



## RESEARCH ARTICLE

# Medico-Ethno Botanical Practices among *Bhotia* Tribe of Kumaon Himalaya: A Case Study from Bageshwar District, Uttarakhand, India

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## ABSTRACT

**Introduction:** Traditional folk practices still hold major places as one of the major health-providing systems for the remote tribal and village people.

**Aim:** To study and collect folklore medicinal knowledge for further validation, so it can be used for the benefit of society.

**Materials and methods:** Medico-ethno botanical survey was done of Bageshwar district in Kumaon Himalayan region of Uttarakhand state of India.

**Observation:** Bhotia tribal community is major inhabitants of the forest areas in this region. Folklore was collected through participatory rural appraisal (PRA) technique.

**Result:** Totally 18 folklores were collected and documented.

**Conclusion:** Such traditional knowledge needs to be documented and preserved, as they are getting extinct gradually which may result in loss of such precious knowledge to be lost by mankind which may pave the path of future health care system.

**Keywords:** Ayurveda, Bageshwar, Bhotiya community, Folk practices, Uttarakhand.

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## INTRODUCTION

The endeavor to achieve and maintain an optimum state of health has always exercised the minds of men since

ancient times. As a result, a number of healing systems evolved across the globe. People have devised systems to mitigate the wearisome situations arising out of diseases using their own method, which vary from one community to another.<sup>1</sup>

Folk medicine incorporates healing practices and ideas on health care which are confined to a particular group in a culture, and are usually transmitted orally or word of mouth. Across the entire Himalayan region, folk healers have a remarkable knowledge of herbs, gathered through generations and passed on through years of apprenticeship. The traditional healers in the region have developed the health care traditions through constant healing practices from generation to generation which is rooted in understanding and realistic considerations. Traditional wisdom of Himalayan communities is passed through proverbs, folklores, legends, customs, and myths.

These sources reveal how troubles emerge in life and how they are resolved by the combined efforts of a community. In the long history of local influences, there are deformations, distraction, and alteration in folk healing practices on the negative side, and creativeness, revisions, and improvements on the positive side. But the folk systems have remained responsive to local needs and expectations. Various studies have been done to collect various folklores from various tribes of the Himalaya region.

## MATERIALS AND METHODS

### Study Area

The Medico-ethno botanical tour of Bageshwar district forest division was carried out during (2014-2015). Bageshwar district is located between 29.85°N latitude and 79.77°E longitude and has 2,302 km square area. Bageshwar district is a district of Uttarakhand state in northern India (Fig. 1). Bageshwar district is in the eastern Kumaon region of Uttarakhand, and is bounded on the west and northwest by Chamoli district, on the north-east and east by Pithoragarh district, and on the south by Almora district. The medico-ethno botanical survey tour was carried out in Dharamgar adjoining areas,

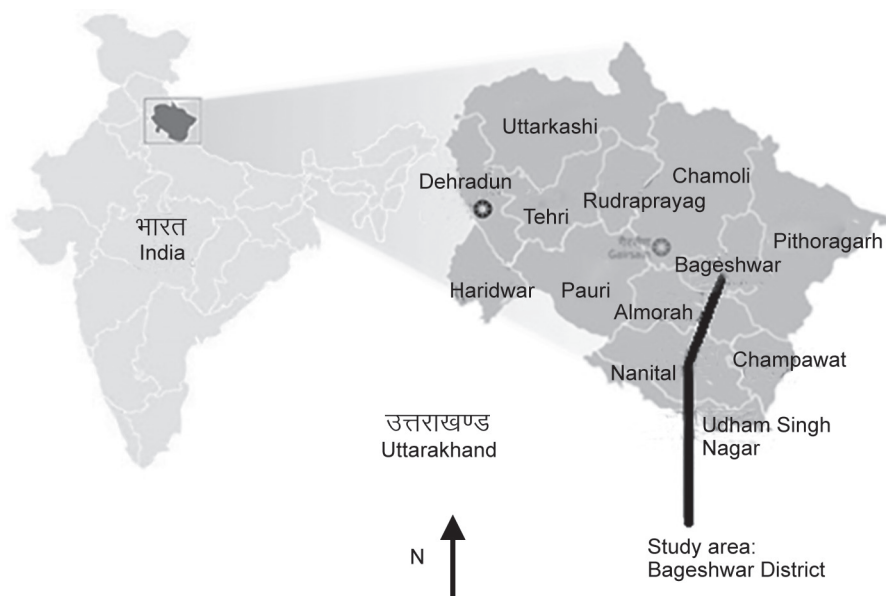
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**Fig. 1:** Ten study villages inhabited by Bhotiya community in the central Himalayas, Bageshwar District, Uttarakhand, India

Kapkot, Bharari, Shama, Song, Loharkhet, Kameridevi, Pachar, Garur, Shikhar, and Paudidhar forest areas of Bageshwar district, Uttarakhand. Bhotiya community is a major tribal community of this region and folklore was collected from them through PRA technique<sup>2</sup>.

### Bhotiya Tribe

The Bhotiya people are closely related to several other groups and ethnic boundaries are porous.<sup>3</sup> One group is in the northern part of the Indian state of Sikkim, another in Bhutan, and also the Uttarakhand Bhotiya of the upper Himalayan valleys of the Kumaon and the Garhwal divisions of Uttarakhand. These include the Shauka tribe of Kumaon, the Tolchhas, and the Marchhas of Garhwal. The Bhotiya tribal communities have a wealth of knowledge on the use of medicinal plants in their locality. Collection of medicinal plants from the wild has long been conducted while grazing livestock in the forests and alpine pastures. The Bhotiya have their own culture, tradition and religious beliefs. Their major occupations have been sheep rearing and agriculture, with agriculture taking precedence over pastoralism at present. Almost all of the households are involved in agricultural activities by way of subsistence farming.

Similar study was done by Phondani et al<sup>4</sup> on the medicinal plants and knowledge of diseases among Bhotiya tribal communities in the Niti valley of Alaknanda catchment in central Himalaya. Indigenous knowledge of local traditional healers was assessed and 86 plant species were identified which are used for the treatment of 37 common ailments.

### DISCUSSION

In the present study, 18 species belonging to 18 genera and 13 families, i.e., shrub (1 sps.), tree (2 sps.), herb (15 sps.), were recorded under the study which are used in the treatment of various ailments by Bhotia tribes. The utilization pattern of the species indicated that leaves of 5 sps., roots of 10 sps., whole part of 1 sps., bark of 1 sps., and inflorescence of 1 sps. are used in various ailments, i.e., cold, cough, eczema, indigestion, rheumatism, fever, jaundice, leukorrhea, stomatitis, alopecia, dandruff, wounds, etc. (Table 1, Fig. 1, and Graphs 1 to 3).

In the Bhotiya communities, traditional healers identify causes of illness or have set prescription for a particular disease which they identify on their own pattern before prescribing treatment. The dose given to the patient depends on their age, physical status, and health conditions. The method of use of plants varies according to the nature of disease. In the majority of the cases, a decoction of various parts of plants used is administered for treating a disease or diseases. Most of the decoctions are made just by crushing the plant parts as cold decoction but some are made by boiling plant parts in water, drinking after cooling. Paste of some plants is used in muscular pain and in wound healing.

### CONCLUSION

The vast traditional knowledge of herbs in the Himalayan region is depleting because of rapid socioeconomic and cultural changes that are taking place and migration of local inhabitants. Documentation of this knowledge is valuable both for the communities and their future

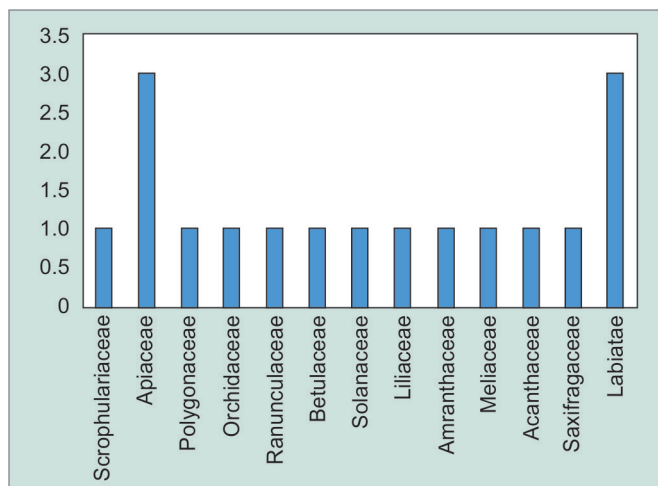
**Table 1:** Plants documented as used medicinally among the Bhotiya communities of Bageshwar district rural areas in Kumaon Himalaya, India

Name of the drug				Accession No.
Botanical name	Sanskrit name	Local name	Folklore uses	
<i>Picrorhiza kurroa</i> <sup>5</sup> Royle ex Benth.	Kutki	Kutka	5 gm root powder used for 2–3 days in fever	27673
<i>Pleurospermum angelicoides</i> (DC.) C.B. Clark.	–	Chippi	Small piece of the root (5 gm) chewed during body ache or any type of pain	–
<i>Rheum australe</i> D. Don	Revand chini	Chuchi	Fresh root paste (4–5 gm) used for 3 days in cut and wounds	27793
<i>Dactylorhiza hatagirea</i> (D. Don.) Soo	Salampanja	Hatajari	Dried tubers are crushed with water and paste is applied over cuts and wounds Dried tubers are crushed with water 1–2 gm and paste is given to the patient for blood purification Tuber soaked in milk overnight is chewed in the morning with milk in empty stomach used as tonic	20817
<i>Arnebia benthamii</i> (Wall. ex G. Don) Johnston	Ratanjot	Balchadi	Dried inflorescence is dipped in mustard oil Quantity sufficient (QS), oil is massaged over scalp to reduce dandruff	–
<i>Angelica glauca</i> <sup>6</sup> Edgew.	Choraka	Gandhrayani	Root is dipped in water overnight and infusion is sieved through cotton cloth. Cold infusion is given in the morning empty stomach to cure gastritis and stomach ache	27789
<i>Aconitum heterophyllum</i> Wall. ex Royle <sup>7</sup>	Ativisha	Atish	Dried roots of the plant are ground on a stone to form fine paste and minute doses of the paste are used for intoxication of charas addicted person and also used in fever	27782
<i>Betula utilis</i> D. Don.	Bhojpatra	Bhojpatr	Root is ground to form fine paste, 5–8 gm given twice daily for 7 days in jaundice	5111
<i>Datura metel</i> L. <sup>8</sup>	Dhatura	Datura	Dried datura leaves with garlic and apium seeds are dipped in mustard oil. Quantity sufficient oil is massaged over the joints in joint pain	19085
<i>Asparagus racemosus</i> Willd. <sup>9</sup>	Satawar	Satwar	6–8 gm root powder is given orally to the patient twice a day to cure leukorrhea	27213
<i>Achyranthes aspera</i> <sup>10</sup> L.	Apamarga	Chirchita, Ultisaji, Apamarga	1 gm root paste with 1 gm pepper powder is mixed and is given orally once a day in jaundice	22612
<i>Azadirachta indica</i> A. Juss <sup>11</sup>	Nimba	Neem	Fresh leaves are crushed with ajwain ( <i>Trachyspermum ammi</i> L.) and mixed with mustard oil. Quantity sufficient mixture is applied over and around affected part in alopecia	22521
<i>Ajuga parviflora</i> Benth	Neelkanthi	Ratpatia	Leaves are chewed to cure diabetes	2385
<i>Peristrophe paniculata</i> (Forssk.) <sup>12</sup> Brumitt.	Kakjangha	Kaknadi	Whole plant paste applied in cuts	19813
<i>Bergenia ligulata</i> (Wild.) Engl	Pashanbheda	Pashanbheda	Rhizomes are collected and cut into small pieces and burnt with sesame ( <i>Sesamum orientale</i> L.) oil and filtered through a fine cloth. Quantity sufficient oil is applied over and around the affected part for healing of wounds	27809
<i>Thymus serpyllum</i> L.	Ajmoda bheda	Van ajwain	Cold, cough, and gastric problems. This is taken as decoction Cleans the stomach when taken after being soaked in water overnight	27966
<i>Origanum vulgare</i> L.	Van-Tulsi		They boil the leaves with tea. It neutralizes the acidity of tea	27868
<i>Selinum vaginatum</i> (Edgew) C.B.Cl.	Bhoothkesh		The root or the whole plant is set on fire and then the smoke is given to the cows. They start lactating	27669

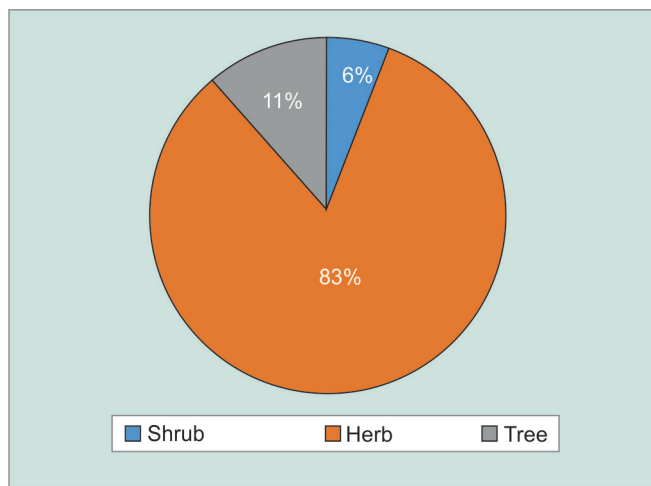
generations and for scientific consideration of wider uses of the knowledge. The indigenous knowledge and rights of the Bhotiya communities and local people regarding uses of plants needs to be secured. Appropriate mechanisms for effective benefits sharing of potential value of this knowl-

edge need to be developed and the folklore collected may be further subjected to clinical studies for validation and so can be used for the benefit of masses.

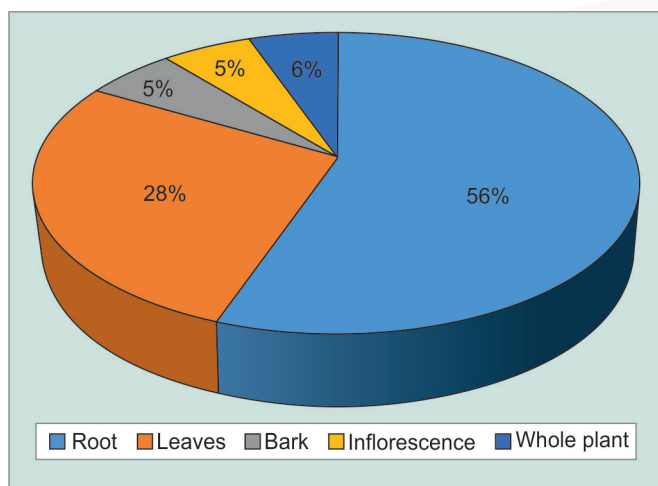
During the study, it was observed that the availability of these plants was decreasing at an alarming rate. As the



**Graph 1:** Family-wise distribution of plant species used by Bhotiya tribes



**Graph 2:** Habit-wise distribution of plant species used by Bhotiya tribes



**Graph 3:** Graphical presentation of plant parts used by Bhotiya tribe

study shows that the maximum plant part used is root part or whole plant, and maximum numbers of herbaceous plant are in use, this observation reveals massive habitat destruction of herbaceous plant. The study also reveals that overexploitation and unplanned agriculture were the reasons for depletion of medicinal plants. Therefore, the medicinal plants used as traditional health care system need urgent conservation.

**ACKNOWLEDGMENTS**

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## हिन्दी सारंश

### कुमाऊं हिमालय की भोटिया जनजाति में चिकित्सा प्रजाति वानस्पतिक अभ्यास: उत्तराखंड के बागेश्वर जिले का एक अध्ययन

**परिचय:** दूरस्थ जनजाति व ग्रामीण क्षेत्र में पारंपरिक लोक चिकित्सा पद्धति वर्तमान में भी स्वास्थ्य हेतु मुख्यतः प्रचलित है क्योंकि दुर्गम क्षेत्रों में अभी भी यह एक प्रमुख स्वास्थ्य प्रणाली है।

**उद्देश्य:** आगामी प्रमाणीकरण हेतु पारम्परिक लोक चिकित्सा सम्बन्धित ज्ञान को एकत्रित कर उनका अध्ययन किया गया जिससे इसका प्रयोग समाज के लाभ के लिए भी किया जा सके।

**सामग्री एवं विधि:** भारत के उत्तराखंड राज्य के कुमाऊं हिमालय क्षेत्र के बागेश्वर वन क्षेत्र की वनस्पति का सर्वेक्षण किया गया।

**निरीक्षण:** इन वन क्षेत्रों में भोटिया जनजाति समुदाय बाहुल्य है। अध्ययन के दौरान पी. आर. ए. (सहभागिता ग्रामीण मूल्यांकन) तकनीक का प्रयोग कर लोक चिकित्सा का ज्ञान संग्रहित किया गया।

**परिणाम:** कुल 18 पारंपरिक लोक चिकित्सा दावों को एकत्र किया गया और प्रलेखन किया गया।

**निष्कर्ष:** इस तरह के पारम्परिक ज्ञान को संरक्षित करने की आवश्यकता है क्योंकि समय के साथ यह बहुमूल्य ज्ञान विलुप्त होता जा रहा है, जिसके परिणामस्वरूप ऐसी अनमोल जानकारियों का नुकसान हो सकता है जो भविष्य में स्वास्थ्य देखभाल प्रणाली का मार्ग प्रशस्त कर सकते हैं।

**कुंजी शब्द:** आयुर्वेद, बागेश्वर, भोटिया समुदाय, लोक प्रथाएँ, उत्तराखण्ड।

