



Ethnomedicinal Plant Diversity among the Jaunsaries in Tons Valley, Uttarakhand

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Introduction

India has one of world's richest medicinal plant heritages. The wealth is not only in terms of the number of unique species documented, but also in terms of tremendous depth of traditional knowledge for the uses of human and livestock health and also for agriculture. Historically, the medicinal plants have played a significant role in the most convenient and effective manner in health care because these are not only naturally easily available, cost effective, safe and regenerative but also the tribal have had the knowledge about these medicinal plants, as a result of their long term association with the forest for time.

Uttarakhand, a hilly state, is bestowed with lush green forests, perennial rivers and diversified topography ranging from high alpine glaciers to low lying plains. The flora and fauna also depict great variations making it one of the mega reservoirs of biodiversity in the country.

Garhwal Himalaya is referred to as land of gods as many important religious shrines are located besides the confluence of five tributaries of sacred river Ganges. The Hindu community regards a variety of natural objects sacred. These include the river Ganges and its tributaries and their confluence amongst the religious shrines, Badrinath, Kedarnath, Yamunotri, and Gangotri. The sacred mountain peaks are Nanda Devi, Trishul, Chaukhamba, Kailash, Binsar and Syahi Devi. The Himalaya and

its foothills are covered with thick vegetation and rich biodiversity.

About 80% people in Uttarakhand resides in the remote areas and they are fully or partially depended on the adjoining forests to fulfill their day to day needs on NTFP species.

In Tons Valley, the dominant tribal community is Jaunsari, besides Jaunsaris, two patches of Gujjars also seen in the study area. The study was conducted in few villages of three tehsils of Tons Valley viz., Kalsi, Chakrata and Teuni. It was realized that climate and geography, belief, isolation and poverty influence attitudes with regard to health and states of illness to a very great extent.

There are 385 villages situated in Jaunsar -Bawar area, only 27 villages have one or another kind of medical facility. The Jaunsaris use household remedies for a number of diseases, on the other hand 'herbalist' is consulted for certain specific diseases. No doubt, the medical facilities available in the area are insufficient, but whatever facilities are available, they either do not use or are reluctant to use.

In Tons Valley, different kinds of medical practitioners such as priests, magicians and quacks are abound. Many cures are affected by one or many people treating a single patient at a time or in succession. In most of the diseases recognized to have been occurred due to natural causes, specific indigenous medicine (herbs) are commonly used.



Some of these are really quite effective. The Jaunsaris have an extensive knowledge of drugs which they have gained through and successful experience. Their faith in local drugs was probably strengthened with recoveries from illness, many times in succession.

The Jaunsaris in general, are not very clear in their ideas about health, disease and treatment. They depend upon the advice of their village elders and experts. Thus, the health care system is an informal and undefined system, with no individual cures from many ailments. Isolation of patient and special arrangements for ill people are almost never prescribed. The patients are cured by traditional medicine.

Materials and methods

1. Study area (Tons valley)

Tons Valley (30°35'-30° 18' N latitude and 77° 49'-78° 37' E longitude) is one of the floristically rich Himalayan valley located in Garhwal Himalaya of Uttarakhand. The valley is bounded on the North and Northwest by Simla District of Himachal Pradesh, on the southwest by Chakrata Forest Division of Dehra Dun District, on the east by Yamuna Valley Uttarkashi District, covering an area of 4500 sq Km. The entire valley is situated in the temperate zone. Owing to topographic and climatic diversity, there is a unique assemblage of tropical, temperate and alpine elements in the flora. Broadly, Cedar, Pine, Oak and mixed type of forests could be seen which along with terraced farms provide a spectacular landscape. The approach to the Har-Ki-Dun pastures takes one through tones valley and the villages of Taluka, Panwali and Osla.

The Tons river makes serpentine loops at this place which enhances the beauty. Moreover, the area is a homeland of some primitive communities dominated by Jaunsaris, which are authentic and intimate repository of wisdom on plant wealth of the area.

Methodology

The present survey was conducted in villages around the Tons Valley (three tehsils viz., Kalsi, Chakarata and Tuni), based on personal interviews among tribal. The informers included responsible old persons, village medicine men (Jadiyahar), housewives and also the middle age people, who were fully aware about their forest wealth. During the survey, information was gathered on the basis of prepared questionnaire viz., local name, mode of preparation, medicinal uses, parts used etc (Fig. 1). Standard methods were followed for the collection of plant materials, mounting, preparation and preservation of plant species.

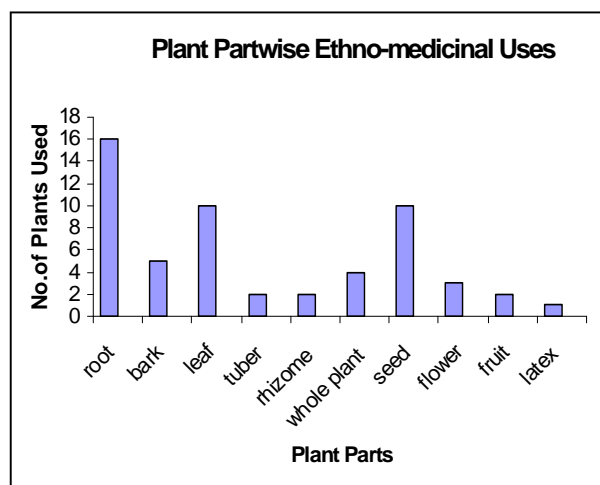


Fig. 1

Results

The results of the investigation are presented in Table. 1 based on the plants and parts used for the treatment of various ailments. The present study comprises 55 plant species of ethno-botanical uses belonging to 36 families, 52 genera and 55 species.

Discussion and Conclusion

Uses of plants can change over a short time without initially affecting knowledge but generating long-run changes in knowledge. Researchers could use the gap between knowledge of plant uses and



Table.1: List of few medicinal plants used for the treatment by the tribes.

SI.No.	Botanical Name	Family	Common Name	Part used	Uses
1	<i>Achyranthes bidentata</i> Bl.	Amaranthaceae	Hwang	Root	Toothache, Snake bite
2	<i>Acorus calamus</i> Linn.	Araceae	Bach	Root	Stomach worms
3	<i>Adhatoda zeylanica</i> Med.	Acanthaceae	Banshoi	Leaves, Flower	Bronchitis and asthma
4	<i>Ainslaea aptera</i> DC.	Asteraceae,	Dande ka kadu	Leaves,	Gastric
5	<i>Artemisia roxburghiana</i> Wall. ex Bess.	Asteraceae	Chamur	Root	Piles
6	<i>Asparagus curillus</i> Buch. -Ham.	Asperagaceae	Sharanoi	Tuber	Acne
7	<i>Ageratum conyzoides</i> Linn.	Asteraceae	Leaf	leaf	Healing in cuts
8	<i>Berberis</i> ssp.	Berberidaceae	Kashmoi	Root	Eye tonic
9	<i>Bergenia ciliata</i> (Haw.) Sternb.	Saxifragaceae	Pattarchoor	Tuber	Urinary troubles
10	<i>Bistorta anplexicaulis</i> (D.Don) Green	Polygonaceae	Ninai	Root	Ear ache, acne
11	<i>Boehmeria platyphylla</i> D.Don	Urticaceae	Chauna	Whole Plant	Wounds healing
12	<i>Boerhaavia diffusa</i> Linn.	Nyctaginaceae	Phurnoi	root	Swelling
13	<i>Bombax ceiba</i> Linn.	Malvaceae	Semal	Bark	
14	<i>Calotropis procera</i> (Ait.) R.Br.	Apocynaceae	Aank	Whole plant	Boils
15	<i>Cedrus deodara</i> (Roxb.exD.Don) G.Don	Pinaceae	Deodar	Wood(oil)	Itching (animals)
16	<i>Centella asiatica</i> (Linn.) Urban	Mackinlayaceae/ Apiaceae	Brahmi	Leaves	Headache
17	<i>Cinnamomum tamala</i> Nees & Eberm.	Lauraceae	Tej Patta	Leaves	Cold
18	<i>Curcuma domestica</i> Valetn	Zingiberaceae	Kachchi haldi	Rhizome	Stomach ache, Internal wounds
19	<i>Curcuma zeboaria</i> Rosc.	Zingiberaceae	Kachoor	Rhizome	Stomach ache (Infant)
20	<i>Cynodon dactylon</i> Pers.	Poaceae	Doob	Whole plant	Dysentery
21	<i>Dicliptera bupleuroides</i> Nees	Acanthaceae	Saundi	Whole plant	Pneumonia
22	<i>Emblica officinalis</i> Gaertn.	Euphorbiacea	Amla	Fruit	Hair tonic
23	<i>Ficus religiosa</i> Linn.	Moraceae	Peeple	Bark	Burn
24	<i>Juglans regia</i> Linn.	Juglandaceae	Akhor, Akhrot	Stem, Leaves	Tender stem parts used as tooth brush



25	<i>Mallotus philippensis</i> Muell.-Arg.	Euphorbeaceae	Kamil, Kamlu	Seeds, Leaves	Itching,, stomachache
26	<i>Mentha arvensis</i> Linn.	Lamiaceae	Pudeena	Leaf	Dysentery
27	<i>Murraya koenigii</i> (Linn.) Spreng.	Rutaceae	Gandheli	Leaf	Stomach worm
28	<i>Ocimum sanctum</i> Linn.	Lamiaceae	Tulsi	Whole plant	Fever, Cough & cold
29	<i>Oxalis corniculata</i> Linn.	Oxalidaceae	Salmudi, Khatti-mithi	Leaves	Stomach ache, fever, vomiting
30	<i>Papaver somniferum</i> Linn.	Papaveraceae	Post	Latex	for body ache
31	<i>Prinsepia utilis</i> , Royle	Rosaceae	Bhekkoi,	Root	Boils
32	<i>Prunus armeniaca</i> Linn.	Rosaceae	Chula	Seeds	Headache
33	<i>Prunus persica</i> Batsch	Rosaceae	Aadu ki gutli	Seed coat	Acne
34	<i>Punica granatum</i> Linn.	Lythraceae	Damoi, Anar	Fruit	Gastric
35	<i>Quercus leucotrichophora</i> A. Camus		Cupuliferae	Baanj	Bark Scorpion bite
36	<i>Rheum australe</i> D. Don	Polygonaceae	Archa	Root	Headache
37	<i>Rhododendron arboretum</i> Sm.	Ericaceae	Burans	Flower	Dysentery (with blood)
38	<i>Ricinus communis</i> Linn.	Euphorbiaceae	Indaru, Khanash	Leaves, seed oil, root	Pain, swellings and body aches
39	<i>Rubus niveus</i> Thunb.	Rosaceae	Kali achoi/ kali heesar	Root	Wounds
40	<i>Rumex hastatus</i> D.Don	Polygonaceae	Almoda/ halmoda	Root	Burn
41	<i>Sapindus mukorossi</i> Gaertn.	Sapindaceae	Reethachilka	Seed	Hair tonic
42	<i>Sarcococca saligna</i> Muell.-Arg.	Euphorbiaceae	Tiliari	Root	Piles
43	<i>Siegesbeckia orientalis</i> Linn.	Asteraceae	Kachoori	Root	Snake bite
44	<i>Solanum nigrum</i> Linn.	Solanaceae	Khalarkoi, Bhomolan		Leaves Fever, Skin disease, Acne
45	<i>Taraxacum officinale</i> Weber ex Wiggers	Asteraceae	Dudhla	Root	Rabies
46	<i>Taxus baccata</i> Linn.	Taxaceae	Thuner	Bark, Seeds	Asthma, Cancer, boil
47	<i>Terminalia bellirica</i> Roxb.	Combretaceae	Baheda	Seed	Rheumatic swelling
48	<i>Terminalia chebula</i> Retz'C.B. Clarke in.	Combretaceae	Harad	Seed	Cold, cough
49	<i>Thalictrum foliolosum</i> DC.	Ranunculaceae	Sapau	Root	Snake bite
50	<i>Thymus linearis</i> Benth.	Lamiaceae	Jangli jwan	Seeds	Arthritis
51	<i>Toona ciliata</i> M.Roem.	Meliaceae	Tun	Bark	Baldness
52	<i>Urtica ardens</i> Link	Urticaceae	Kushka	Root	Skin diseases
53	<i>Viola pilosa</i> Bl.	Violaceae	Vanafsa	Flower	Fever, cold
54	<i>Wolfenia amherstiana</i> Benth.	Plantaginaceae	Dande ka kadu	Root	Stomachache
55	<i>Zanthoxylum armatum</i> , DC.	Rutaceae	Timru, Timbur	Stem, seeds	Toothache, Stem used as tooth brush



Punica granatum Linn.



Berginia ciliata (Haw.) Sternb.



Acorus calamus Linn.



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Oxalis corniculata Linn.



Murraya koenigii Linn.

actual uses of plants to study erosion of indigenous knowledge of plant uses. The knowledge of traditional medicines is intact in the region and they use this knowledge mostly for their daily requirement due to lack of modern facilities.

The noteworthy findings stand out from this work, data suggests that people in the more isolated village know and consume more plants than people in the more accessible village. Why would individual knowledge of plant uses correlate positively with



consumption of plants only in the isolated and not in the accessible village? In the more isolated village

of Yaranda, the expected positive correlation between individual knowledge and uses of plants were found.

References

- Anon (1986). Useful Plants of India. Publication and Information Directorate, Council of Scientific and Industrial Research, New Delh.
- Chandra, Veena & Meenakshi 2010 Wild Medicinal Plant Resources of Jaunsar-Bawar (Uttarakhand) in National Seminar on Cultural & Ecological aspects of plant diversity of coastal India with thrust on conservation Sept. 22-24, p. 41
- Dhan Singh and Y.P.S. Pundir (2004). Wild medicinal plants of Jaunsar-Bawar (Western Himalayas), Uttaranchal-I. Indian Forester. Nov. 1259-1271.
- Bartwal, Meenakshi and Veena Chandra 2010 Ethnomedicinal plants used by the Jaunsari tribe in Tons valley. Dehradun In International Conference on Mountain Biodiversity Conservation and Sustainable Utilization. Doon University, (Uttarakhand) (Abs.) P. 91
- Bartwal, Meenakshi and Veena Chandra 2010 Non Timber Forest Products (NTFP) and their appropriate utilization for the community development in Tons valley Tribes In International Seminar on Role of Plant Taxonomy in Biodiversity Management and Human Welfare. FRI, Dehradun (Abs.), p. 37
- V.T. Hiremath, T.C. Taranath (2009). Ethnomedicinal Plants and Associated Traditional Knowledge of Jogimatti Forest, Chitradurga District, Karnataka, India. Ethnobotanical Leaflets. 13: 1468-75.
- Victoria Reyes et.al. (2005). Indigenous Knowledge and consumption of Wild Plants: A Comparative Study.