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ORIGINAL ARTICLE **OPEN ACCESS**

Ethnomedicinal plants of Janjehli Valley and its surrounding area and their indigenous use by inhabitants of the Valley, District Mandi, Himachal Pradesh

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ABSTRACT
Nestling in the foothill of Himalaya, Janjehli valley is a rich source of ethnomedicinal plants .This is one of the floristically rich valley situated 84 km far from the district headquarter Mandi .Due to favourable environmental conditions this zone is blessed with plentiful ethnomedicinal plant wealth. Though this area is typically unexplored and it is 84 km far from the district headquarter Mandi. It is in the Seraj valley. It lies with an altitudinal range of 2170 m above mean sea level. A study was undertaken to explore the medicinal flora of the Janjehli Valley, Himachal Pradesh India. This area is covered by rich green pastures and with dense forest covered with Abies pindrow, Quercus leucotrichophora, Quercus dilatata, Pinus wallichiana, Cedrus deodara and rich in medicinal flora. Since time immemorial medicinal plants have been greatly used by the local communities for their health care system. People living in the Himalayan regions are greatly dependent on the resources which they get from the forest. Though the communities have varying level of dependency i.e. medicine, edible, fooder, timber, fuel etc. Some of the most preferred species for medicine used in this area are Bergenia ciliata, Trillium govanianum, Angelica glauca, Allium ursinum, Seseli indicum, Allium wallichi, Thymus linearis, Fagopyrum esculuntum, Nasturtium officinale etc. They are used by local inhabitants for their varied traditional medicinal values. Few species are continuously exploited for their own consumption and for trade indicate high pressure on these species. Their conservation is needed to restore the biodiversity.
Keywords : Janjehli Valley,Medicinal plants,Diversity ,Indigenous uses, Conservation.

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INTRODUCTION

Inhabitants of the hilly regions largely depend on plants for curing various diseases. The indigenous knowledge and traditional practices of medicinal plants are vanishing fast. This knowledge remains restricted only upto the vaids and age old folks of the society .Younger generation hardly carry this knowledge; this is a big cause of concern. Therefore, I aimed to document indigenous uses of some important medicinal plants of this beautiful valley by local inhabitants and suggest conservation strategies. I recorded information on 60 species of medicinal plants. The recorded species represent trees (3.), shrubs (9), herbs (47), and fungi (1).

STUDY AREA

Janjehli Valley a virtual paradise on earth. This valley is full of scenic beauty. It is a hilly and green area with full of nature beauty. This valley is surrounded by pine forest, Perennials Rivers and mountains. At the distance of 7 K.M from Janjehli is a place with green meadows that is Bulah and 16 Km from Janjehli is the Goddes Shikari Devi temple at an altitude of 3300 m above mean sea level. Temple is surrounded by oak and pine forest. Janjehli valley is one of the best places for adventure activities like ice skating, trekking, mountaineering, night safari and camping etc. Though this area is not explored much .This Valley is a rich repository of medicinal flora due to its pleasant climatic conditions. Valley is fed by the perennial bakhli river. Soil is fertile and rich in humus and nitrogenous compounds but lacks phosphate compounds. The major soil groups are brown hill soil and red loamy soil. Most soil in this region are acidic in nature. Being a hilly valley climate is cool and temperate with three distinct season; the winter

(October to March), the summer (April to June), the monsoon (July to September). Highest temperature is recorded during May and June varying between 30 to 35. Lowest temperature is recorded during December and January month. The annual rainfall is around 1240 mm.

MATERIAL AND METHODS

The present study was based on the extensive field surveys made to different villages of the Janjehli valley during different seasons of the years from 2018–2019. During the surveys, participatory interview tools including group discussions, informal meetings, questionnaire surveys, and field observations were used for primary data collection. Surveys were done in villages, Jarol, Kutah, Gratun, Tungadhar, Baila, Kataru, Shodhadhar, Sanglwara, Kothi, Haleen, Road, Shilh, Chappar, Pandavsheela, Dhar, Dhanshali, Kandhi, Majakhal, Dusadhi, Deem, Bulah. From each village information was gathered from the knowledgeable persons, who mostly includes aged person were interviewed regarding the indigenous use of the medicinal flora of the valley. (Table 1). The informants included old men, old women, youths, and elders, local vaids between the ages of 35-85 years. Most of them are orchards, agriculturist, horticulturist, and engaged in organic farming. Prior consent for the documentation of information provided by informants was obtained telephonically or verbally by personal meet from each of them before the interview was taken. Suitable time and place was selected for interview. These local knowledgeable persons were interviewed through semi-structured questionnaires on indigenous uses of the medicinal plants. In the beginning, an inventory interview was done where the villagers and the local vaids were shown the plant specimens in order to elicit information on. Thereafter, the detailed information on these plants was taken. During the interactive meeting, questions on medicinal plants, their parts used, and mode of utilization were asked from the inhabitants. The participants provided information on the medicinal plants, their parts used, indigenous uses, and traditional practices. The information was documented and analyzed for various parameters. Collection of fresh samples was done and identified with the help of sources on local flora [1-8]. The species were authenticated by the second author, who is an expert of the Himalayan flora. Information regarding indigenous uses of medicinal plants was collected from locals and Vaidyas (Ayurveda practitioners) of the villages. However, some information was also validated with the help of secondary information [6].

Profile of the informants of study area:

Sr. No.	Name	Age	Education	Village	Profession
1.	Lal Man	88	10th	Kothi	Lamberdar
2.	Ramsu	82	Nil	Danhyar	Farmer
3.	Lajja Ram	80	Nil	Danhyar	Farmer
4.	Het Ram	43	12th	Chappar	Orchards
5.	Atma ram	40	Graduation	Chappar	Farmer
6.	Narnjanna	80	Nil	Kothi	Farmer
7.	Subash	82	10th	Kothi	Orchard
8.	Hem Raj 55	10th		Kothi	Farmer
9.	Prem	35	10th	Road	Farmer
10.	Lata Devi	40	10th	Ghatadhar	Farmer
11.	Besar Singh	40	10th	Chappar	Farmer
12.	Gopal	65	8th	Shillh	Orchard
13.	Kesar Singh	55	10th	Neend	Farmer
14.	Roshan	48	8th	Neend	Farmer
15.	Ghabar 65	10th		Ghatadhar	Farmer
16	Leela Devi	60	Nil	Barhar	Farmer
17	Taru	70	Nil	Gughand	Farmer
18	Tota Ram	40	8th	Road	Farmer
19	Kaushilya	40	8th	Jarol	Farmer
20	Narottam	50	10th	Road	Farmer
21	Madan lal	42	10th	Ghamrwala	Farmer
22	Dinesh	43	10th	Gughand	Farmer
23	Reena	47	10th	Ghamrwala	Farmer
24	Sharda	45	12th	Gratun	Farmer
25	Sita Devi	54	10th	Gratun	Farmer
26.	Hansa	43	10th	Baila	Farmer
27	Daya	45	8th	Road	Farmer
28	Geeta Nand	44	10th	Baila	Orchard
29	Alam chand	52	10th	Bhnvas	Farmer
30.	Dharmu	45	10th	Road	Farmer

Table: 1 List of Ethno medicinal plants of the Janjehli Valley.

Sr. No.	Groups/Family/Plant species	Vernacular name	Habit	Medicinal properties
1.	Fungi/Morchellaceae Morchella esculenta	Dunglu/ Guchhi	Herbs	Antioxidant, liver protection , edible.
2.	Pteridophytes/Adiantaceae Adiantum capillus	Barin	Herb	Cough, fever, menstrual problems, bronchitis.
3.	Equisetaceae/Equisetum arvense	-	Herb	Diuretic , dyspepsia
4.	Gymnosperm/Pinaceae/ Cedrus deodara	Dair	Tree	Ulcer, rheumatisim, fuel and timber.
5.	Pinus wallichiana	Kail, Bluepine	Tree	Treat wounds, sores, burns, boils, ulcer.
6.	Pinus roxburghii	Chir	Tree	Medicinal (Bone fracture, sprain, swelling, skin diseases, snake bite)
7.	Angiosperms/ Amaranthaceae Achyranthes aspera	Putkanda	Herb	Bronchitis, asthma, dysentery, cold, cough, stomachache.
8.	Anacardiaceae/Pistacia integerrima	Kakar singhi	Tree	Cough, asthma, fever, appetite, pulmonary infection.
9.	Apiaceae/Angelica glauca	Chora	Herb	Dyspepsia, dysentery, ulcer, gastric pain.
10.	Heracleum candicans	Badiyacha	Herb	Leucoderma and menstrual complaints
11.	Hydrocotyle javanica		Herb	Indigestion, dysentery and fever.
12.	Selinium tenuifolium	Bhutkeshi	Herb	Nervine tonic, sedative
13.	Asteraceae/Achilea milefolium	Fye	Herb	Cold, fever , epilepsy, gastric complaints, piles, stimulant.
14.	Ainsliaea aptera	Satjalari	Herb	Stomach
15.	Artemisia nilagirica	Kubsh	Herb	Analgesic, antiseptic, asthma, headache, nervous disorder, skin disease, sores wounds.
16.	Bidens pilosa	Bhatkumbal	Herb	Cough cut ear and eye complaints, headache, leprosy, skin disease.
17.	Cirsium wallichii		Herb	Swelling, headache and pneumonia.
18.	Senecio graciflorus		Herb	Insect bite, ringworm disease and ear ache.
19.	Sonchus asper		Herb	Cuts and injuries
20.	Taraxacum officinalies	Gahri	Herb	Blister, antioxidants, kidney diseases liver complaints, wounds.
21.	Begoniaceae/Begonia picta		Herb	Mouth ulcer, tounge bristle.
22.	Berberidaceae/Berberis aristata	Kashmal	shrub	Malaria, piles, antitode to snake bite.
23.	Berberis lyceum	Kashmal	shrub	Eye disease, jaundice.
24.	Betulaceae/Alnus nitida	Kosh	Tree	Cuts ,wounds and stomachache
25.	Brassicaceae/Nasturtium officinale	Chuch	Herb	Kidney complaints, inflammation of skin, hypoglycaemic.
26.	Cannabaceae/Cannabis sativa	Bhang/bijay	Herb	Nervine stimulant, piles, skin diseases, cuts, dyspepsia, cramps. appetizer, sleep pills.
27.	Caryophyllaceae/Silene media	Bariyala	Herb	Bone fracture
28.	Celastraceae/Euonymus pendulus	Chopru	Tree	Dysentery, eye disease and headache.
29.	Chenopodiaceae/ Chenopodium album		Herb	Skin disease, uterine complaint.
30.	Cucurbitaceae/Trichosanthes tricuspidata		Herb	Burns, diarrhoea, rheumatism, snake bite and vomiting.
31.	Dioscoreaceae/Dioscorea deltoidea		Herb	Dysentery and pile.
32.	Morinaceae/morina longifolia		Herb	Boils
33.	Fabeceae/Desmodium elegans	Kathi	shrub	Carminative, epilepsy
34.	Indigofera heterantha	Kali kathi	shrub	Veterinary disease urinary problems.
35.	Trifolium repens		Herb	Astringent
36.	Vigna vaxillata		Herb	Cholera and ulcer
37.	Hypericaceae/Hypericum japonicum		Herb	Skin diseases
38.	H.oblongifolium	Kharau	Shrub	Wounds and boils
39.	H.uralum	Bani wakra	shrub	Food poisoning.
40.	Lamiaceae/Ajuga bracteosa	Neel kanth	Herb	Root for diarrhoea and dysentery, ascariasis, fever

41.	Clinopodium Umbrosum		Herb	Astrigent, Carminative and Heart Tonic
42.	Origanatum vulgare	Bantulsi	Herb	Cold, fever, hysteria, influenza, stimulant, tonic.
43.	Plectranthus coesta	Chichri	Herb	Gastric complaint.
44.	Thymus linearis	Madroshda	Herb	Stomach ache, vermicidal, liver complaint, eye disorder.
45.	Liliaceae/Polygonatum cirrhifolium	Salam Mishri	Herb	Appetite, nervine tonic, Edible.
46.	Loranthaceae/Viscaceae album	Rhini	shrub	Abortifacient, antifertility, bodyache.
47.	Malvaceae/Malva verticillata	Sochali	Herb	Cough, piles, ulcer and urine complaint.
48.	Melanthiaceae/Trillium govanianum	Nagchatri	Herb	Used to treat boils, dysentery, menstrual and sexual disorders, antiseptic and wound healing.
49.	Oleaceae/Jasminum	Banmalti	Shrub	Skin disease, blood disease, and heart problem.
50.	Podophyllllaceae/Podophyllum hexandrum	Ban kakri	Herb	Cancer, cough, cuts wounds, fever, gastric ulcers, liver diseases.
51.	Polygonaceae/Fagopyrum dibotrys	Fafra	Herb	Insect bite
52.	Fagopyrum esculentum	Kathu	Herb	Typhoid, Lung disorder, urine complaint.
53.	Ranunculaceae/Aconitum heterophyllum	Patish	Herb	Dyspepsia, diarrhoea, cough
54.	Rosaceae/Agrimonia pilosa	Kanaula	Herb	Cough and urinary problem.
55.	Principia utilis	Bekhal	shrub	Burns, cuts, wounds.
56.	Urticaceae/Urtica dioica	Kugas	Herb	Antiseptic, dandruff and swelling
57.	Valerianaceae/Valeriana jatamansi	Nihani	Herb	Antidote to sting of insect, hysteria, neurosis and skin diseases.
58.	Violaceae Viola pilosa	Banaksha	Herb	Cough cold, fever and lung disease.
59.	Viola biflora	Banaksha	Herb	Bronchitis, cold and cough.
60.	Zingiberaceae/Hedychium spicatum	Ban haldi	Herb	Asthma, bronchitis vomiting, dyspepsia.

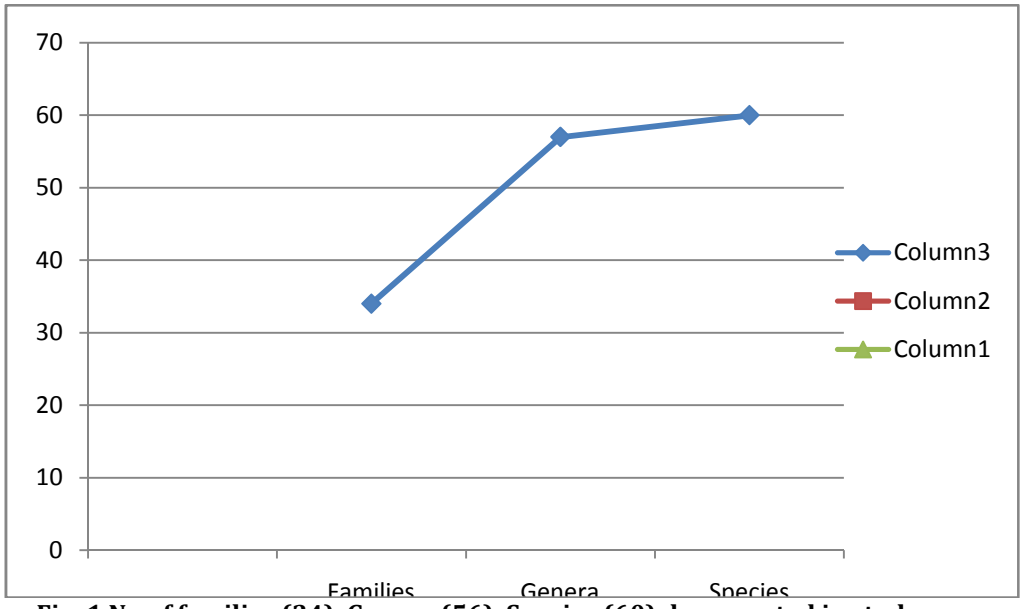

Fig: 1 No of families (34), Genera (56), Species (60) documented in study area.

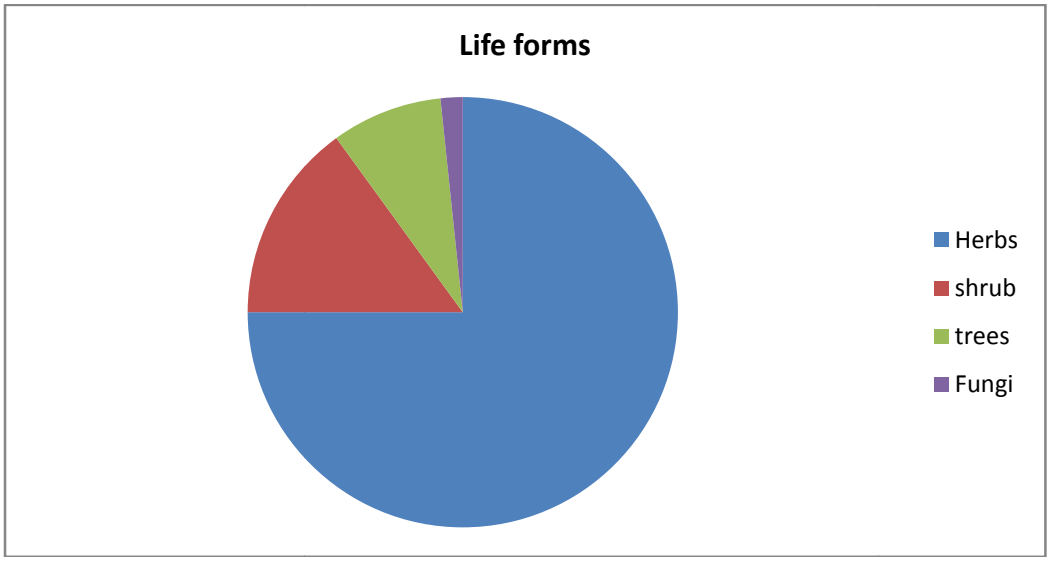

Fig: 2 Depicting life forms.

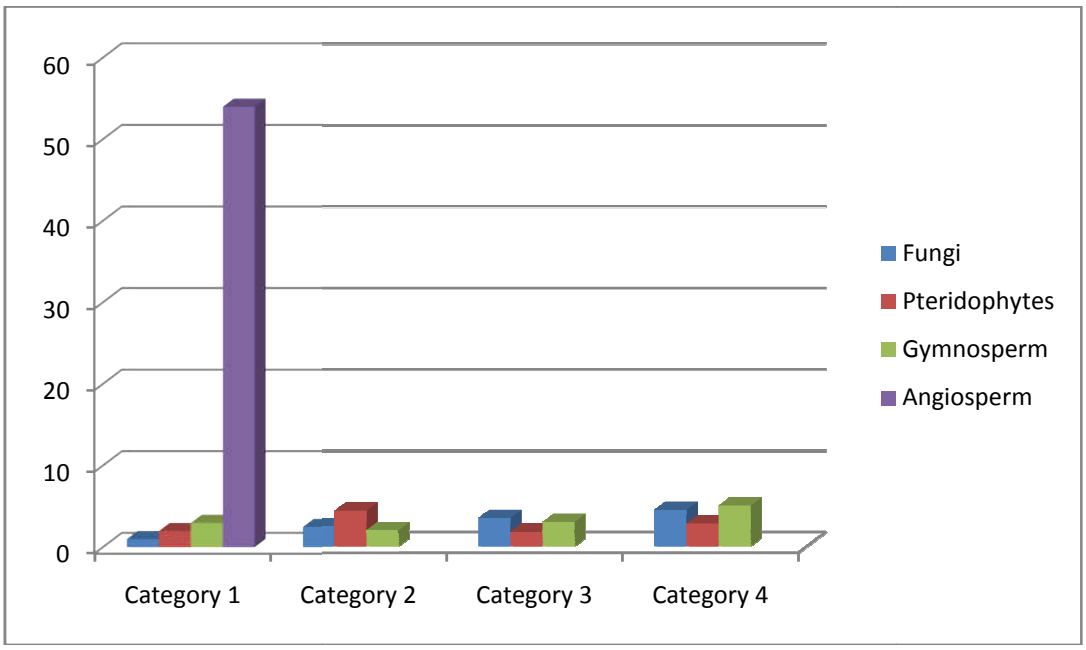

Fig: 3 Groups studied in valley.

DISCUSSION AND CONCLUSION

The present study obtained information on 60 ethnomedicinal plants and their indigenous use by local inhabitant of Janjehli Valley District Mandi Himachal Pradesh. The 60 species fall under genera and 51 families and represent diverse life forms, i.e herbs shrubs, trees, fungi. 30 respondents of the Janjehli Valley were interviewed. Respondents were the residents of the nearby village of the valley, like Kothi, Road, Chapper, Haleen, Gratun etc. Looking at the age group it was found that majority of the respondents were from 40 to 65 years. A small proportion of respondents was from the age groups of 35 to 40.In this investigation 60 plant species belonging to 34 families were documented and found to be used in medicinal system by local inhabitants. Few herbs are being continuously exploited for trade also. They need immediate restoration for the future generation also.

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