



Ethno- medicinal study of some wild species of Kanatal region Tehri Garhwal, Uttarakhand

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ABSTRACT

Medicinal plants play an important role in healthcare practices among tribal and rural people. These tribal and rural people possess valuable knowledge about the effective treatment of many health problems using plant parts. This knowledge, passed down through generations orally, has prompted efforts to assess the ethno-medicinal information about wild species used by local people in the Kanatal region, District Tehri Garhwal of Uttarakhand. Information presented in this paper was gathered through frequent field visits in the forest and nearby villages, participatory observations, group discussions, and interviews with knowledgeable locals residing in the Kanatal region from September 2021 to August 2023. A total of 45 plant species from 25 families were collected during the field visit. The plants used for various purposes were identified by their scientific name, family, local name, and ethno-medicinal importance. This study concludes that the local people and dwellers in the Kanatal region possess a rich traditional knowledge of the medicinal uses of plants. Documenting this knowledge will provide opportunities for new pharmacological research.

KEYWORDS: Ethno- medicine, Medicinal herbs, Kanatal

INTRODUCTION

A large number of medicinal plants from the Himalayas have garnered significant attention in ancient treatises such as the Rigveda, Pranas, Ayurveda, Brikshaveda, etc., which extolled the virtues of Himalayan herbs and drugs. Our existence is intrinsically dependent on nature to meet our basic needs, making it one of the oldest sciences since the evolution of humankind. Therefore, the relationship between people and nature dates back to human evolution, predating the development of global cultures and communities.

Ethnomedicine, a branch of traditional medicine, is widely accessible as a health treatment method worldwide, particularly in developing countries. Historical evidence indicates the use of indigenous and ethnomedicine in various societies since ancient times. The World Health Organization estimates that 80% of the global population primarily relies on traditional medicine for their healthcare needs, with a significant portion of traditional healing involving the use of plant extracts or their derivatives. Ethnobotanical information plays a crucial role in scientific research, especially when literature and fieldwork have not been adequately evaluated. Herbal medicine has proven effective in treating various diseases such as skin disorders, respiratory problems, coughs, colds, toothaches, and liver and spleen ailments. The local population in the Kanatal region of Tehri Garhwal not only depends on plant resources for food, fodder, fuel, and household and construction items but also for medicinal purposes.

Aims & Objective-

- Study the flora of the Kanatal region and its ethno-medical uses, and collect various therapeutic uses of plants used by the local people.
- Collection and identification of medicinal plants.
- Authentic botanical verification of medicinal plants at the study site
- Preparation of a herbarium specimen
- Collection and identification of medicinal plants.

Study site-

The proposed study area Kanatal hill region lies in district Tehri Garhwal, the district lying on the southern slopes of the mid Himalayas, between the geo-coordinates 30° 03' N to 30° 52' N latitude and 77° 56' E to 79°02' E longitude, representing 3642.00 km². The proposed study area covers the entire area starting from Chopdiyal Goan, Jadipani, Thangdhar, Jwarana, and Kaddukhal and other nearby villages, along with the centre point of Kanatal.

Kanatal is located at a height of 2590 metres above sea level in the Tehri Garhwal District of Uttarakhand. It is located around 40 kilometres from Mussoorie, 80 kilometres from Dehradun, and 320 kilometres from Delhi

Material and Method

Field visits were undertaken in and around the proposed study area. Systematic and frequent visits were carried out to the study area at regular intervals from October 2021 to August 2023. A survey was conducted in the villages of the study area for the collection of data regarding the drugs in local traditions or ethno-medicine.

Two basic approaches were carried out to study the traditional knowledge. The first approach, which was called "inventory," includes surveying the study area and collecting plant specimens, and the second approach, which is called "interview," involves asking a questionnaire about the local name and medicinal uses of plants to the local people of Kanatal region. The questionnaire was planned to collect information on the local name of the plants, medicinal uses, parts used, method of preparation of medicine, approximate doses for ailments, and collection for personal use or sale.

All plant specimens were photographed and collected. The dried specimens were mounted on the herbarium sheets with glue and stitched. Collected plant specimens were identified with the help of supervisors,

co-supervisors, and regional flora and verified by scientists (Uttarakhand Space Application Centre) and the Botanical Survey of India (BSI).

Results

A total of 45 plant species are being used as ethnomedicine in the study area, belonging to 25 families. The maximum number of herbs is used, followed by shrubs and trees. A total of 40 disease conditions were noted in the study area, which was treated using the 45 plant species from 25 families. Leaves and roots are the preferred plant parts used in ethno-medicinal indications in the study area, followed by bark and whole plants. This preference is self-authenticated by the fact that herbs are the most commonly used plants in local health traditions. It has also been reported that more than one plant part of a single drug is used.

Enumeration of herbs used as ethno-medicine by the local people of Kanatal region of district Tehari Garhwal, Uttarakhand

S.N.	Local name	Scientific Name	Family	Habit	Ethno-medicinal uses
1-	Ronsali	<i>Abies webbiana</i> Lindl	Pinaceae	Tree	Cold, Inflammation, Headache
2-	Basya	<i>Ageratina adenophora</i>	Asteraceae	Shrub	Wounds, Cough
3-	Neelikanthi	<i>Ajuga bracteosa</i> Wall.ex.Benth	Lamiaceae	Herb	Earache, headache, Abdominal ailments, Skin disease
4-	Kunju	<i>Artemisia vulgaris</i> Linn. Sp. Pl.	Asteraceae	Shrub	Earache, Toothache, Skin disease, Inflammation and Wounds
5-	Kingoda	<i>Berberis aristata</i> Schneid.	Berberidaceae	Shurb	Inflammation, flatulence, cough, Cold, Asthma
6-	Silpada	<i>Bergenia ciliata</i> (Haw.) Sternb.	Saxifragaceae	Herb	Diabetes, Jaundice, Eye Disease, Skin Diseases
7-	Serayak	<i>Berlaria cristata</i>	Acanthaceae	Shrub	Earache, Backache, Renal Stone.
8-	Devdar	<i>Cedrus deodara</i> Roxb. ex. D.Dun	Pinaceae	Tree	Abdominal Problems, Wounds,
9-		<i>Cephalanthera longifolia</i> (L.) Fritsch.	Orchidaceae	Herb	Itching, Vigour, Vitality
10-	Bugarchilla	<i>Cotoneaster microphyllus</i>	Rosaceae	Shrub	Oral ailment, Wounds,

		Wall. Ex Lindl.			Skin infections
11-	Tilpushpi	<i>Digitalis purpurea</i> Linn.	Scrophulariac eae	Herb	Cough, Asthma, Insomnia
12-	Ban aadu /	<i>Hedychium spicatum</i> - Ham.ex Sm.	Zingiberaceae	Herb	Skin disease, Cough, Headache
13-	Neel	<i>Indigofera tinctoria</i> Linn.	Fabaceae	Shrub	Wound, Mouth ulcer, Hair problems
14-	Akhroth	<i>Juglans regia</i> Linn.	Juglandaceae	Tree	Toothache, Wounds, Fungal infection
15-	Pudina	<i>Mentha longifolia</i>	Lamiaceae	Herb	Headache, Abdominal pain, Nausea
16-	Kulen/ Chir	<i>Pinus roxburgii</i> Sarg.	Pinaceae	Tree	Sprain, Joint pain, Cracked feet
17-	Kail	<i>Pinus wallichiana</i> A.B. Jackson	Pinaceae	Tree	Joint pain
18-	Lahurya	<i>Plantago major</i> L.	Plantaginaceae	Herb	Wounds,Constipation
19-	Ban kakdi	<i>Podophyllum hexandrum</i>	Berberidaceae	Herb	Wounds, Skin disease
20-	Bajrdanti	<i>Potentilla fulgens</i> (Wall. Ex Hook)	Rosaceae	Herb	Toothache, throat infection, Eye disease
21-	Bhekal	<i>Prinsepia utilis</i> Royle	Rosaceae	Shrub	Joint pain, abdominal ailments, Skin infection
22-	Panya	<i>Prunus ceresoides</i> D.Don	Rosaceae	Tree	Wound, Joint pain
23-	Ghingaru	<i>Pyracantha crenulata</i> (D.Don) M.Roem.	Rosaceae	Shrub	Fever, Bodyache, cough cold
24-	Baanj	<i>Quercus leucotrichophora</i> A .Camus	Fagaceae	Tree	Tonsillitis, Diarrhea, Constipation
25-	Burans	<i>Rhododendron arboreum</i> Smith.	Ericaceae	Tree	Nasal bleeding, Fever, Headache, Dysentery
26-	Kuju	<i>Rosa moschata</i> Herm.	Rubiaceae	Shrub	Wound, acidity, fever
27-	Kuru/	<i>Rubia cordifolia</i> Linn.	Rubiaceae	Climbi	Skin disease, Abdominal

	Manjith			ng herb	ailment
28-	Hinsalu	<i>Rubus niveus</i> Thumb.	Rosaceae	Shrub	Skin infection, Cough, Cold, Fever, Headache, Jaundice
29-	Amera	<i>Rumex hastatus</i> D.Don. Prodr.	Polygonaceae	Shrub	Wound, Sunstroke
30-	Amlyya	<i>Rumex nepalensis</i> Spreng.	Polygonaceae	Herb	Wound, Skin Disease, Toothache, Bodyache
31-	Ghaniyajhad / Budli	<i>Salvia mukerjeea</i> Bennet & Raizada	Lamiaceae	Herb	Wound, Cough and Cold, Diarrhea, Piles
32-	Muramansi	<i>Selinum wallichianum</i> (D.C) Raizada & H.O. Saxena	Apiaceae	Herb	Inflammation, Cough, epilepsy
33-	Kedarpati	<i>Skimmia laureola</i> Sieb.	Rutaceae	Shrub	Inflammation, Pain, Insect bite
34-	Chiretu	<i>Swertia cordata</i>	Gentianaceae	Herb	Fever, Skin Disease, Blood purifier
35-	Chiretu	<i>Swertia ciliata</i>			
36-	Dudi/Dugdpheni	<i>Taraxacum officinale</i> Weber.	Asteraceae	Herb	Wound, Throat infection, Skin Disease, Fever, Jaundice
37-	Thuner	<i>Taxus baccata</i> Lnin. Sp. Pl	Taxaceae	Tree	Epilepsy, Joint pain, Cough
38-	Pilijadi	<i>Thalictrum foliolosum</i> DC.	Ranunculaceae	Herb	Skin disease, Eye disease, Jaundice
39-	Ban ajwan	<i>Thymus linearis</i> Benth.	Lamiaceae	Shrub	Inflammation, Pain, Burn, Intestinal worm
40-	Kandali	<i>Urtica parviflora</i> Roxb.	Urticaceae	Shrub	Fever, Cough, Hair problems
41-	Sumaya	<i>Valeriana jatamansii</i> W.Jones	Valerianeaceae	Herb	Insomnia, joint pain, Insect bite
42-	Gidartambaku	<i>Verbascum thapsus</i> Linn.	Scrophulariaceae	Herb	Inflammation, Intestinal pain
43-	Titmulya	<i>Viburnum cotinifolium</i>	Verbenaceae	Shrub	Loss of Appetite, Jaundice

		D.Don.			
44-	Banpsa	<i>Viola pilosa</i> Blume	Violaceae	Herb	Cough, Cold, Headache, wounds
45-	Timbre	<i>Zanthoxylum armatum</i> DC.	Rutaceae	Shrub	Toothache, Inflammation

Discussion-

The use of wild herb species as medicine by the local people of the Kanatal region of Tehri Garhwal district, Uttarakhand, has been a longstanding practice in this region, a tradition passed down through generations. The knowledge regarding these medicinal plants has been acquired through the experiences of many prior generations. The study revealed that older traditional healers possess significant knowledge about the applications of these medicinal plants in the study area. However, the younger generation does not display much interest in traditional medicine systems. Nevertheless, there is a consensus among users that these wild herb species possess curative properties.

Conclusion

The ethno-medicinal survey of the Kanatal region of District Tehari Garhwal, Uttarakhand, revealed that people in this area possess good knowledge of herbal medicine, but these local people and dwellers are in progressive exposure to modernization; their knowledge of traditional uses of plants may be lost over time. The knowledge needs more invention, and research related to the isolation and purification of active compounds from these plants should be carried out to provide leads for future drug therapy.

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