 0.18 |
| 18 | <i>Chenopodium album</i> L. | Amaranthaceae | Shnathu | SUBMS/BOT-4200 | Herb | Leaves | Constipation | Oral | Fresh leaves are beneficial for people suffering from constipation (20). | 0.22 |
| 19 | <i>Cirsium arvense</i> (L.) Scop. | Asteraceae | Bhenda | SUBMS/BOT-4201 | Herb | Roots | Toothache | Oral | Dry roots are used as a remedy for toothache (13). | 0.14 |
| 20 | <i>Clematis buchananiana</i> DC. | Ranunculaceae | Silra | SUBMS/BOT-4202 | Climber | Roots | Cough, Cold, Swelling, | Oral, Topical | Juice extracts of roots are used to get rid of cough and cold. A paste of dry roots is used to cure swellings in the body (11). | 0.12 |
| 21 | <i>Clematis vitalba</i> L. | Ranunculaceae | Garol | SUBMS/BOT-4203 | Shrub | Leaves | Skin infections | Topical | Paste of fresh leaves is used to treat skin infections (12). | 0.13 |
| 22 | <i>Coriaria nepalensis</i> Wall. | Coriariaceae | Rachare, Gandhla | SUBMS/BOT-4204 | Shrub | Roots | Toothache | Oral | Powdered roots are used as medication for toothache (9). | 0.10 |
| 23 | <i>Cotoneaster microphyllus</i> Wall. ex Lindl. | Rosaceae | Jampradua | SUBMS/BOT-4205 | Shrub | Stem | Oral infections | Oral | The stem is used as toothbrush to get rid of many oral problems (8). | 0.09 |
| 24 | <i>Curculigo orchioides</i> Gaertn. | Hypoxidaceae | Lehsun-phool | SUBMS/BOT-4206 | Herb | Leaves, Flowers | Joint pains | Topical | Paste of fresh leaves and flowers is used to get relief from joint pains (10). | 0.11 |
| 25 | <i>Cynodon dactylon</i> (L.) Pers. | Poaceae | Joob | SUBMS/BOT-4207 | Grass | Whole plant | Jaundice, Skin infections | Oral, Topical | Fresh plant is used to treat jaundice. Leaves are crushed and applied on skin infections (20). | 0.22 |

Table 3. Cont.

| Sr. No. | Botanical Name | Family | Vernacular Names Name | Voucher No. | Habit | Parts Used | Ailment Treated | Mode | Medicinal Use and Number of Citations | Use Value |
|---------|--|---------------|-----------------------|----------------|-------|-----------------|---|---------|---|-----------|
| 26 | <i>Cyperus cyperoides</i> (L.) Kuntze | Cyperaceae | Kadreen, koda ghass | SUBMS/BOT-4208 | Grass | Leaves | Diarrhea | Oral | Fresh leaves are used to cure diarrhea (11). | 0.12 |
| 27 | <i>Daphne papyracea</i> Wall. ex G. Don | Thymelaeaceae | Baruvaa | SUBMS/BOT-4209 | Shrub | Leaves | Skin infections | Topical | Leaves as paste is used against skin infections (6). | 0.06 |
| 28 | <i>Datura stramonium</i> L. | Solanaceae | Datura | SUBMS/BOT-4210 | Herb | Leaves, Seeds | Headache, Hair fall | Topical | A paste of leaves is used to cure headache. Oil of seeds is used as a remedy for baldness (27). | 0.30 |
| 29 | <i>Delphinium denudatum</i> Wall. ex Hook.f. & Thomson | Ranunculaceae | Nirbishi | SUBMS/BOT-4350 | Herb | Roots | Toothache | Oral | Paste of powdered root is effective in treatment of toothache (21). | 0.23 |
| 30 | <i>Desmodium elegans</i> DC. | Fabaceae | Murta | SUBMS/BOT-4237 | Shrub | Leaves | Skin infections | Topical | Leaves are crushed and applied on skin infections (6). | 0.06 |
| 31 | <i>Deutzia scabra</i> Thunb. | Hydrangeaceae | Suniya | SUBMS/BOT-4211 | Shrub | Leaves | Skin infections | Topical | A paste of leaves is used against skin infections (11). | 0.12 |
| 32 | <i>Diplazium esculentum</i> (Retz.) Sw | Athyriaceae | Lingar | SUBMS/BOT-4239 | Fern | Aerial parts | Muscular pains | Oral | Decoction of aerial part is used to cure muscular pains in the body (27). | 0.30 |
| 33 | <i>Elaeagnus umbellata</i> Thunb. | Elaeagnaceae | Genhi | SUBMS/BOT-4212 | Shrub | Seeds | Cough | Oral | Powdered seeds are used to cure cough (15). | 0.17 |
| 34 | <i>Epilobium hirsutum</i> L. | Onagraceae | Dandri | SUBMS/BOT-4213 | Herb | Leaves, Flowers | Urinary infections, Menstrual disorders | Oral | Leaves are used as tea, which is beneficial in the treatment of urinary and menstrual problems (8). | 0.09 |

Table 3. Cont.

| Sr. No. | Botanical Name | Family | Vernacular Names Name | Voucher No. | Habit | Parts Used | Ailment Treated | Mode | Medicinal Use and Number of Citations | Use Value |
|---------|--|----------------|-----------------------|----------------|---------|-----------------------|---------------------------------|---------------|--|-----------|
| 35 | <i>Equisetum arvense</i> L. | Equisetaceae | Ramban | SUBMS/BOT-4214 | Herb | Aerial part | Cough, Joint pain | Oral, Topical | A paste of fresh aerial parts is used in the treatment of cough and joint pains (49). | 0.55 |
| 36 | <i>Erigeron alpinus</i> L. | Asteraceae | Chipru | SUBMS/BOT-4215 | Herb | Leaves | Urinary infections | Oral | Leaves are used to treat urinary infections (9). | 0.10 |
| 37 | <i>Erigeron bonariensis</i> L. | Asteraceae | Kupru | SUBMS/BOT-4216 | Herb | Leaves | Piles | Oral | Infusion of leaves is helpful in curing piles (9). | 0.10 |
| 38 | <i>Evolvulus nummularius</i> (L.) L. | Convolvulaceae | Ghareu | SUBMS/BOT-4217 | Climber | Leaves | Skin infections | Topical | A paste of fresh leaves is used against skin infections (17). | 0.19 |
| 39 | <i>Fagopyrum acutatum</i> (Lehm.) Mansf. ex K. Hammer | Polygonaceae | Fafri | SUBMS/BOT-4218 | Herb | Leaves, Stem | Chilblains, High blood pressure | Oral | Juice extracted from leaves and stem along with hot water is consumed to cure chilblains and high blood pressure (11). | 0.12 |
| 40 | <i>Foeniculum vulgare</i> Mill. | Apiaceae | Sounph | SUBMS/BOT-4219 | Herb | Leaves, Seeds | Gastric problems | Oral | Infusion of leaves and seeds is a medication for gastric problems (21). | 0.23 |
| 41 | <i>Fragaria virginiana</i> Mill. | Rosaceae | Bhumbal | SUBMS/BOT-4220 | Herb | Fruits, Roots, Leaves | Sunburn, Indigestion | Topical, Oral | Juice of fruits is used to cure sunburn. Powdered roots and leaves are used to treat the digestion problems (15). | 0.17 |
| 42 | <i>Galinsoga quadriradiata</i> Ruiz & Pav. | Asteraceae | Sheliya | SUBMS/BOT-4221 | Herb | Leaves | Wounds, Bleeding | Topical | Fresh leaves paste is used to stop bleeding and heal wounds (16). | 0.18 |
| 43 | <i>Gentiana argentea</i> (Royle ex D.Don) Royle ex D.Don | Gentianaceae | Bhuin neem | SUBMS/BOT-4222 | Herb | Whole plant | Appetite, Mensuration | Oral | Whole plant paste is used to induce appetite and mensuration (20). | 0.22 |

Table 3. Cont.

| Sr. No. | Botanical Name | Family | Vernacular Names Name | Voucher No. | Habit | Parts Used | Ailment Treated | Mode | Medicinal Use and Number of Citations | Use Value |
|---------|---|---------------|-----------------------|----------------|---------|------------|-----------------------|---------|---|-----------|
| 44 | <i>Geranium nepalense</i> Sweet | Geraniaceae | Bhrago-ro-naush | SUBMS/BOT-4223 | Herb | Leaves | Acne, Pimples | Topical | A paste of fresh leaves is helpful in curing acne and pimples (11). | 0.12 |
| 45 | <i>Girardinia diversifolia</i> (Link) Friis | Urticaceae | Lindu bhaber | SUBMS/BOT-4224 | Shrub | Roots | Boils | Topical | A paste of roots is used as a medication for boils (43). | 0.48 |
| 46 | <i>Goodyera repens</i> (L.) R.Br. | Orchidaceae | Kaligatti | SUBMS/BOT-4225 | Herb | Stem | Cold, Fever | Oral | A paste of stem is used to cure cold and fever (21). | 0.23 |
| 47 | <i>Hedera nepalensis</i> K.Koch | Araliaceae | Kanewari | SUBMS/BOT-4226 | Climber | Leaves | Jaundice | Oral | Powered leaves are used as a remedy for jaundice (18). | 0.20 |
| 48 | <i>Helichrysum arenarium</i> (L.) Moench | Asteraceae | Dhareri | SUBMS/BOT-4227 | Herb | Flowers | Skin infections | Topical | Fresh or powdered flowers are useful against skin infections (16). | 0.18 |
| 49 | <i>Heracleum maximum</i> W. Bartram | Apiaceae | Patla | SUBMS/BOT-4228 | Herb | Roots | Respiratory disorders | Oral | Dry root is used for the treatment of respiratory ailments (11). | 0.12 |
| 50 | <i>Hypericum perforatum</i> L. | Hypericaceae | Dhai | SUBMS/BOT-4229 | Shrub | Leaves | Skin infections | Topical | Leaves are used against skin infections (9). | 0.10 |
| 51 | <i>Ilex dipyrrena</i> Wall. | Aquifoliaceae | Khareu | SUBMS/BOT-4230 | Tree | Leaves | Cough | Oral | Powdered leaves are used for treating cough (13). | 0.14 |
| 52 | <i>Impatiens glandulifera</i> Royle | Balsaminaceae | Binchi, Rdheu | SUBMS/BOT-4231 | Herb | Leaves | Warts | Topical | A paste of fresh leaves is a remedy for warts (17). | 0.19 |
| 53 | <i>Indigofera gerardiana</i> Baker | Fabaceae | Kathi | SUBMS/BOT-4232 | Shrub | Leaves | Scorpion bites | Topical | Juice extracts of fresh leaves is used against scorpion bites (14). | 0.15 |
| 54 | <i>Jasminum humile</i> L. | Oleaceae | Chameli | SUBMS/BOT-4351 | Shrub | Leaves | Toothache | Oral | Leaves are chewed to get relief from toothache (10). | 0.11 |

Table 3. Cont.

| Sr. No. | Botanical Name | Family | Vernacular Names Name | Voucher No. | Habit | Parts Used | Ailment Treated | Mode | Medicinal Use and Number of Citations | Use Value |
|---------|--------------------------------------|------------------|-----------------------|----------------|-------|--------------|----------------------------------|---------------|---|-----------|
| 55 | <i>Juglans regia</i> L. | Juglandaceae | Akhrot, khodh | SUBMS/BOT-4233 | Tree | Whole plant | Dental problems, Skin infections | Oral, Topical | Whole plant is useful against dental problems and skin infection (25). | 0.28 |
| 56 | <i>Juncus effusus</i> L. | Juncaceae | Kirala, Sulu | SUBMS/BOT-4234 | Herb | Stem | Sore throat | Oral | Stem juice with hot water is used to cure sore throat (8). | 0.09 |
| 57 | <i>Lepidium campestre</i> (L.) R.Br. | Brassicaceae | Khoru | SUBMS/BOT-4236 | Herb | Aerial parts | Constipation | Oral | A paste of aerial parts is effective in the treatment of constipation (9). | 0.10 |
| 58 | <i>Malva verticillata</i> L. | Malvaceae | Shochla | SUBMS/BOT-4238 | Herb | Leaves | Urinary problems | Oral | Juice extracts of leaves is used to cure urinary problems (20). | 0.22 |
| 59 | <i>Mentha viridis</i> (L.) L. | Lamiaceae | Pahari pudina | SUBMS/BOT-4241 | Herb | Leaves | Dysentery, Acidity | Oral | A paste of fresh leaves is effective in dysentery and acidity (60). | 0.68 |
| 60 | <i>Nicotiana tabacum</i> L. | Solanaceae | Tambakhoo | SUBMS/BOT-4240 | Herb | Leaves | Boils | Topical | Fresh leaves are used as a remedy against boils (30). | 0.34 |
| 61 | <i>Origanum vulgare</i> L. | Lamiaceae | Sathra | SUBMS/BOT-4352 | Herb | Leaves | Internal wounds | Oral | Leaves are used to treat internal wounds (23). | 0.26 |
| 62 | <i>Oxalis articulata</i> Savigny | Oxalidaceae | Shash | SUBMS/BOT-4242 | Herb | Leaves | Snake bite, Burns | Topical | A paste of fresh leaves is used to treat snake bites and burns (16). | 0.18 |
| 63 | <i>Oxalis corniculata</i> L. | Oxalidaceae | Amrul, Shash | SUBMS/BOT-4243 | Herb | Leaves | Snake poisoning, Burns | Topical | Paste of fresh leaves is used to treat snake bites and burns (16). | 0.18 |
| 64 | <i>Petridium aquilinum</i> (L.) Kuhn | Dennstaedtiaceae | Barna | SUBMS/BOT-4244 | Fern | Rhizome | Body pains | Oral | Juice extracts of young rhizome along with hot water is given to person suffering from body pains (13). | 0.14 |
| 65 | <i>Phytolacca acinosa</i> Roxb. | Phytolaccaceae | Jalag | SUBMS/BOT-4353 | Herb | Leaves | Constipation, Urinary infections | Oral | Well-cooked leaves are used as remedy for constipation and urinary disorders (36). | 0.40 |

Table 3. Cont.

| Sr. No. | Botanical Name | Family | Vernacular Names Name | Voucher No. | Habit | Parts Used | Ailment Treated | Mode | Medicinal Use and Number of Citations | Use Value |
|---------|--|----------------|-----------------------|----------------|-------|---------------|------------------------------|---------|--|-----------|
| 66 | <i>Pinus wallichiana</i> A. B. Jacks. | Pinaceae | Kail | SUBMS/BOT-4354 | Tree | Leaves | Cracks in feet | Topical | Fresh leaves are crushed and applied on cracked feet (29). | 0.32 |
| 67 | <i>Plantago major</i> L. | Plantaginaceae | Baartng | SUBMS/BOT-4355 | Herb | Leaves, Seeds | Diarrhea, Dysentery, Fever | Oral | A paste of leaves is used in the treatment of diarrhea and dysentery. Powdered seeds are used in fever (10). | 0.11 |
| 68 | <i>Platanus orientalis</i> L. | Platanaceae | Kimti | SUBMS/BOT-4245 | Shrub | Leaves | Chilblains, Wounds | Topical | A paste prepared from leaves is used to get relief from chilblains and heal wounds (13). | 0.14 |
| 69 | <i>Potentilla indica</i> var. <i>wallichii</i> (Franch. & Sav.) Th. Wolf | Rosaceae | Bhumbhal | SUBMS/BOT-4246 | Herb | Leaves | Skin infections | Topical | A paste of leaves is helpful in curing skin infections (9). | 0.10 |
| 70 | <i>Potentilla tabernaemontani</i> Asch. | Rosaceae | Diyuda | SUBMS/BOT-4247 | Herb | Aerial parts | Gastric problems | Oral | Decoction of aerial parts is used to get relief from gastric problems (7). | 0.07 |
| 71 | <i>Primula denticulata</i> Sm. | Primulaceae | Lattar-phul | SUBMS/BOT-4248 | Herb | Leaves | Blood in urine | Oral | Powdered leaves are used to treat the problem of blood in urine (7). | 0.07 |
| 72 | <i>Prinsepia utilis</i> Royle | Rosaceae | Bhekhhal | SUBMS/BOT-4249 | Shrub | Seeds | Muscular pain | Topical | Oil obtained from the seeds is used to treat muscular pain (25). | 0.28 |
| 73 | <i>Prunus cerasoides</i> Buch-Ham. ex D. Don | Rosaceae | Pajja | SUBMS/BOT-4356 | Tree | Leaves | Burning sensations, Abortion | Oral | Leaves are used to calm down the burning sensations of the body. Infusion of young twigs is used to stop abortions (18). | 0.20 |

Table 3. Cont.

| Sr. No. | Botanical Name | Family | Vernacular Names Name | Voucher No. | Habit | Parts Used | Ailment Treated | Mode | Medicinal Use and Number of Citations | Use Value |
|---------|--|---------------|-----------------------|----------------|-------|----------------|---------------------------------|---------------|--|-----------|
| 74 | <i>Pteris cretica</i> var. <i>laeta</i> (Wall. ex Ettingsh.) C. Chr. & Tardieu | Pteridaceae | Barne | SUBMS/BOT-4250 | Fern | Leaves | Skin infections | Topical | A paste of leaves is effective against skin infections (6). | 0.06 |
| 75 | <i>Pyrus pashia</i> Buch-Ham. ex D.Don | Rosaceae | Kainth | SUBMS/BOT-4251 | Tree | Fruits | Diarrhea | Oral | Ripened fruits are used to cure diarrhea (21). | 0.23 |
| 76 | <i>Quercus floribunda</i> Lindl. ex A.Camus | Fagaceae | Mohru | SUBMS/BOT-4252 | Tree | Leaves | Diarrhea | Oral | Unmatured leaves are used in the treatment of diarrhea (9). | 0.10 |
| 77 | <i>Ranunculus repens</i> L. | Ranunculaceae | Panja | SUBMS/BOT-4357 | Herb | Leaves | Acne, Pimples, Fever | Topical, Oral | A paste of fresh leaves is helpful in curing acne and pimples. Powdered leaves are used in mild fever (10). | 0.11 |
| 78 | <i>Rhododendron arboreum</i> Sm. | Ericaceae | Buransh | SUBMS/BOT-4253 | Tree | Flowers | Stomachache | Oral | Paste of dry flowers is used against stomachache (70). | 0.79 |
| 79 | <i>Rosa brunonii</i> Lindl. | Rosaceae | Kuja | SUBMS/BOT-4254 | Shrub | Fruits | Constipation | Oral | Ripened fruits are used to cure constipation (16). | 0.18 |
| 80 | <i>Rosa sericea</i> Wall. ex Lindl. | Rosaceae | Junglee gulab | SUBMS/BOT-4255 | Shrub | Fruits, Leaves | Jaundice, Fever | Oral | Dry fruits are used in the treatment of jaundice and fever (8). | 0.09 |
| 81 | <i>Rubia cordifolia</i> L. | Rubiaceae | Kathiya | SUBMS/BOT-4256 | Shrub | Roots | Menstrual disorders | Oral | Juice extracts of roots is used to cure menstrual disorders (9). | 0.10 |
| 82 | <i>Rubus ellipticus</i> Sm. | Rosaceae | Hinser | SUBMS/BOT-4257 | Shrub | Fruits | Tonic, Blood circulation | Oral | Fruits are used as tonic and induce blood circulation in the body (17). | 0.19 |
| 83 | <i>Rubus niveus</i> Thunb. | Rosaceae | Kamrai | SUBMS/BOT-4258 | Shrub | Roots | Menstrual bleeding, Tonsillitis | Oral, Topical | Juice extracts of roots is given to control excess bleeding during menstruation. Dry roots are used as remedy for curing tonsillitis (16). | 0.18 |

Table 3. Cont.

| Sr. No. | Botanical Name | Family | Vernacular Names Name | Voucher No. | Habit | Parts Used | Ailment Treated | Mode | Medicinal Use and Number of Citations | Use Value |
|---------|---|-----------------|-------------------------|----------------|-------|------------|------------------------------|---------------|---|-----------|
| 84 | <i>Rumex obtusifolius</i> L. | Polygonaceae | Kransh | SUBMS/BOT-4259 | Herb | Leaves | Burns | Topical | Paste of fresh leaves is applied to heal the burns on skin (6). | 0.06 |
| 85 | <i>Rumex tuberosus</i> L. | Polygonaceae | Pachora | SUBMS/BOT-4260 | Herb | Leaves | Constipation | Oral | Fresh leaves are used in the treatment of constipation (11). | 0.12 |
| 86 | <i>Rumex hastatus</i> D. Don | Polygonaceae | Bhanora | SUBMS/BOT-4261 | Herb | Leaves | Constipation, Nettle sting | Oral, Topical | Fresh leaves are used in the treatment of constipation. A paste of fresh leaves is used against nettle sting (20). | 0.22 |
| 87 | <i>Salix triandra</i> L. | Salicaceae | Bhaill | SUBMS/BOT-4262 | Shrub | Bark | Joint pain | Topical | Paste of bark is used to get relief from joint pain (11). | 0.12 |
| 88 | <i>Salvia lanata</i> Roxb | Lamiaceae | Kuku-ro-bath | SUBMS/BOT-4263 | Herb | Leaves | Wound, Bleeding | Topical | A paste of fresh leaves is used to stop bleeding and heal wounds (8). | 0.09 |
| 89 | <i>Sarcococca saligna</i> Mull.Arg. | Buxaceae | Shangal | SUBMS/BOT-4264 | Shrub | Leaves | Constipation | Oral | Leaves are effective against constipation (9). | 0.10 |
| 90 | <i>Scutellaria scandens</i> D.Don | Lamiaceae | Kadwi | SUBMS/BOT-4266 | Herb | Leaves | Skin infections | Topical | A paste of fresh leaves is effective against skin infections (10). | 0.11 |
| 91 | <i>Selinum wallichianum</i> (DC.) Raizada & H.O. Saxena | Apiaceae | Chamber ghass | SUBMS/BOT-4267 | Herb | Leaves | Skin infections | Topical | Leaves are crushed and applied on skin for repelling mosquitoes (20). | 0.22 |
| 92 | <i>Silene vulgaris</i> (Moench) Garcke | Caryophyllaceae | Baghori | SUBMS/BOT-4268 | Herb | Roots | Stomachache, Skin infections | Oral, Topical | Powdered roots are used to get rid of stomachache. Leaves are crushed and applied on skin to cure rashes (15) | 0.17 |
| 93 | <i>Solanum nigrum</i> L. | Solanaceae | Banchuti, Genhi, Pindlu | SUBMS/BOT-4269 | Herb | Fruits | Piles, Eye infections | Oral, Topical | Ripened fruits are used in the treatment of piles. The juice extracts of leaves are used to cure eye infections (27). | 0.30 |

Table 3. Cont.

| Sr. No. | Botanical Name | Family | Vernacular Names Name | Voucher No. | Habit | Parts Used | Ailment Treated | Mode | Medicinal Use and Number of Citations | Use Value |
|---------|--|--------------|-----------------------|----------------|-------|-----------------|---------------------------|---------------|---|-----------|
| 94 | <i>Sonchus asper</i> (L.) Hill | Asteraceae | Dudhiya | SUBMS/BOT-4270 | Herb | Aerial parts | Skin infections | Topical | Aerial parts are crushed and applied on skin infections (12). | 0.13 |
| 95 | <i>Sonchus brachyotus</i> DC. | Asteraceae | Sadhi | SUBMS/BOT-4271 | Herb | Aerial parts | Skin infections | Topical | Aerial parts are used to cure the skin infections (11). | 0.12 |
| 96 | <i>Sonchus oleraceus</i> (L.) L. | Asteraceae | Pili dudhali | SUBMS/BOT-4272 | Herb | Stem | Boils | Topical | Latex from stem is used to clean the puss from boils (9). | 0.10 |
| 97 | <i>Stemmacantha rhapontica</i> (L.) Dittrich | Asteraceae | Kusumphool | SUBMS/BOT-4273 | Herb | Roots | Stress | Oral | Powdered roots are used to suppress the stress and increase energy levels of body (19). | 0.21 |
| 98 | <i>Tagetes minuta</i> L. | Asteraceae | Jangli gainda | SUBMS/BOT-4358 | Herb | Flowers | Appetite | Oral | Infusion of flowers is used to increase appetite (10). | 0.11 |
| 99 | <i>Taraxacum officinale</i> (L.) Weber ex F.H.Wigg | Asteraceae | Kanphool, Dudhla | SUBMS/BOT-4359 | Herb | Whole plant | Jaundice, Acne | Oral, Topical | A paste of the plant is used to cure jaundice. Latex obtained from the plant is used to cure acne (12). | 0.13 |
| 100 | <i>Thlaspi arvense</i> L. | Brassicaceae | Mahula | SUBMS/BOT-4274 | Herb | Aerial parts | Tonic, Urinary infections | Oral | Infusion of plant is used in the treatment of urinary disorders and consumed as blood tonic (10). | 0.11 |
| 101 | <i>Thymus linearis</i> Benth. | Lamiaceae | Marcha | SUBMS/BOT-4275 | Herb | Flowers, Leaves | Common cold, Fever | Oral | Tea of leaves and flowers is used to cure common cold and fever (29). | 0.32 |
| 102 | <i>Trifolium repens</i> L. | Fabaceae | Khatti shash | SUBMS/BOT-4276 | Herb | Leaves | Joint pain | Oral | A paste of leaves is used to treat joint pains (11). | 0.12 |
| 103 | <i>Urtica dioica</i> L. | Urticaceae | Kunkshi, Kukua | SUBMS/BOT-4277 | Herb | Leaves | Jaundice, Skin infections | Oral, Topical | Fresh leaves boiled with water is used as remedy for jaundice. A paste of dry leaves is used to cure skin infections (21) | 0.23 |

Table 3. Cont.

| Sr. No. | Botanical Name | Family | Vernacular Names Name | Voucher No. | Habit | Parts Used | Ailment Treated | Mode | Medicinal Use and Number of Citations | Use Value |
|---------|---|------------------|-----------------------------|----------------|---------|--------------|---------------------|---------------|---|-----------|
| 104 | <i>Valeriana jatamansi</i> Jones | Caprifoliaceae | Mushki | SUBMS/BOT-4278 | Herb | Leaves, Stem | Stress | Oral | Infusion of leaves and stem is used to get relief from stress (17) | 0.19 |
| 105 | <i>Verbascum thapsus</i> L. | Scrophulariaceae | Richo-rotambakhu, Kukurdara | SUBMS/BOT-4279 | Herb | Flowers | Burns | Topical | A paste of flowers is applied on burns on skin (16). | 0.18 |
| 106 | <i>Veronica persica</i> Poir. | Plantaginaceae | Raat ki kali | SUBMS/BOT-4280 | Herb | Leaves | Sore throat, Wounds | Oral, Topical | Fresh leaves are helpful in curing sore throat A paste of leaves is effective in curing wounds (10). | 0.11 |
| 107 | <i>Viburnum grandiflorum</i> Wall. ex DC. | Adoxaceae | Pekhi | SUBMS/BOT-4281 | Shrub | Flowers | Menstruation | Topical | Tea of flower is useful in maintaining menstruation cycle in females (21). | 0.23 |
| 108 | <i>Vicia sativa</i> L. | Fabaceae | Akra, Matari | SUBMS/BOT-4282 | Climber | Seeds | Stomach problems | Oral | Dry seeds are used in the treatment of stomach problems (6). | 0.06 |
| 109 | <i>Viola canescens</i> Wall. | Violaceae | Banaksha | SUBMS/BOT-4283 | Herb | Whole plant | Common cold, Acne | Oral, Topical | Tea of aerial parts is used to cure common cold. A paste of aerial parts is used to treat acne (50). | 0.56 |
| 110 | <i>Viscum album</i> L. | Santalaceae | Banda | SUBMS/BOT-4360 | Climber | Stem, Leaves | Chilblains | Oral | A decoction from the branches is used to treat chilblains (9). | 0.10 |

According to the informants, the mode of administration can be oral or topical, and certain plants can be used both internally and externally. The use value was also reported as it measures the relative importance of a specific plant species. The highest use value was found in *Artemisia vestita* (1.00), *Cannabis sativa* (0.79), *Datura stramonium* (0.71), *Rhododendron arboreum* (0.79), *Mentha viridis* (0.68), *Viola canescens* (0.56), *Ajuga parviflora* (0.51) and *Phytolacca acinosa* (0.40). The most reported diseases or disorders from the study area, include skin infections, diabetes, diarrhea, fever, cold, and cough. The local informants reported that these 110 plant species were readily available throughout the study area. These plants were highly recommended by the informants for treating different human diseases. Some plant species, found in the study area, are well-known for their medicinal properties for instance, *Artemisia vestita*, *Ajuga parviflora*, *Bergenia ciliata*, *Cannabis sativa*, *Cynodon dactylon*, *Delphinium denudatum*, *Foeniculum vulgare*, *Taraxacum officinale* and *Urtica dioica* [20,26,31–39].

4. Discussion

Plants remain necessary for people's well-being, as they provide a significant number of traditional and modern treatments or techniques used in healthcare. Today, the knowledge of wild plants can play an important role worldwide, not only because of their therapeutic properties, but also because they can represent a source of innovative products in many sectors, such as defense of plants from pest disease, bio-preservatives, nutraceuticals, functional foods, cosmetics, and agrochemical industries [36,40]. The wild plants are used by the inhabitants of the state for the treatment of diseases related to human beings [38]. Traditional medicines are preferred over modern medicines or drugs for a variety of reasons. These include ease of access, therapeutic efficacy, and a low cost of health services [39,41]. Medicinal plants are the primary source of traditional medicine for people living in backward or remote areas of developing countries [42]. Traditional healers have been found to play an essential part in rural people's primary health care system, as healthcare in these regions treat those with limited affordability and access to modern medication. Plants have always been important to indigenous communities as they provide food, shelter, and fodder. Plants contain a variety of pharmacologically active chemical compounds which are the reason for their medicinal potential [43–47].

The present study documented different types of diseases such as curing colds, coughs, diarrhea, jaundice, stomach disorders, diabetes, skin infections, eye infections, and fever. The goal of this study is to document and assess traditional ethnomedicinal plant knowledge, as well as to compare knowledge distribution and investigate where research efforts are concentrated, in order to get a sense of current research requirements and future research possibilities in the region. In present study folks remarkably informed that their preferences for ethnomedicinal plants are, *Artemisia vestita*, *Ajuga parviflora*, *Berberis lycium*, *Bergenia ciliate*, *Cannabis sativa*, *Chenopodium album*, *Delphinium denudatum*, *Equisetum arvense*, *Rumex hastatus*, *Rhododendron arboreum*, *Thymus linearis*, *Urtica dioica*, *Valeriana jatamansi* and *Viola canescens*. The plant species such as *Delphinium denudatum*, *Gentiana argentea*, *Goodyera repens* and *Valeriana jatamansi* are becoming rare and very difficult to find from study area. Some ethnomedicinal plants used by local people were reported earlier by many scholars from different parts of the state named as *Bergenia ciliata*, *Berberis lycium*, *Juglans regia*, *Prunus cerasoides*, *Rhododendron arboreum*, *Rumex hastatus*, *Urtica dioica* and *Valeriana jatamansi* [12,26,39].

Along with the medicinal uses of plant species, we have statistically proved the importance of these plants. For this, we used a quantitative method called "Use Value" that determines the relative importance of plant species [31,32]. The most commonly used and important species had a high use value, and plants of less importance remarkably had a lower use value. It was noticed that few plant species had greater use value, for example, *A. vestita* (UV = 1.00), *C. sativa* (UV = 0.79), *D. stramonium* (UV = 0.71), *R. arboreum* (UV = 0.79), *M. viridis* (UV = 0.68), *Rhododendron arboreum* (UV = 0.79), *V. canescens* (UV = 0.56), *A.*

parviflora (UV = 0.51) and *P. acinosa* (UV = 0.40), whereas some were reported to be less important as they have lesser use value.

The bioactive substances such as flavonoids, lignin, coumarins, alkaloids, sterols, glycosides, and terpenoids, present in these ethnomedicinal plant species, might contribute to their therapeutic activities [21,26,35,38,48]. For example, alkaloids, glycosides, rumicin, nepalin, nepodin, and rumicin in *R. hastatus*, flavonoids, phenolic acids, protocatechuic acid, fatty acids, and carbohydrates in *S. nigrum* [49]. Taraxacin, taraxacerine, cerylalcohol, lactuce-roltaraxacin, choline, inulin, tannin, etereal oil, vitamin C, xanthophylls, potassium and vitamin A in *T. officinale* [50]. Alkaloids, amino acids, carbohydrates, protein polymer, carotenoids, and saponins in *U. dioica* [35], Curculigenin in *C. orchioides* [51]. All of these compounds are responsible for their bioactivity, such as antibacterial, antidiabetic, wound healing, hepatoprotective, and anti-inflammatory properties [21,35,43,48,52–56]. The essential oil extracted from the aerial part of *A. vestita* is very well-known for its anti-inflammatory properties [57]. The cannabinoids in *C. sativa* have anti-inflammatory properties [58], and the compounds extracted from the parts of *C. bursa-pastoris* confirm its anti-inflammatory properties [54]. The phytochemical study of *C. dactylon* revealed details of its constituents like flavonoids, glycosides, alkaloids, tannins, flavonoids etc. are responsible for its dermatological action [59]. Similarly, the anti-diabetic activities of *A. parviflora* have been confirmed by various researchers [60]. Several studies have revealed that today's youth are uninterested in the traditional medical system [61]. They have little or no knowledge of plants, not even about the species of plants found in their surroundings. Only a few old people are left to pass on their knowledge to the next generation, but it has not been very effective [19,33–37]. The knowledge of medicinal plants of the Himalayan region has been reduced due to the absence of proper documentation and knowledge in the present-day generation [19,42,61–64]. Therefore, it is important to preserve ethnomedicinal knowledge by documenting literature and by proper interaction with the younger generation.

5. Conclusions

The traditional knowledge about the use of medicinal plants passes from one generation to the next without being properly documented. Due to modernization, the traditional knowledge of the medicinal properties of plants is declining. The current study was conducted in the Maraog region to document medicinally important wild plant species used by local communities. Herbs and shrubs were the most reported ethnomedicinal categories of plants by the native informants. The study on wild medicinal plants has never been reported before from the Maraog region of the district of Shimla. A total of 110 wild plants were collected from the study site, and reportedly used for various human ailments and administered either externally or internally. Modernization could be a reason for this.

The plants from the study site need to be evaluated through phytochemical and pharmacological studies to discover their potential against diseases and discovery of new drugs. Therefore, it is necessary to document wild ethnomedicinal plants used to cure diseases. Documentation of traditional knowledge also helps in the conservation of medicinally important plant species and natural resources. This study provides helpful insight into indigenous knowledge of wild medicinal plants for healthcare practitioners, students, researchers, and scientists in developing new medicines.

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