Article

Ethnomedicinal Plants Used in the Health Care System: Survey of the Mid Hills of Solan District, Himachal Pradesh, India

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Abstract: The study was performed in the mid hills of the Dharampur region in Solan district of Himachal Pradesh, India. At the study site, a total of 115 medicinal plants were documented (38 trees, 37 herbs, 34 shrubs, 5 climbers, 1 fern, and 1 grass). In the study region, extensive field surveys were performed between March 2020 and August 2021. Indigenous knowledge of wild medicinal plants was collected through questionnaires, discussions, and personal interviews during field trips. Plants with their correct nomenclature were arranged by botanical name, family, common name, habitat, parts used, routes used, and diseases treated. In the present study, the predominant family was Rosaceae, which represented the maximum number of plant species, 10, followed by Asteraceae and Lamiaceae, which represented 8 plant species. The rural inhabitants of the Dharampur region in...
the Solan district have been using local plants for primary health care and the treatment of various diseases for a longer time. However, information related to the traditional knowledge of medicinal plants was not documented. The rural inhabitants of the Dharampuri region reported that the new generation is not so interested in traditional knowledge of medicinal plants due to modernization in society, so there is an urgent need to document ethnomedicinal plants before such knowledge becomes inaccessible and extinct.

**Keywords:** ethnomedicine; traditional medicine; use value; rural inhabitant

1. Introduction

Across the world, rural people rely on traditional local knowledge of medicinal plants for primary health care [1,2]. Ethnobotany is the study of the connection that exists among precolonial cultures of individuals and plant ecosystems. Rural people have inherited traditional medicinal plant knowledge from generation to generation [3,4]. Ethnobotanical studies are essential in the quest for modern drugs derived from natural medicinal plant resources [5,6]. For rural communities in developing countries, the use of plant species as traditional medicines provides a good alternative to health care systems [7,8]. It has been reported that 80% of the population in developing countries relies on traditional medicines for primary health care. These medicinal plants are frequently reported as safe, cheap and easily available from the surroundings [9,10]. In India, approximately 7500 plant species have been reported for medicinal use in indigenous health practices and modern systems of medicines [11,12]. Since Vedic times, plants have been used for medicinal purposes and human sustenance in India. Rig Veda and Atharveda were the first to discuss the medicinal use of plants [13]. In India, approximately 75% of the population lives in rural areas. In periods of food scarcity, most rural communities depend on natural resources such as wild edible plants to meet their food requirements [14].

Approximately 800 species of food plants are eaten by rural communities [15]. Wild plants have had significant importance in human life since ancient times; they have been used for food, medicine, fiber, and other purposes, as well as fodder for livestock. Wild edible food plants are valuable to humans and have been identified as a means of maintaining a balance between population expansion and agricultural productivity, particularly in the developing world [16]. It has been reported that approximately 54 million tribal people live in different parts of India. To continue daily life routines, local inhabitants of rural regions depend on forests and forest products. Most tribal communities still rely on local traditional medicines for their survival [17–19].

The biodiversity of the Indian Himalayan region millions of years ago has long been considered an important foundation for traditional medicine [20]. In the northwestern Himalayas, the state of Himachal Pradesh is divided into four zones: dry temperate-alpine, subtropical, subtemperate and moist temperate. The state of Himachal Pradesh has high plant diversity, including endemic and endangered species, due to its varied altitudinal gradients and climatic conditions [21,22]. Ninety-one commercially exploited nontimber forest product species and 57 endangered wild medicinal plant species have been identified by the state forest department of Himachal Pradesh [23]. In some parts of India, there is no proper documentation of ethnomedicinal plants used by rural communities. Therefore, systematic documentation is needed for the conservation of medicinal plant prosperity from rural areas of Himachal Pradesh in India [24,25]. Himachal Pradesh is considered one of the richest areas of traditional and potential medicinal wealth. However, limited studies have been carried out in some regions of the state to document traditional knowledge of ethnomedicinal plants [26,27].

Some researchers have attempted to document useful indigenous information on the medicinal uses of plants from the mid hills of the Dharampuri region in Solan district, Himachal Pradesh, India. The survey of this study region can be a good preliminary point.
for new phytopharmacological research in the medicinal domain. There is no proper record available for traditional medicinal knowledge of plants used by rural people of the mid hills in the Dharampur region of Solan district in Himachal Pradesh, India. With these factors in mind, the present study was carried out with the objective of determining the various uses of medicinal plants. Further studies are required to determine the chemical compounds found in medicinal plants responsible for various biological activities.

2. Results

2.1. Demography of Informants

Ethnomedicinal data were gathered through open conversations with local informants between the ages of 25 and 75 years. A total of 114 informants, including 76 males (67%) and 38 females (33%), in the study area were interviewed to document their traditional knowledge of ethnomedicinal plants. Based on interviews, it was observed that local males, compared to local females, have better knowledge about ethnomedicines; the reason behind this might be that men are usually favored in the shift of knowledge. However, it is also observed that elderly traditional medicinal practitioners, including both men and women, have equal knowledge about ethnomedicines. In this survey, informants were categorized into five groups based on age. A total of 14 informants were between the ages of 25 and 35, 25 were between the ages of 36 and 50, 30 were between the ages of 51 and 60, 35 were between the ages of 61 and 70, and 10 were between the ages of 70 and 75 years (Table 1).

| Sr. No. | Age Group | Male | Female |
|---|---|---|---|
| 1 | 25–35 | 10 (13.1%) | 4 (10.52%) |
| 2 | 36–50 | 19 (25%) | 6 (15.78%) |
| 3 | 51–60 | 20 (26.31%) | 10 (26.31%) |
| 4 | 61–70 | 21 (27.63%) | 14 (36.84%) |
| 5 | 70–75 | 6 (7.89%) | 4 (10.52%) |

| Education level | Male | Female |
|---|---|---|
| Illiterate | 19 (25%) | 8 (21.05%) |
| Primary school level | 14 (18.42%) | 14 (36.84%) |
| Secondary school level | 21 (27.63%) | 11 (28.94%) |
| High school level | 13 (17.10%) | 3 (7.89%) |
| Graduate | 9 (11.84%) | 2 (5.26%) |

2.2. Ethnomedicinal Plants

A total of 115 ethnomedicinal plants were collected from study site during survey. Table 2 demonstrate botanical name, family, common name (Hindi), habitat, voucher no., part used, administration route, use value and usage.

| Sr. No. | Botanical Name | Family | Common Name (Hindi) | Habit | Voucher No. | Part Used | Administration Route | Use Value (UV) | Usage |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Ageratina adenophora (Spreng.) R.M. King and H. Rob | Asteraceae | Banmara | Shrub | SUBMS/BOT-3901 | Leaves | Topical | 0.13 | Leaf extract is used to treat cuts and wounds. |
Table 2. Cont.

| Sr. No. | Botanical Name | Family | Common Name (Hindi) | Habit | Voucher No. | Part Used | Administration Route | Use Value (UV) | Usage |
|---------|----------------|--------|---------------------|-------|-------------|-----------|----------------------|---------------|-------|
| 2       | Ageratum conyzoides L. | Asteraceae | Ghabuti Herb | Leaves, Roots | SUBMS/BOT-3902 | Topical | 0.59 | A paste made from the leaves is used as a wrapping to remove spines from the skin. Juice of leaves and roots is used to treat cuts and wounds. |
| 3       | Ajuga integrifolia Buch.—Ham. | Lamiaceae | Neelkanthi Herb | Whole plant | SUBMS/BOT-3903 | Oral | 0.25 | Whole plant is used to treat diarrhea. |
| 4       | Asparagus racemosus Willd. | Asparagaceae | Shatavari Herb | Roots, Leaves | SUBMS/BOT-3904 | Oral | 0.30 | The leaves and roots extract are used to treat kidney disorders, fevers, stomach ulcer and diarrhea. |
| 5       | Asperula fatua L. | Poaceae | Joa Herb | Seeds | SUBMS/BOT-3905 | Oral | 0.11 | Seeds are used to treat itchy skin and ulcers. |
| 6       | Bambusa vulgaris Schrad. | Poaceae | Bans Tree | Shoots, Bark | SUBMS/BOT-3906 | Oral | 0.27 | Shoot powder is boiled with hot water and used against malaria. The bark powder is boiled with hot water to stimulate blood flow in pelvic area especially during menstruation. |
| 7       | Bauhinia vahlii Wight and Arn. | Fabaceae | Torre Climber | Leaves | SUBMS/BOT-3907 | Oral | 0.31 | Juice extracted from the leaves is used to kill stomach worms. |
| 8       | Bauhinia variegata L. | Fabaceae | Kachnar Tree | Roots, Buds | SUBMS/BOT-3908 | Oral | 0.37 | Roots are used to prepare antidote to snake poisoning. Dried buds are used during dysentery. |
| 9       | Berberis asiatica Roxb. Ex DC. | Berberidaceae | Kashmal Shrub | Whole plant | SUBMS/BOT-3909 | Topical | 0.85 | Whole plant paste is used to apply on wounds and cuts. |
| 10      | Bergenia ligulata Engl. | Saxifragaceae | Dakachru Herb | Whole plant | SUBMS/BOT-3910 | Oral | 0.43 | Decoction of whole plant is used for urinary infection or kidney stones. |
| 11      | Bidens pilosa L. | Asteraceae | Gumber Herb | Leaves | SUBMS/BOT-3911 | Oral | 0.33 | Decoction of leaves is used to treat constipation, fever and diabetes. |
| 12      | Boehmeria platystigma D. Don | Urticaceae | Handa Shrub | Leaves | SUBMS/BOT-3912 | Oral | 0.10 | The leaves are used to treat bleeding gums. |
| 13      | Bougainvillea spectabilis Wild. | Nyctaginaceae | Booganbel Shrub | Whole plant | SUBMS/BOT-3913 | Oral | 0.18 | Whole plant is helpful in the treatment of diabetes. |
Table 2. Cont.

| Sr. No. | Botanical Name         | Family          | Common Name (Hindi) | Habit | Voucher No. | Part Used | Administration Route | Use Value (UV) | Usage                                                                 |
|---------|------------------------|-----------------|---------------------|-------|-------------|-----------|----------------------|----------------|-----------------------------------------------------------------------|
| 14      | Buxus sempervirens L.  | Buxaceae        | Shrub               | SUBMS/BOT-3914 | Leaves      | Oral      | 0.05                 | The leaves are used in the treatment of malaria.                    |
| 15      | Callistemon viminalis (Sol. Ex Gaertn.) G.Don | Myrtaceae | Cheel | Tree | SUBMS/BOT-3915 | Whole plant | Oral | 0.06 | Whole plant is used for the treatment of diarrhea, skin infection and urinary infections. |
| 16      | Canna indica L.        | Cannaceae       | Sarvajaya           | Herb   | SUBMS/BOT-3916 | Seeds     | Topical             | 0.26            | The seed paste is used to treat fever.                              |
| 17      | Cannabis sativa L.     | Cannabaceae     | Bhang               | Herb   | SUBMS/BOT-3917 | Seeds, Leaves | Oral, Topical | 0.69            | Seeds are used to treat asthma and relief from body pain. The leaves extract is used to treat cuts, burn, diabetes and dysentery. |
| 18      | Carissa spinarum L.    | Apocynaceae     | Garna               | Shrub | SUBMS/BOT-3918 | Fruits    | Oral                | 0.44            | Fruit extract is used to treat fever, diarrhea and toothache.       |
| 19      | Catharanthus roseus (L.) G. Don | Apocynaceae | Sadabahar       | Shrub | SUBMS/BOT-3919 | Roots, Leaves | Oral | 0.90 | Decoction of roots and leaves are used to treat hypertension and diabetes. |
| 20      | Centella asiatica (L.) Urb. | Apiaceae | Brahmi             | Herb   | SUBMS/BOT-3920 | Leaves    | Oral                | 0.52            | The leaves are taken with sugar as memory enhancer.                  |
| 21      | Cinnamomum camphora (L.) J. Presl | Lauraceae | Kapur            | Tree | SUBMS/BOT-3921 | Whole plant | Oral | 0.39 | Whole plant is used to treat cough, cold, skin irritation and low blood pressure. |
| 22      | Cissampelos pareira L. | Menispermacae   | Batindu            | Climber| SUBMS/BOT-3922 | Leaves, Stem | Oral | 0.11 | Infusion of leaves and stem is used to treat diarrhea, dysentery and digestive complaints. |
| 23      | Citrus limon (L.) Osbeck | Rutaceae       | Nimbu               | Tree | SUBMS/BOT-3923 | Fruits | Oral | 0.34 | Fruit juice is taken orally for indigestion.                          |
| 24      | Clinopodium vulgare L. | Lamiaceae       | Jangalee tulsi     | Herb   | SUBMS/BOT-3924 | Leaves    | Topical             | 0.22            | The leaves are used to treat wounds and cuts.                       |
| 25      | Colebrookea oppositifolia (Smith.) | Lamiaceae | Gaddoos            | Shrub | SUBMS/BOT-3925 | Leaves, Stem | Oral, Topical | 0.27 | Stem is used for cough. Leaf paste is used to treat wounds and eye infection. |
| 26      | Coronopus didymus (L.) Smith | Brassicae      | Garbhini           | Herb   | SUBMS/BOT-3926 | Leaves    | Oral                | 0.19            | The leaves are used to treat asthma.                                |
| Sr. No. | Botanical Name | Family | Common Name (Hindi) | Habit | Voucher No. | Part Used | Administration Route | Use Value (UV) | Usage |
|--------|----------------|--------|---------------------|-------|-------------|-----------|----------------------|----------------|-------|
| 27     | Cryptolepis buchananii Roem. and Schult. | Apocynaceae | Kala bel | Climber | SUBMS/BOT-3927 | Roots, Stem | Oral | 0.23 | Roots are used to treat loss of appetite, fever, skin infections and considered as blood purifier. Stem is used for the treatment of inflammation, muscle and joint pain. |
| 28     | Cynodon dactylon (L.) Pers. | Poaceae | Drub Grass | SUBMS/BOT-3928 | Leaves | Oral | 0.50 | The leaves are used to treat cough, cancer, diarrhea, dysentery and hypertension. |
| 29     | Datura innoxia Mill. | Solanaceae | Datura Shrub | SUBMS/BOT-3929 | Whole plant | Oral | 0.44 | Whole plant is used to treat fever, diarrhea, cold, asthma and relief body pain. |
| 30     | Debregeasia longifolia (Burm. f.) Wedd. | Urticaceae | Sansaru Shrub | SUBMS/BOT-3930 | Leaves | Oral | 0.04 | The leaves are used to treat dysentery and indigestion. |
| 31     | Dicliptera bupleuroides Nees | Acanthaceae | Kuthi Herb | SUBMS/BOT-3931 | Leaves | Topical | 0.07 | The leaves are warmed and kept on joints to relieve pains. |
| 32     | Elaeocarpus ganitrus Roxb. | Elaeocarpaceae | Rudraksha Tree | SUBMS/BOT-3932 | Whole plant | Oral | 0.13 | Whole plant is used to treat mental illness, cough and hepatic diseases. |
| 33     | Erigeron annuus (L.) Pers. | Asteraceae | Phuntha Herb | SUBMS/BOT-3933 | Leaves | Oral | 0.18 | The leaves extract is used to treat diabetes. |
| 34     | Eriobotrya japonica (Thunb.) Lindl. | Rosaceae | Lokat Tree | SUBMS/BOT-3934 | Leaves, Fruits | Oral | 0.37 | Decoction of the leaves is used to treat cough and cold. Fruits are used to relieve vomiting and thirst. |
| 35     | Eruca vesicaria (L.) Cav | Brassicaceae | Tara mira Herb | SUBMS/BOT-3935 | Leaves | Oral | 0.18 | The leaves are used to treat diarrhea. |
| 36     | Eucalyptus citriodora Hook. | Myrtaceae | Safeda Tree | SUBMS/BOT-3936 | Leaves | Oral, Topical | 0.14 | Leaves are used to treat cough, cold, sore throat, cuts and skin infections. |
| 37     | Euonymus tingens Wall. | Celastraceae | Barmeli Tree | SUBMS/BOT-3937 | Bark | Oral | 0.10 | The juice of the bark is used in the treatment of eye diseases. |
| 38     | Euphorbia helioscopia L. | Euphorbiaceae | Dudhi Herb | SUBMS/BOT-3938 | Whole plant | Oral, Topical | 0.37 | Paste of the plant applied for healing wounds. Milky latex is applied externally on skin to treat fungal infection. |
### Table 2. Cont.

| Sr. No. | Botanical Name       | Family         | Common Name (Hindi) | Habit | Voucher No.   | Part Used | Administration Route | Use Value (UV) | Usage |
|---------|----------------------|----------------|---------------------|-------|---------------|-----------|----------------------|----------------|-------|
| 39      | Euphorbia milii Var- splenden | Euphorbiaceae | - Shrub             | Whole plant | Topical | SUBMS/BOT-3939 | 0.08 | Whole plant is widely used in folk medicine for the treatment of cancer and hepatitis. |
| 40      | Ficus auriculata Lour. | Moraceae       | Tiamble Tree        | Stem, Fruits | Oral, Topical | SUBMS/BOT-3940 | 0.34 | The latex from the stems is applied to cuts and wounds. The roasted fruits are used in the treatment of diarrhea and dysentery. |
| 41      | Ficus benghalensis L. | Moraceae       | Bargad Tree         | Leaves | Oral         | SUBMS/BOT-3941 | 0.30 | The leaves are used to treat dysentery and diarrhea. |
| 42      | Ficus palmata Forsk.  | Moraceae       | Fagura Tree         | Fruits oral |          | SUBMS/BOT-3942 | 0.37 | The fruits are used to treat constipation. |
| 43      | Ficus religiosa L.    | Moraceae       | Pipal Tree          | Bark, Roots | Oral, Topical | SUBMS/BOT-3943 | 0.21 | Decoction of the bark is used to control diabetes. Roots is used to treat joint swellings. |
| 44      | Foeniculum vulgare Gaertn. | Apiaceae      | Saunf Herb          | Whole plant | Oral, Topical | SUBMS/BOT-3944 | 0.55 | Infusion of whole plant parts is used to treat stomach pain and kidney stones. The leaves paste is applied to healing wounds and skin rashes. |
| 45      | Geranium wallichianum D. Don ex Sweet | Geraniaceae | Sucha Phulli Herb | Roots | Oral, Topical | SUBMS/BOT-3945 | 0.22 | Roots are chewed to stop gum bleeding. Decoction of roots is used to treat kidney stones. |
| 46      | Hedera nepalensis K. Koch. | Araliaceae | Bano Climber | Leaves | Oral | SUBMS/BOT-3946 | 0.28 | The leaves are used to treat diabetes and skin infections. |
| 47      | Hibiscus rosasinensis L. | Malvaceae     | Gurhal Tree         | Flowers, Leaves, Roots | Oral, Topical | SUBMS/BOT-3947 | 0.68 | Flowers are used in the treatment of excessive and painful menstruation. Decoction of leaves are used as a lotion in the treatment of fever. Decoction of roots is used to treat sore eyes. |
| 48      | Hypericum oblongifolium choisy | Hyperaceae | Basant Shrub        | Leaves | Oral, Topical | SUBMS/BOT-3948 | 0.31 | Leaves extract is used for wounds and juice as an antidote against snakebite. |
| Sr. No. | Botanical Name                      | Family            | Common Name (Hindi) | Habit | Voucher No. | Part Used | Administration Route | Use Value (UV) | Usage                                                                 |
|--------|------------------------------------|-------------------|--------------------|-------|-------------|-----------|----------------------|----------------|----------------------------------------------------------------------|
| 49     | Hypodematium crenatum (Forssk.) Kunh | Hypodematiaceae   | Jadi buti Fern     | SUBMS/BOT-3949 | Leaves     | Topical             | 0.06          | The leaves are used to treat constipation.                          |
| 50     | Indigofera heterantha Brandis       | Fabaceae          | Kali-kathi Shrub   | SUBMS/BOT-3950 | Flowers    | Oral                 | 0.21          | Flowers are used in the treatment of abdominal pain and liver infection. |
| 51     | Ipomoea cairica (L.) Sweet          | Convolvulaceae    | Neeli Bel Climber  | SUBMS/BOT-3951 | Whole plant | Oral                 | 0.31          | Whole plant is used to treat jaundice, fever, and liver infection.   |
| 52     | Jasminum sambac (L.) Aiton          | Oleaceae          | Mogra Shrub        | SUBMS/BOT-3952 | Flowers, Leaves | Oral, Topical       | 0.11          | Flowers are used to treat jaundice, ulcers, boils, and eye infections. Leaves are used to treat wounds. |
| 53     | Juglans regia L.                    | Juglandaceae      | Akhrot Tree        | SUBMS/BOT-3953 | Leaves, Bark | Oral, Topical       | 0.77          | Decoction of the leaves are used to treat skin diseases like scabies and ringworm. Paste of the bark is applied to treat fresh wounds and toothache. |
| 54     | Justicia adhatoda L.                | Acanthaceae       | Arusa Shrub        | SUBMS/BOT-3954 | Whole plant | Oral                 | 0.23          | Whole plant is used to treat cough, cold and asthma.                 |
| 55     | Koelreuteria paniculata Laxm.       | Sapindaceae       | - Tree             | SUBMS/BOT-3955 | Flowers    | Oral                 | 0.07          | Flowers are used in the treatment of conjunctivitis.                 |
| 56     | Lagerstroemia indica L.             | Lythraceae        | Sawani Tree        | SUBMS/BOT-3956 | Flowers, Roots | Oral, Topical       | 0.13          | Paste of the flowers is applied to treat cuts and wounds. Decoction of the root is used in the treatment of cold. |
| 57     | Lantana camara L.                   | Verbenaceae       | Raimuniya Shrub    | SUBMS/BOT-3957 | Whole plant | Oral                 | 0.33          | Whole plant is used to treat cough, headache, constipation.          |
| 58     | Lathyrus aphaca L.                  | Fabaceae          | Jangli mattar Herb | SUBMS/BOT-3958 | Seeds      | Oral                 | 0.32          | Seeds are used in the treatment of toothache.                        |
| 59     | Laurus nobilis L.                   | Lauraceae         | Tej patta Tree     | SUBMS/BOT-3959 | Leaves     | Oral                 | 0.62          | Decoction of the leaves are used to treat urinary infection.         |
| 60     | Ligustrum japonicum Thunb.          | Oleaceae          | - Tree             | SUBMS/BOT-3960 | Whole plant | Oral                 | 0.08          | Extract of whole plant is used to treat ulcer and skin infections.   |
| 61     | Machilus duthei King                 | Lauraceae         | - Tree             | SUBMS/BOT-3961 | Leaves     | Topical              | 0.04          | The leaves are used to cure pimples.                                |
| 62     | Mallopus philippensis (Lam.)        | Euphorbiaceae     | Kamala Tree        | SUBMS/BOT-3962 | Bark, Leaves | Oral, Topical       | 0.59          | Bark is used to treat stomach ulcers. Decoction of the leaves is used to treat diarrhea. |
| Sr. No. | Botanical Name | Family         | Common Name (Hindi) | Habit | Voucher No. | Part Used | Administration Route | Use Value (UV) | Usage |
|---------|----------------|----------------|---------------------|-------|-------------|-----------|----------------------|----------------|-------|
| 63      | Malvastrum coromandelianum (L.) Garcke | Malvaceae | Kharenti | Herb | SUBMS/BOT-3963 | Leaves | Oral, Topical | 0.08 | The leaves paste applied for healing wounds. |
| 64      | Melia azedarach L. | Meliaceae | Bakain | Tree | SUBMS/BOT-3964 | Leaves, Flowers | Oral, Topical | 0.14 | The flowers and leaves are used to treat headache. |
| 65      | Mentha arvensis L. | Lamiaceae | Pudina | Herb | SUBMS/BOT-3965 | Whole plant | Oral | 0.68 | Whole plant is used to treat fever, headache and stomach diseases. |
| 66      | Morus nigra L. | Moraceae | Tut | Tree | SUBMS/BOT-3966 | Leaves, Roots | Oral | 0.34 | The leaves are used to treat cold and eye infections. Roots are used to treat asthma, coughs, hypertension and diabetes. |
| 67      | Murraya koenigii (L.) Spreng. | Rutaceae | Kari patta | Shrub | SUBMS/BOT-3967 | Leaves | Oral, Topical | 0.79 | The leaves extract is used to treat diabetes and indigestion. |
| 68      | Nasturtium officinale R. Br. | Brassicaceae | Jal-indushoor | Herb | SUBMS/BOT-3968 | Whole plant | Oral, Topical | 0.08 | The freshly prepared juice of whole plant is used to treat chest infection. |
| 69      | Ocimum sanctum L. | Lamiaceae | Tulsi | Shrub | SUBMS/BOT-3969 | Whole plant | Oral | 0.88 | Whole plant is used to treat asthma, malaria, diarrhea, dysentery, eye diseases and insect bite. |
| 70      | Olea europaea L. | Oleaceae | Kahu | Tree | SUBMS/BOT-3970 | Leaves, Fruits | Oral | 0.33 | Decoction of leaves and fruits are used to treat diarrhea, respiratory infections and urinary tract infections. |
| 71      | Oxalis corniculata L. | Oxalidaceae | Amrul | Herb | SUBMS/BOT-3971 | Whole plant | Topical | 0.21 | The juice of whole plant is used to treat muscular swellings, boils and pimples. |
| 72      | Papaver somniferum L. | Papaveraceae | Afim | Herb | SUBMS/BOT-3972 | Whole plant | Oral | 0.61 | Infusion of whole plant juice is used to treat fever, cough and headache. |
| 73      | Phyllanthus emblica L. | Phyllanthaceae | Amla | Tree | SUBMS/BOT-3973 | Fruits | Oral | 0.76 | Fruit juice is used to treat diarrhea, jaundice, diabetes and inflammation. |
| 74      | Pinus roxburghii Sarg. | Pinaceae | Chir | Tree | SUBMS/BOT-3974 | Leaves, Bark, Roots | Oral, Topical | 0.66 | Bark paste is used in burns, cracks, skin infections and ulcers. Leaves are used to treat fever. Root extract is used to treat eye infections. |
Table 2. Cont.

| Sr. No. | Botanical Name | Family       | Common Name (Hindi) | Habit | Voucher No. | Part Used     | Administration Route | Use Value (UV) | Usage |
|---------|----------------|--------------|---------------------|-------|-------------|---------------|----------------------|----------------|-------|
| 75      | *Potentilla indica* (Jacks.) Th. Wolf. | Rosaceae     | kiphaliya           | Herb  | SUBMS/BOT-3975 | Leaves       | Topical              | 0.21           | The leaves are used to treat boils, burns and snake bites. |
| 76      | *Potentilla nepalensis* L. | Rosaceae     | Ratanjot            | Herb  | SUBMS/BOT-3976 | Leaves, Stem | Oral                | 0.22           | Decoction of leaves and stem are used to treat inflammation of the body and joints. |
| 77      | *Prunus cerasoides* Buch.-Ham. | Rosaceae     | Padam               | Tree  | SUBMS/BOT-3977 | Whole plant  | Oral                | 0.43           | Whole plant is used to treat skin infections and renal stones. |
| 78      | *Prunus persica* (L.) Batsch | Rosaceae     | Aru                 | Tree  | SUBMS/BOT-3978 | Leaves, Flowers | Oral, Topical       | 0.63           | The leaves paste is used to treat sores and wounds. Flowers are used to treat constipation. |
| 79      | *Pseudognaphalium hypoleucum* (DC.) Hilliard and B.L. Burtt | Asteraceae   | Goiphul             | Herb  | SUBMS/BOT-3979 | Whole plant  | Oral                | 0.11           | Whole plant is used for the treatment of cough and body pain. |
| 80      | *Psidium guajava* L. | Myrtaceous   | Amrood              | Tree  | SUBMS/BOT-3980 | Leaves, Fruits | Oral                | 0.60           | Leaves are used to treat diarrhea. Fruits are used to treat cough, and oral ulcers. |
| 81      | *Punica granatum* L. | Lythraceae   | Anar                | Shrub | SUBMS/BOT-3981 | Whole plant  | Oral                | 0.55           | Whole plant is used in the treatment of dysentery, stomach-ache, jaundice and diarrhea. |
| 82      | *Pyrus communis* L. | Rosaceae     | Nashpati            | Tree  | SUBMS/BOT-3982 | Leaves, Bark  | Oral, Topical       | 0.83           | The leaves are used to treat inflammation. Decoction of bark is used to treat sprains. |
| 83      | *Pyrus pashia* Buch-Hum. | Rosaceae     | Shegal              | Tree  | SUBMS/BOT-3983 | Leaves, Flowers | Oral, Topical       | 0.75           | The leaves are used to treat sores and wounds. Flowers are used as internally in the treatment of constipation. |
| 84      | *Quercus leucotrichophora* A. Camus | Fagaceae     | Ban                 | Tree  | SUBMS/BOT-3984 | Seeds        | Oral                | 0.50           | Seed decoction is used to treat dysentery and diarrhea. |
| 85      | *Ranunculus laetus* Wall. Ex Hook.f. and J.W. Thomson | Ranunculaceae | Jaldhaniya          | Herb  | SUBMS/BOT-3985 | Whole plant  | Oral                | 0.44           | Whole plant is used in the treatment of fever and asthma. |
| 86      | *Reinwardita indica* (Dumort.) | Linaceae     | Basanti             | Shrub | SUBMS/BOT-3986 | Whole plant  | Topical             | 0.24           | Whole plant is used to treat cuts, wounds and boils. |
| Sr. No. | Botanical Name            | Family          | Common Name (Hindi) | Habit | Voucher No. | Part Used      | Administration Route | Use Value (UV) | Usage                                                                                                                                                                                                                                                                                                                                 |
|--------|---------------------------|-----------------|---------------------|-------|-------------|----------------|---------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 87     | *Rhododendron arboreum* Smith. | Ericaceae       | Burans              | Shrub | SUBMS/BOT-3987 | Leaves, Flowers | Oral                | 0.77           | The leaves are used to treat headache, cough, diarrhea and dysentery. Juice of flower is used to treat menstrual disorders.                                                                                                                                      |
| 88     | *Ricinus communis* L.    | Euphorbiaceae   | Arandi              | Shrub | SUBMS/BOT-3988 | Leaves         | Topical             | 0.23           | The leaves are used to treat cuts, swollen joints, inflammation and liver disorders.                                                                                                                                                                                                                                                   |
| 89     | *Rosa alba* L.           | Rosaceae        | Gulab               | Shrub | SUBMS/BOT-3989 | Flowers        | Topical             | 0.37           | Flowers are used to treat skin infections.                                                                                                                                                                                                                                                                                          |
| 90     | *Rubus ellipticus* Smith | Rosaceae        | Aakhae              | Shrub | SUBMS/BOT-3990 | Roots, Fruit   | Oral                | 0.86           | Root extract is used to cure headaches and stomach pain. Fruit juice is used to cure cough, fever and dysentery.                                                                                                                                                             |
| 91     | *Rumex hastatus* D. Don  | Polygonaceae    | Khattib-uti         | Shrub | SUBMS/BOT-3991 | Whole plant    | Oral                | 0.50           | Whole plant is used to treat indigestion, skin diseases and constipation.                                                                                                                                                                                                                                                          |
| 92     | *Salix alba* L.          | Salicaceae      | Bains               | Tree  | SUBMS/BOT-3992 | Bark           | Oral                | 0.31           | Bark is used as a remedy for cold, fevers and joint pain.                                                                                                                                                                                                                                                                 |
| 93     | *Salvia officinalis* L.  | Lamiaceae       | Sage                | Shrub | SUBMS/BOT-3993 | Whole plant    | Oral, Topical       | 0.28           | Whole plant is used to treat insect bites, gum infections and vaginal discharge.                                                                                                                                                                                                                                                     |
| 94     | *Salvia splendens* Sellow ex Schult | Lamiaceae | Salvia sefakuss    | Herb  | SUBMS/BOT-3994 | Leaves, Seeds  | Oral, Topical       | 0.08           | The leaves are used for dressing wounds, cold, cough and diabetes. Seeds are used to treat dysentery.                                                                                                                                                                    |
| 95     | *Sambucus nigra* L.      | Adoxaceae       | Berry               | Tree  | SUBMS/BOT-3995 | Flower, Fruits | Oral                | 0.38           | Extracts of the flowers and fruits are used to treat cold. Fruits are used to treat headaches, dental pain, chest pain and nerve pain.                                                                                                                                 |
| 96     | *Setaria viridis* (L.) P.Beauv. | Poaceae        | Makriya             | Herb  | SUBMS/BOT-3996 | Seeds, Leaves  | Oral                | 0.27           | The seed is diuretic and used to treat fever. The leaves are crushed and mixed with water then used to treat wounds and cuts.                                                                                                                                                  |
| 97     | *Solanum virum* Dunal    | Solanaceae      | Kandiyari           | Shrub | SUBMS/BOT-3997 | Whole plant    | Oral                | 0.32           | The whole plant is used to treat headaches, indigestion and stomach diseases.                                                                                                                                                                                                     |
Table 2. Cont.

| Sr. No. | Botanical Name                | Family         | Common Name (Hindi) | Habit | Voucher No. | Part Used          | Administration Route | Use Value (UV) | Usage                                                                 |
|---------|-------------------------------|----------------|--------------------|-------|-------------|--------------------|---------------------|------------------|----------------------------------------------------------------------|
| 98      | *Sonchus oleraceus* L.         | Asteraceae     | Dudhi              | Herb  | SUBMS/BOT-3998 | Leaves            | Oral                | 0.43             | The plant leaves are used to treat inflammatory swellings and skin diseases. |
| 99      | *Spiraea cantoniensis* Lour.   | Rosaceae       | Jhar mairala       | Shrub | SUBMS/BOT-3999 | Whole plant       | Oral                | 0.37             | Decoction of whole plant is used to treat skin infection.            |
| 100     | *Stellaria media* L. Vill.     | Caryophyllaceae| Buch-bucha         | Herb  | SUBMS/BOT-4000 | Whole plant       | Oral, Topical       | 0.55             | Whole plant is used to heal skin wound, treat itchiness, indigestion, asthma and respiratory problems. |
| 101     | *Syzygium cumini* (L.) Skeels  | Myrtaceae      | Jamun              | Tree  | SUBMS/BOT-4001 | Bark, Leaves      | Oral, Topical       | 0.44             | Juice of bark is used to treat wounds and enlargement of the spleen. Leaves are used to treat diabetes and diarrhea. |
| 102     | *Tagetes erecta* L.           | Asteraceae     | Genda              | Herb  | SUBMS/BOT-4002 | Leaves, Flowers   | Oral, Topical       | 0.25             | Decoction of flowers is used to treat cold and mumps. Leaves paste is applied externally to treat skin diseases and conjunctivitis. |
| 103     | *Taraxacum officinale* L.     | Asteraceae     | -                  | Herb  | SUBMS/BOT-4003 | Whole plant       | Oral                | 0.09             | The whole plant is used for indigestion and jaundice.              |
| 104     | *Tecoma capensis* (Thunb.) Lindl. | Bignoniaceae  | -                  | Shrub | SUBMS/BOT-4004 | Bark, Leaves      | Oral                | 0.07             | Bark powder is used to treat fever, pneumonia and stomach troubles. Leaves are used to treat diarrhea and intestinal inflammation. |
| 105     | *Terminalia arjuna* (Roxb. Ex DC.) Wight and Arn | Combretaceae | Arjun              | Tree  | SUBMS/BOT-4005 | Bark              | Oral                | 0.37             | Bark extract used to treat dysentery, anemia and asthma.             |
| 106     | *Thuja orientalis* L.         | Cupressaceae   | Morpankhi          | Tree  | SUBMS/BOT-4006 | Leaves            | Oral                | 0.33             | The leaves are used to treat skin infections.                       |
| 107     | *Urtica dioica* L.            | Urticaceae     | Kuksh              | Herb  | SUBMS/BOT-4007 | Whole plant       | Oral                | 0.55             | Whole plant is used to treat kidney stones and skin disorders.       |
| 108     | *Verbascum thapsus* L.        | Scrophulariaceae| Tamakhu            | Herb  | SUBMS/BOT-4008 | Leaves, Flowers   | Oral                | 0.85             | Juice of leaves is used to treat fever. Flowers are used to treat cough. |
The ethnomedicinal plants collected from the study site belongs to families including Apocynaceae, Caryophyllaceae, Asteraceae, Berberidaceae, Brassicaceae, Urticaceae, Elaeocarpaceae, Salicaceae, Polygonaceae, Rhamnaceae, Rosaceae, Sapindaceae and Violaceae, etc. The highest number of ethnomedicinal plants was recorded from the family Rosaceae having 10 plant species followed by Lamiaceae and Asteraceae having 8 plant species (Figure 1).

It was found that all the plants belonging to the Rosaceae are used to cure dysentery, fever, cough, cold and skin diseases, etc. Based on interview data it was observed that skin infection, fever cough and cold occurs more frequently as compared to other diseases. The medicinal plants reported by informers for the remedy of skin infections are Cryptolepis buchananii, Eucalyptus citriodora, Ligustrum japonicum, Pinus roxburghii, Rosa alba, Ziziphus nummularia and Sonchus oleraceus.

It was observed that some plants such as Rhododendron arboreum, Zanthoxylum armatum, Viola canescens, Quercus leucotrichophora, Rubus ellipticus, Punica granatum, Ocimum sanctum, Morus nigra, Mentha arvensis, Justicia adhatoda, Ficus benghalensis, Eriobotrya japonica, Debereasia longifolia, Cissampelos pareira, Datura innoxia, Eucalyptus citriodora, Cynodon dactylon, Colebrookea oppositifolia, and Cannabis sativa were suggested by local informants to cure diarrhea, diabetes, dysentery, cough, cold and fever.
Elaeocarpaceae, Salicaceae, Polygonaceae, Rhamnaceae, Rosaceae, Sapindaceae and Vio-
laceae, etc. The highest number of ethnomedicinal plants was recorded from the
family Rosaceae having 10 plant species followed by Lamiaceae and Asteraceae having
8 plant species (Figure 1).

Based on the informants’ data, leaves were the most commonly used plant part,
followed by whole plants, roots and flowers (Figure 2). It was also reported that in the
following plant species were used: *Foenicum vulgare*, *Berberis asiatica*, *Centella asiatica*, *Datura innoxia*, *Elaeocarpus ganitrus*, *Euphorbia heliscopia*, *Euphorbia milii*, *Ipomoea cairica*, *Justicia adhatoda*, *Ligustrum japonicum*, *Nasturtium officinale*, *Mentha arvensis*, *Ocimum sanctum*, *Oxalis corniculata*, *Papaver somniferum*, *Prunus cerasoides*, *Pseudognaphalium hypoleucum*, *Ranunculus hastatus*, *Punica granatum*, *Salvia officinalis*, *Solanum virum*, *Spiraea cantoniensis* and *Stellaria media*; all plant parts were utilized to cure different diseases. A few medicinal plant species reported from the study site were used in different ritual ceremonies. For example, flowers of *Datura innoxia* and leaves of *Cannabis sativa* are offered to lord Shiva in festivals such as Shivrati, and leaves of *Cynodon dactylon* are offered to lord Ganesh or different deities in Pooja.

![Graph showing the plant parts used for medicinal purposes and the number of plant species studied in the current work.](image)

**Figure 2.** Graph showing the plant parts used for medicinal purposes and the number of plant species studied in the current work.

2.3. Use Value

The results of the ethnobotanical study revealed a wealth of indigenous knowledge and the usage of traditional plants in rural people’s health care systems. The high use value of medicinal plants indicates how important they are to indigenous society in treating specific human ailments. Based on use value data, the most commonly used medicinal plant species is *Catharanthus roseus* (0.90), and the least commonly used medicinal plant species is *Prunus persica* (0.63). *Catharanthus roseus* is used to treat hypertension and diabetes, and *Prunus persica* is used to treat sores and wounds.

Pictures of some plants reported from the study site are shown in Figure 3.

The ongoing decline of indigenous medicinal plant knowledge requires an assessment of traditional knowledge with the goal of developing the medicinal plant sector. Knowledge on indigenous uses of native plants must be studied before it becomes extinct. The findings of the current study could lead to the development of a new herbal drug for the treatment of ailments. Furthermore, ethnobotanical studies that document indigenous knowledge are important for the conservation and sustainable use of natural resources. It is essential to encourage indigenous groups and enable their participation in sustainable harvesting and conservation of natural resources to implement in situ preservation for traditional knowledge in rural areas. To enhance their position and preserve their knowledge, colleges should engage with indigenous tribes and designate them as “knowledge sites” on technical topics.
Plant species Catharanthus roseus (0.90) is the most commonly used medicinal plant species, and the least commonly used medicinal plant species is Prunus persica (0.63). Catharanthus roseus is used to treat hypertension and diabetes, and Prunus persica is used to treat sores and wounds.

Pictures of some plants reported from the study site are shown in Figure 3.
Figure 3. Cont.
Figure 3. Pictures of medicinal plants surveyed in the current study.
Traditional knowledge, biodiversity and cultural values are all interconnected and interdependent. These are, without a doubt, the essential factors that keep traditional knowledge intact in practice. Because of the increasing economic value of biocultural resources and threats to their existence, the government and private entities must recognize these natural resources as national wealth. Governments must establish national policy and legal frameworks to ensure that biocultural resources are effectively protected. The primary goal of this research was to document the ethnomedicinal plants utilized by rural people in the Solan district and to document indigenous knowledge about traditional plant uses through ethnobotanical research. More research into the preparation of medicinal formulations, phytochemicals, and pharmacological significance, followed by clinical trials, will add to the traditional medical and cultural systems' knowledge base.

3. Discussion

In the present study, we documented the uses of commonly used wild medicinal plants in the mid hills of Solan district in Himachal Pradesh, India. A total of 115 plant species belonging to the same or different families were reported from the study region. Due to strong belief in the traditional system of medicine, rural people of the study region frequently prefer to use wild plants. The rural inhabitants of the study site reported that plant species Berberis aristata, Zanthoxylum armatum, Viola canescens, Rhododendron arboreum, Datura innoxia, Ocimum sanctum, Colebrookea oppositifolia, Mentha arvensis, Justicia adhatoda, Cynodon dactylon, Ficus auriculata, Cannabis sativa, Oxalis corniculata and Verbascum thapsus are highly effective in treating different types of human diseases. A few ethnomedicinal plants found in the current study have also been reported from different regions of India, such as Verbascum thapsus, Cannabis sativa, Cynodon dactylon, Ficus palmata, Urtica dioica and Juglans regia. Most of these formulations were prescribed for oral use. In recent years, it has been reported that traditional ethnobotanical knowledge of medicinal plants is gradually decreasing from society, mainly due to modernization, and some medicinal plants with ethnobotanical importance are threatened with extinction worldwide due to habitat destruction, climate change and overexploitation. Studies have reported that the documentation of ethnobotanical knowledge and ethnomedicinal plants can play a significant role in the conservation of traditional ethnobotanical knowledge and the protection of threatened ethnomedicinal plants [28–31]. The Himalayan forests provided a rich reservoir of medicinal plants that are essential to the native community [32,33]. Various studies on medicinal plants used by tribal groups in India have found that they prefer traditional medicine since it is less expensive, has fewer side effects, and is a part of their lives and culture on which our findings are set up. In India, some medicinal plants are the only source of health care in remote areas due to a lack of medical facilities [34–37]. Worldwide, traditional uses of ethnomedicinal plants vary from person to person and region to region [38–41]. Traditional knowledge of medicinal plants has deteriorated among indigenous groups in recent decades, indicating a risk of extinction. In India, recent economic advancements, exposure to the market economy, and infrastructure modernization have caused a shift in indigenous groups' traditional lifestyles, resulting in the erosion of traditional knowledge [42]. Using indigenous knowledge of traditional medicine is an efficient method of finding novel medicines through ethnobotanical research. Some of the medicinal plants mentioned in the current study site are also documented in other studies conducted in adjoining regions of Himachal Pradesh. Freshly harvested plants or plant parts are widely utilized in human treatments. Leaves, whole plants, stems, fruits, flowers, seeds, roots, and bark are the most regularly used parts to combat human diseases. Interviewed people were enriched with traditional ethnobotanical knowledge from their parents and grandfathers. It has been found that older people have better traditional knowledge of medicinal plants than younger generations. Ethnobotanical findings could help with the development of indigenous knowledge and its application in domains including pharmacology, pharmacognosy, pharmaceuticals, toxicology, phytochemistry, ethnobotany, taxonomy, anthropology, and medicinal science. This type of alternative medical approach is now recognized as critical
for community development [43–45]. Recent studies have reported the bioactivities of medicinal plants and phytoextracts, showing potential therapeutic use in the treatment of various ailments. The findings given in this research are preliminary and should be verified further. The link between ethnomedicinal knowledge and modern mainstream pharmacology will be highlighted by pharmacological research on ethnomedicines [46–50]. It has been reported that indigenous knowledge of less-known plants is gradually disappearing [51]. A recent study reported that plant-based treatments may become more popular because of the many negative effects of modern allopathic drugs [52].

Local communities lack proper knowledge of wild plant populations, marketing and selling, inadequate regulation and legal protection and have limited access to appropriate technologies for crop plantation and harvesting. Local communities also require assistance and encouragement to safeguard their knowledge and resources. The rural inhabitants of the study site reported that the new generation is not so interested in traditional knowledge of medicinal plants due to modernization, so there is an urgent need to document traditional knowledge of medicinal plants in the study site before its elimination from society. The current study may be helpful for researchers, teachers, scientists, future generations and different pharmaceutical companies to develop new drugs. A few species of wild medicinal plants (Berberis aristata, Zanthoxylum armatum and Viola canescens) were found to be overexploited by rural people and were illegally collected and sold in markets at high cost. Due to unscientific overexploitation, these plants are found in fewer numbers and need proper maintenance and conservation. Because of the current rapid shift in communities worldwide, ethnombotanical knowledge is at risk. Excessive usage of several wild plants results in destructive harvesting and a loss of plant diversity in the area. Thus, there is a need to raise awareness among the native community about the long-term use and conservation of therapeutic medicines.

4. Materials and Methods
4.1. Description of the Study Area

The state of Himachal Pradesh (30°22′40″–33°12′40″ N to 75°45′55″–79°04′20″ E) possesses different types of biodiversity, and it has a pleasant climate throughout the year [53]. The study was performed in the mid hills of Dharampur in Solan district of Himachal Pradesh, India. Solan district is 1350 m above sea level, with a total area of 1936 km². The average annual rainfall is 1413 mm [25]. It snows during the winter season from Jan to Feb. Because of various climatic alterations and altitudinal gradients, Himachal Pradesh is rich in plant biodiversity, including rare and endemic plants [54]. This study documented ethnobotanical knowledge and highlighted medicinal plants that are important in the lives of rural people belonging to the Dharampur region of Solan district. A scale map of the study site is shown in Figure 4.

4.2. Data Collection

Extensive field surveys were carried out in the mid hills of the Dharampur region, Solan district, Himachal Pradesh from March 2020 to June 2021, as most of the plants were in the flowering stage and were easy to identify. Ethnobotanical information was gathered through a pretested questionnaire in the format given in the Supplementary information 1 (ethnobotanical survey proforma designed and pretested with local informants, later modified according to the response of informants), direct observation, discussion, and interview methods. It was found that the majority of respondents were between 61 and 75 years old. Informants with better traditional knowledge were selected by the snowball method, and the purpose of the study was explained to informants before they gave oral informed consent. Each informant agreed to participate voluntarily and was allowed to discontinue the interviews any time [55]. Local people served as guides for the field study, and samples of medicinally important plants were collected, with their local identity confirmed by informants. The collected plant specimens were dried and mounted on herbarium sheets with labelled information describing when and how plant samples were collected.
were collected. All collected plant specimens were identified from the taxonomist of the Botanical Survey of India. Dehradun and voucher specimens were submitted to herbarium of Shoolini University in the Solan district, Himachal Pradesh, India.

Figure 4. Scale map showing study site Dharampur in the Solan district, Himachal Pradesh, India.

4.3. Use Value

The importance of plant species was calculated by the use value, and a formula was used for calculation:

$$UV = \frac{\sum U_i}{n}$$

where $U_i$ represents the number of usage reports mentioned by each informant for a particular plant species, and $n$ is the total number of informants. If there are many use reports for a plant, the use values are high, which means that the plant is important, and if there are few reports, the use values are low [56,57].
5. Conclusions

The current study identified 115 plant species that are utilized to treat a variety of human diseases. The findings of this study show that indigenous people living in remote tribal areas are custodians of knowledge about a wide variety of plant resource uses in the study region. The current study suggests implementing various management strategies with the involvement of indigenous communities through village administrative councils to protect medicinal plants that are threatened by extinction. Ecology is shaped by the dialectical relationship between indigenous knowledge and practice, which has an impact on the plant population. New hypotheses for sustainable resource conservation can be developed by combining indigenous knowledge and use in scientific study. Indigenous knowledge of plant resource utilization is constantly decreasing due to changing perceptions of local people and the ever-increasing influence of globalization and socioeconomic transformation. The amount of valuable plant resources is diminishing at an alarming rate due to a lack of controlled scientific and sustainable monitoring cultivation and harvesting, lack of proper management techniques, and lack of knowledge of social concerns. Additionally, indigenous knowledge of lesser-known plant uses is rapidly disappearing. Plant-based treatments may become more popular as a result of the many negative effects of modern allopathic drugs, and traditional knowledge of plants and folk remedies may be preserved. Rural inhabitants of the study area reported that the new generation is not so interested in traditional knowledge of medicinal plants due to Western influence in society, so there is an urgent need to document traditional knowledge of medicinal plants from the study region of Solan district in Himachal Pradesh. A new generation may become more aware of natural products and motivated to utilize them. However, there is less information on the active phytochemicals in these plant species; therefore, the active principles responsible for pharmacological action must be investigated further at a scientific level to validate the claim.

Supplementary Materials: The following are available online at https://www.mdpi.com/article/10.3390/plants10091842/s1, Supplementary information 1: Questionnaire for conducting the ethnomedicinal study.

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