

Traditional uses of medicinal plants of Pauri Garhwal, Uttrakhand

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Abstract: The present study was carried out in some interior areas of Pauri district of Uttrakhand state to collect the information of traditionally used medicinal plants by the communities. A total of 61 medicinal plants belonging to 28 families were used by local people to cure different diseases. Out of 61 medicinal plant species 13 plant species were having roots and rhizomes as medicinal parts, 7 species containing fruits and flowers as medicinal value, Whereas 28 plant species were having leaves as their medicinal plant parts. Almost all these medicinal plants identified were used to cure human diseases and in which 10 plant species were also used to cure diseases of cattle of the local communities. Local communities, especially, older age class, including women heavily use these traditionally available medicinal plants for health and believe that these are easily available, less expensive, and have no side effects. [New York Science Journal 2010; 3(6):61-65]. (ISSN 1554 – 0200).

Key words: Traditional knowledge, disease, local communities, traditional practices.

1. Introduction

Human societies through out the world have accumulated a vast body of indigenous knowledge over centuries on medicinal uses of plants, and for related uses including as poison for fish and hunting, purifying water and for controlling pests and diseases of crops and livestock. About 80% of the population of most developing countries still use traditional medicines derived from plants for treating human diseases (de Silva 1997). China, Cuba, India, Sri Lanka, Thailand and a few other countries have endorsed the official use of traditional system of medicines in their health care Programme. For example, the Indian system of medicine Ayurveda, Sindhya and Unani entirely and homeopathy to some extent, depend on plant materials or their derivatives for treating human ailments (Prajapati et al.2003). It has been estimated that there are between 35,000 to 70,000 plant species that have been used at one time or the other in one culture or another for medicinal purposes in the world. At least 6,500 species are used alone in Asia alone as home remedies for various ailments (Karki and Williams, 1999).

Medicinal plants have traditionally occupied an important position in the socio-cultural, spiritual and health arena of rural and tribal lives of India. India has one of the oldest, richest and most diverse cultural traditions associated with the use of medicinal plants in the form of traditional systems of medicine (GOI, 2000). The use of plants to cure diseases is an age old practice. The preparation of locally available medicinal plants remains an important part of health care for humans, especially for

people living in rural areas and who largely depend upon nature, who lack access to modern medicine facilities or are unable to afford synthetic medicine due to their high prices. The forests have been the source of invaluable medicinal plants since the time man realized the preventive and curative properties of plants and started using them for human health care. The old traditional Indian Systems of Medicine (ISM), is one of the most ancient medicine practices known to the world, and derives maximum formulations from plants and plant extracts that exist in the forests. About 400 plants are used in regular production of Ayurvedic, Unani, Siddha and tribal medicine. About 75% are from tropical and 25% from temperate forests. 30% of preparations are derived from roots, 14% bark, 16% whole plants, 5% flowers, 10% fruits, 6% leaves, 7% seeds, 3% wood, 4% rhizomes 6% stems and only less than 20% of the species used are cultivated (Anonymous 1997).

2. Material and Methods

The district Pauri is located between 29°20'-29°75' N latitude and 78°10'-78°80' E longitude. The district is one of the fascinating segments of the Himalaya, which sustains unique and rich vegetation in wide range of habitats from Tarai-bhabar tracts to the high ranges of lesser Himalaya. The district is believed to possess about 58% forest cover, highest one in NW Himalaya and N India (Anonymous, 1991). Field trips were made in some interior parts of Pauri district to know about the status of traditional knowledge about using locally available medicinal plants. Relevant plants of

medicinal importance which were used by local communities were identified along with them. Both male and female groups were consulted about the use of medicinal plants in these areas and were interviewed separately. All age classes were taken into consideration, but preference was given mostly to older age class having much knowledge about use of medicine in the vicinity. Preference was also given to elderly women, because most of the collection from the forest is being done by these people. Details about local names of plants, their uses and different parts used to cure different diseases in day to day life of villagers were also recorded. Specimens were also identified from consulting regional flora, herbaria and literature.

3. Results

The trend of curing diseases using traditionally available medicine may be decreasing day by day, but still lot of people especially in the rural areas realize the importance of these traditionally available medicine from different forest areas for curing different diseases. A total of 61 medicinal plants were found which were used traditionally by local communities to cure both human and veterinary diseases as given in table I. The vegetation in these areas is very dense and diverse. These 61 medicinal plant species belong to 28 different families and consist of trees, shrubs, herbs, climbers and grasses. Out of 28 families 12 plant species belong to Asteraceae, 9 Rosaceae and Lamiaceae each and 3 plants belong to Pinaceae families. Out of 61 plant species 36 are herbs, 10 trees and shrubs each, 4 climbers and one grass species as shown in fig I. Almost all these medicinal plants identified were

used to cure human diseases and in which 10 plant species were also used to cure diseases of cattle of the local communities. Different parts of plants were having different medicinal values and were used to cure different diseases. Out of 61 medicinal plant species 13 plant species were having roots and rhizomes as medicinal parts, 7 species containing fruits and flowers as medicinal value. Where as 28 plant species were having leaves as their medicinal plant parts. Bark of 6 species were identified as having medicinal value, whereas 8 plants having seeds as part of medicinal importance and 10 plant species were found to have medicinal importance in whole plant body or plant extract as their medicinal importance. Sawdust and resin of some species were also found to have medicinal value (Fig II). Local communities, especially, older age class, including women heavily use these traditionally available medicinal plants for health and believe that these are easily available, less expensive, and have no side effects. . Despite a rather poor knowledge to diagnosis some major diseases, still elder people accurately diagnosis the disease compares favorably with that of modern medical practices. The trends of using traditionally available medicinal plants were found more in upper age class in both genders as compared to younger age class. Indigenous remedies are typically made from plant preparations, some plants are used to treat one disease, while others are used in as mixtures. Middle aged female gender interviewed were more involved in house hold activities and were involved more in collection of Fuelwood and grass from forest areas to fulfill their daily needs and were using more traditionally available medicinal plants as compared to middle aged male class.

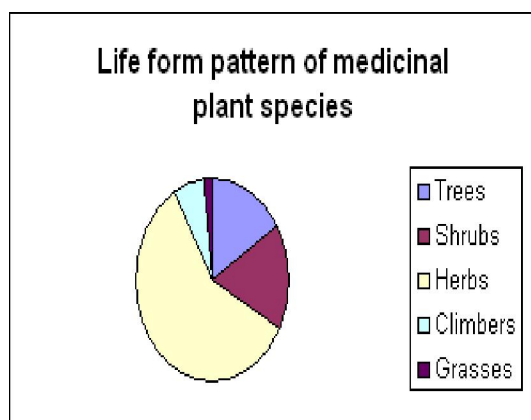


Fig. I- Life form pattern of medicinal plants

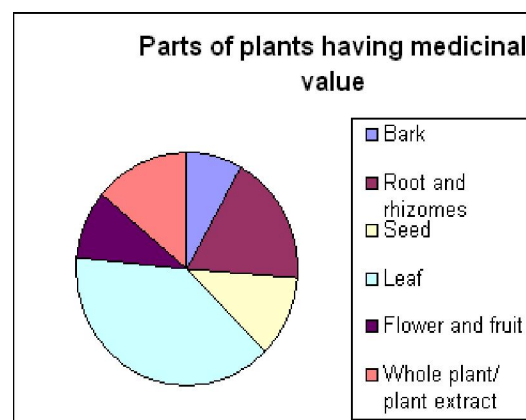


Fig. II- Parts of plants having medicinal value

Table I. Name of species, parts used and their uses.

S.no	Scientific Name	Family	Parts used	Form	Uses
1	<i>Agrimonia pilosa</i>	Rosaceae	Roots	Herb	Cough, diarrhoea and suppressed urination.
2	<i>Ajuga bracteosa</i>	Lamiaceae	Leaf	Herb	Malarial fever, tonic, astringent and febrifuge
3	<i>Anaphalis contorta</i>	Asteraceae	Leaves	Herb	Paste applied on cuts, wound, boils and insect repellent
4	<i>Artemisia nilagirica</i>	Asteraceae	Leaf	Herb	Used against intestinal worms
5	<i>Artemisia roxburghiana</i>	Asteraceae	Plant extract	Shrubs	Antipyretic, tonic and used in skin allergy
6	<i>Barleria cristat</i>	Acanthaceae	Leaves, roots, seeds	Shrubs	Root decoction against bronchitis and pneumonia, leaves and root paste on wound swelling, seeds as antidote to snake bite.
7	<i>Berberis aristata</i>	Berberidaceae	Bark, root	Shrubs	Used in ophthalmic and fever
8	<i>Berberis asiatica</i>	Berberidaceae	Root	Shrubs	Used in Ophthalmia
9	<i>Bergenia ciliata</i>	Saxifragaceae	Rhizomes, leaves	Herb	Rhizomatous part used as tonic and febrifuge, dried leaves adulterated with tea.
10	<i>Bidens bipinnata</i>	Asteraceae	Leaves	Herb	Leprosy and juice in cuts.
11	<i>Bidens pilosa</i>	Asteraceae	Plant extract	Herb	With honey used in cough and bronchitis
12	<i>Canscora decussata</i>	Gentianaceae	Whole plant	Herb	Plant extract as nerve tonic.
13	<i>Cedrus deodara</i>	Pinaceae	Bark, wood oil	Tree	Bowl complaints, applied in piles, lumbago, rheumatic arthritis and urticaria.
14	<i>Clematis buchananiana</i>	Ranunculaceae	Leaves	Climber	Poisonous to cattle and paste applied externally on skin ailments.
15	<i>Clinopodium umbrosum</i>	Lamiaceae	Plant extract, leaf	Herb	Astringent, carminative and blood purifier. leaf in gastric troubles
16	<i>Coleus forskohlii</i>	Lamiaceae	Root, leaves	Herb	Against intestinal worms.
17	<i>Cotoneaster microphyllus</i>	Rosaceae	Leaves, fruits,	Shrubs	Diarrhoea, cuts and wounds
18	<i>Elephantopus scaber</i>	Asteraceae	Roots, leaves	Herb	Fever, vomiting and blood diseases.
19	<i>Euonymus tingens</i>	Celastraceae	Bark	Tree	Used in eye diseases.
20	<i>Ficus palmata</i>	Moraceae	Fruits	Tree	Used for digestive disorders
21	<i>Fragaria indica</i>	Rosaceae	Leaf	Herb	Diarrhoea and leucorrhoea
22	<i>Geranium ocellatum</i>	Geraniaceae	Roots	Herb	Antiseptic and given in liver troubles and fever.
23	<i>Gnaphalium hypoleucum</i>	Asteraceae	Plant extract and juice	Herb	Applied on cuts and wounds and juice is believed to increase in lactation.
24	<i>Gonostegia hirta</i>	Urticaceae	Roots	Herb	Used in fractured bones
25	<i>Hedera nepalensis</i>	Araliaceae	Leaf, fruit	Climber	Paste applied on ulcers, leaf juice given in dyspepsia
26	<i>Hedychium spicatum</i>	Zingiberaceae	Rhizome	Herb	Used in asthma and with saw dust of deodar used in tuberculosis.
27	<i>Hedyotis corymbosa</i>	Rubiaceae	Plant extract	Herb	Used in fever and liver diseases.
28	<i>Hypericum oblongifolium</i>	Hypericaceae	Leaves, stem	Shrub	Decoction of leaves and stem given to facilitate delivery.
29	<i>Juglans regia</i>	Juglandaceae	Bark, leaves, fruits	Tree	Leaves fungicides, insecticides, fruits used to intoxicate the fishes.
30	<i>Kalanchoe integra</i>	Convolvuceae	Bark, leaf	Herb	Leaf juice purgative and insecticidal, plat poisonous to cattle.
31	<i>Leucas lanata</i>	Lamiaceae	Young shoots	Herb	Whooping cough
32	<i>Lyonia ovalifolia</i>	Ericaceae	Leaves, seeds	Tree	Young leaves poisonous to cattle, seed paste applied on wounds and boils.
33	<i>Micromeria biflora</i>	Lamiaceae	Leaves	Herb	Cold and sinusitis and in gastroenteritis.
34	<i>Myrica esculenta</i>	Myricaceae	Bark	Tree	Used to intoxicate the fishes.
35	<i>Nepta ciliaris</i>	Lamiaceae	Leaves	Herb	Taken in fever.
36	<i>Origanum vulgare</i>	Lamiaceae	Plant extract	Herb	Used in bronchitis, colic and diarrhea.
37	<i>Paspalum scrobiculatum</i>	Juglandaceae	Root	Grass	Used in painfull urination and in eye diseases.
38	<i>Pimpinella diversifolia</i>	Apiaceae	Plant extract	Herb	Given in digestive disorders and cold and cough.

39	<i>Pinus roxburghii</i>	Pinaceae	Saw dust	Tree	Asthma and bronchitis.
40	<i>Pinus wallichiana</i>	Pinaceae	Resin	Tree	Rheumatic pain.
41	<i>Plectranthus rugosus</i>	Lamiaceae	Leaves	Shrub	Used in fever.
42	<i>Polygala arvensis</i>	Polygalaceae	Whole plant	Herb	Plant decoction given in paralysis.
43	<i>Potentilla fulgens</i>	Rosaceae	Whole plant	Herb	Stomatitis and aphthae
44	<i>Potentilla sundaica</i>	Rosaceae	Root, stem, leaf	Herb	Antidote to snake bite, applied on itches and abscesses.
45	<i>Prinsepia utilis</i>	Rosaceae	Seed, bark	Shrubs	Rheumatic pains and diarrhoea
46	<i>Pyrus pashia</i>	Rosaceae	Fruits	Tree	Ripe fruits used in digestive disorders, used in pterygium disease to cure affected eyes of cattle.
47	<i>Q. leucotrichophora</i>	Fagaceae	Gum	Tree	Used for gonorrhoeal and digestive disorders
48	<i>Rosa brunonii</i>	Rosaceae	Leaf, flower	Climber	Ophthalmia, diarrhoea and in wounds.
49	<i>Rubia manjith</i>	Rubiaceae	Root, stem, flower	Climber	Tonic, astringent and antidote to snake bite.
50	<i>Rumex hastatus</i>	Polygonaceae	Leaf	Herb	Applied on cuts and wounds to check bleeding.
51	<i>Salvia lanata</i>	Lamiaceae	Leaf, flower	Herb	Leaf extract given in colic and fever
52	<i>Sedum multicaule</i>	Fabaceae	Leaves	Herb	Used as insecticides
53	<i>Senecio nudicaulis</i>	Asteraceae	Plant extract, leaves	Herb	Used in colic, fever and on some skin diseases.
54	<i>Solidago virgaurea</i>	Asteraceae	Whole plant	Herb	Used in kidney trouble, asthma and throat infection.
55	<i>Sonchus asper</i>	Asteraceae	Whole plant	Herb	Used in blood purification, hepatitis and on wounds.
56	<i>Spiraea bella</i>	Rosaceae	Seed	Shrubs	Wash sores and wounds.
57	<i>Taraxacum officinale</i>	Asteraceae	Roots	Herb	Used in treatment of headache and hepatitis.
58	<i>Urtica dioica</i>	Urticaceae	Seeds, leaf	Shrubs	Leaf extract believed to stop baldness and roots in various skin ailments
59	<i>Vernonia cinerea</i>	Asteraceae	Leaf, seeds	Herb	Used in dysentery and seeds in cough and cold
60	<i>Vervascum thapsus</i>	Scrophulariaceae	Plant extract, seeds	Herb	Plant extract in bronchitis and asthma, seeds used as narcotic.
61	<i>Viola betonicifolia</i>	Violaceae	Whole plant	Herb	Useful in skin and blood diseases, also used for fever and cough.

4. Discussion

The Himalayas have a great wealth of medicinal plants and traditional medicinal knowledge. The central Himalayan region covers the new states of Uttarakhand, which includes the major divisions of Kumaun and Garhwal. The region supports about 1,386 medicinal plant species, out of which 1,338 are used to treat human diseases and disorders and about 364 plant species are used for veterinary diseases by the people of Uttarakhand (Pande et al., 2004). The present status of traditional knowledge regarding the medicinal plants everywhere is a matter of deep concern as the traditional knowledge is gradually declining and disappearing from the countryside. These traditionally available medicinal plants found in this district are supposed to serve as alternative to modern medical facilities available to the local inhabitants who have poor economic condition. Tiwari et al. (2007) reported 75 plant products used by villagers in Dwarat region of Almora district of Uttarakhand. There

may be number of other causes of decline in traditional herbal therapies, but allopathic medicines have been blamed for superseding traditional system of medicines (Benerjee, 2002). However, at present respect and reverence for traditional practices have been diminishing. In this respect a study conducted in Almora district Uttarakhand concluded that traditional practices have diminished over time (Sharma et al., 1999). The study thus reveals that region is rich in wealth of traditionally available medicinal plants and if paid attention it may go a long way towards fostering the sustainable use of natural resources and knowledge available with in the local communities

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References

1. Anonmous (1997) Amruth, August, FRLHT, Banglore -10.
2. Anonymous.(1991) The state of Forest Report. Government of India, Forest survey of India, Ministry of Environment and Forests, Dehradun.
3. Banerjee, M.(2002). Public policy on Ayurveda. *Economic and Political weekly*, Vol. 37, pp 1136-1146.
4. de Silva. T(1997) Industrial utilization of medicinal plants in developing countries.pp 38-48.In: Bodeker G., Bhat K.K.S., Burley J. and Vantomme P. (eds), Medicinal plants for Forest Conservation and Healthcare. Non Wood Forest Products No. 11, FAO, Rome, Italy.
5. Government of India,(2000) Report of the Task Force on Conservation and Sustainable use of Medicinal Plants. New Delhi: Planning Commission, Govt. of India.
6. Karki, M.B, and Williams, J. T.(1999) Priority Species of Medicinal Plants in South Asia. New Delhi:IDRC.
7. Pande. P C, Tiwari L and Pande H. C,(2004) Inventory of Folk Medicine and Related Aspect in Uttranchal. Bishen Singh Mahindra Paul Singh, Dehradun. pp 19-40.
8. Prajapati N.D., Purohit S.S., Sharma A.K and Kumar T. (2003) A Hand book of Medicinal Plants. Agribios (India) 553pp.
9. R. K. Bhakat and U. K. Sen (2008) *Tribes and Tribals, Special Volume No. 2*: 55-58.
10. Sharma, S., Rikhari, H.C and Ravikanth. G., Uma Shaankar, R., Ganeshaiah, K. N and Kushalappa, C.G., 2005 *Curr. Sci.*, , **88**, 350-352pp.
11. Tiwari , Dolly. P. C and TiwariL,(2007) Ethanoveternary Herbal Medicines of Dwarahat Area of Central Himalaya. 133: 379-390.

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