

STUDIES ON MEDICINAL PLANTS OF TWO VILLAGES OF CHAKRATA FOREST DIVISION (UTTARAKHAND)

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ABSTRACT

An ethnomedicinal survey was undertaken to collect the information about medicinal plants in two villages (Utpalta and Kwarka) of Chakrata Forest Division, Uttarakhand. Common plants with medicinal value were catalogued based on the collection during the field trips and the information was gathered through oral interviews conducted with local knowledgeable villagers of selected study area. The study revealed that a total of 29 plant species distributed in 28 genera belonging to 20 different families to treat various diseases. The documented medicinal plants were mostly used to cure various skin diseases, diabetes, dysentery, dropsy, leprosy etc. In this study the most dominant family was Rosaceae. The study showed that many people in the studied areas still continue to depend on medicinal plants at least for the treatment of primary health care.

Key words : Medicinal, Ethnobotany, Chakrata, Utpalta, Kwarka.

Introduction

Since time immemorial plants have been used in traditional medicine in different part of world. According to the World Health Organization (WHO), as many as 80% of the world's people depend on traditional medicine for their primary health care needs. There are considerable economic benefits in the development of indigenous medicine and in the use of medicinal plants for the treatment of various diseases (Azaizeh *et al.*, 2003). Due to poverty, ignorance, inadequate access to modern health facilities and means of communication, most people especially in rural areas, still take recourse

to traditional medicines for common ailments.

Traditional knowledge of medicinal plants and their use by indigenous cultures are not only useful for preserving cultural traditions and conservation of biodiversity, but also community health care and drug development in the present and future. Jain (1991) pointed out that there are over 400 different tribal and other ethnic groups in India. The tribals constitute about 7.5 per cent of India's population. During the last few decades there has been an increasing interest in the study of medicinal plants and their traditional use in different parts of India and there are

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many reports on the use of plants in traditional healing by either tribal people or indigenous communities of India. In India, ethno-medicinal studies on tribal areas have been carried out by Chhetri *et al.* (2005), Natrajan *et al.* (2000), Maruthi *et al.* (2000), Samvastar *et al.* (2000), Kala (2005) and Hebbar *et al.* (2004), among others.

The objective of this study was to interact with local people and document their knowledge of medicinal plants, their usage and the types of disease treated etc.

Study area

The present study was undertaken in two villages, namely Utpalta and Kwarka of Chakrata Forest Division, Uttarakhand, which is located at an altitude of 2,118 m. The climate of the area is moist temperate receiving moderate to heavy snowfall from December to February. The mean rainfall is 1,300 mm with a maximum of 440 mm during July and a minimum of 8 mm during November. The mean annual temperature is 15 °C with mean maximum temperature of 17.9°C (June) and mean minimum temperature of 9.5°C (January) respectively. The study area is blessed with natural beauty and forests of Conifers, Rhododendron and Oaks.

Methodology

The present work is the outcome of extensive field trips and surveys of selected villages of Chakrata Forest Division. The specimens used for this study were collected from two different villages i.e., Utpalta and Kwarka. The studies involved field trips and surveys. Information was obtained through oral interviews with local

herbalists, older household heads and women.

The indigenous plants, which were collected during the field trips, were identified with the aid of Floras of the area including those of Gaur (1999) and Kanjilal (1969). They were later verified at BSD Herbarium. The medicinal value of each plant was enumerated in the following pattern: (a) Botanical name, (b) Family, (c) Habit, (d) Local name, (e) Part used and, (f) Ethnomedicinal uses.

Results and Discussion

The study revealed a total of 29 species distributed into 28 genera belonging to 20 families. Rosaceae is the dominant family with 4 species, followed by Asteraceae, Primulaceae, Acanthaceae, Pinaceae, Rubiaceae and Lamiaceae each with 2 species. The other families were represented by one species each. In Utpalta, 19 species and in Kwarka, 17 species of medicinal plants were recorded. The seven medicinal plant species common in both villages are : *Cedrus deodara*, *Oxalis corniculata*, *Pinus roxburghii*, *Gallium elegans*, *Geranium wallichianum*, *Pyrus pashia* and *Reinwardtia indica*. The enumeration and utilization of each medicinal plant, which was collected from the study area, are described in (Table 1).

Chherti *et al.* (2005) reported that the tribal people of Sikkim and Darjeeling Himalayan region in India utilized 37 species of plants belonging to 28 different families as antidiabetic agents. Different parts of medicinal plants were used as medicine by the villagers. Fig. 1 shows the different parts used by the villagers. Among the different plant parts the root were frequently used for the treatment of

Table 1

Medicinal plants of Utaplata (U) and Kwaraka (K) of the Chakrata Forest Division

S. N.	Botanical name	Family	Vernacular name	Habit	Site	Part used	Medicinal use
1	2	3	4	5	6	7	8
1	<i>Ageratum conyzoides</i> L.	Asteraceae	Gundrya/ Semandulw	Herb	U	plant	Applied on sores, cuts and various skin ailments.
2	<i>Anagalis arvensis</i> L.	Primulaceae	Jonkmari	Herb	U	plant	Plant extract used in leprosy, dropsy and cerebral affections
3	<i>Asparagus adscendens</i> Buch-Ham.ex. Roxb.	Liliaceae	Jhurni, Kairu	Undershrib or shrub	U	tuber	In dysuria diabetes & dysentery.
4	<i>Barleria cristata</i> L.	Acanthaceae	Saundi, Kala bansa	Undershrib	K	root/ leaves	Root decoction used against bronchitis. Leaves & root paste applied on wound swelling.
5	<i>Berberis lycium</i> Royle	Berberidaceae	Kingor/Rasaut	Shrub	U	bark & root	In jaundice and menorrhagia. Bark of stem or root yields 'Rasaut' used for eye ailments.
6	<i>Cardamine impatiens</i> L.	Brassicaceae	Ban-Laiyya	Herb	U	plant	Plant juice given in fever.
7	<i>Cedrus deodara</i> Roxb. ex. D.Don	Pinaceae	Deodar/ Devdar	Tree	U,K	bark	Bark paste used in bowel complaints and externally applied on piles.
8	<i>Celtis australis</i> Decne	Ulmaceae	Khairk	Tree	K	bark	Bark paste applied on bones, pimples, contusions, sprains and joint pains.
9	<i>Cotoneaster microphyllus</i> Wallich.	Rosaceae	Bugarchilla, Wanni	Shrub	U	leaf, fruit, root	Leaf extract and fruit taken in diarrhoea, root applied on cuts and wounds.

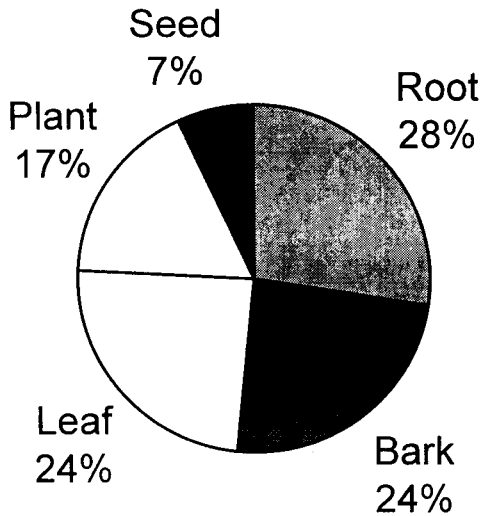
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1	2	3	4	5	6	7	8
10	<i>Cynodon dactylon</i> (L.) Persoon	Poaceae	Dubla	Herb	U	roots	Roots taken in fever and in internal injury.
11	<i>Debregeasia velutina</i> (Gaudich)	Urticaceae	Tusara/ Sausaru	Shrub	K	bark	plaster made from pulverised bark for bone fracture
12	<i>Daphne papyracea</i> Wallich	Thymelaeaceae	Satpura	Shrub	K	leaf	Leaf paste applied on eczema.
13	<i>Dicliptera roxburghiana</i> (Nees)	Acanthaceae	Kulartore/ Kuthi	Herbs or undershrubs	U	leaf	Leaf paste applied on wounds to check bleeding, leaf juice given in cough and gastro-enteritis.
14	<i>Eupatorium adeno- phorum</i> Spreng	Asteraceae	Kharna/Bakura	Shrub or	U	leaf	Crushed leaves applied on wounds.
15	<i>Galium asperifolium</i> Wallich	Rubiaceae	Leswakuri/Kuri	Herb	U	plant	Plant paste used in skin ailment.
16	<i>Galium elegans</i> Wallich	Rubiaceae	Kutub, Manjeethee	Herb	U,K	plant	Plant extract given in colic dyspepsia, as well as in jaundice.
17	<i>Geranium wallichianum</i> D. Don.	Geraniaceae	Ratanjot/ Kaphiya Laljari	Herb	U,K	root	Root juice in otorrhoea and ophthalmia.
18	<i>Leucas lanata</i> Benth.	Lamiaceae	Bis-kapra	Herb	U	plant	Plant infusion given with honey in whooping cough.
19	<i>Nepeta hindostana</i> (Roth)	Lamiaceae	Billilotan	Herb	U	plant	Plant extract in fever and gonorrhoea, as cardiac tonic.
20	<i>Oxalis corniculata</i> L.	Oxalidaceae	Bhilmori	Herb	U,K	leaf	Leaf juice used in cataract and conjunctivitis.
21	<i>Pinus roxburghii</i> Sargent	Pinaceae	Chir, Kulain	Tree	U,K	saw dust	Saw dust with honey used in asthma and bronchitis.
22	<i>Pistacia integerrima</i> Stewart.	Anacardiaceae	Kakrasingi/ Kakroi	Tree	K	tree	Leaves & petioles used in the indigenous medicines to relieve cough and fever.

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1	2	3	4	5	6	7	8
23	<i>Potentilla gerardiana</i> Lindley	Rosaceae	Bajradanti	Herb	K	herb	Root paste applied on wound.
24	<i>Primula denticulata</i> Smith.	Primulaceae	Jalkutra	Herb	K	flower, root	Aqueous paste of flower in the treatment of diabetes and urinary ailments, root paste applied to kill lice.
25	<i>Prinsepia utilis</i> Royle	Rosaceae	Bhainkal/ Bhenkuli	Shrub	K	Seeds, root bark	Seeds used in rheumatic pain, root bark used in diarrhoea.
26	<i>Pyrus pashia</i> Buch.- Ham. ex D. Don	Rosaceae	Mehal, Melu, Mole	Tree	U, K	ripe fruit	In digestive disorders.
27	<i>Quercus leucotricho- phora</i> A. Camus	Fagaceae	Banj	Tree	K	gum of the tree	Used for gonorrhoea and digestive disorders.
28	<i>Reinwardtia indica</i> Dumortier	Linaceae	Phiunli	Undershrib or shrub	U, K	petals	Petals chewed as tongue wash.
29	<i>Rhamnus virgatus</i> Roxb.	Rhamnaceae	Chentuli Chodelu	Shrub or small tree	K	bark	Bark paste applied on eczema and ringworm.

Fig. 1



Plant parts used by the villagers of the study area.

diseases followed by leaf, whole plant, bark, ripe fruit, seed, flower and petals. The use of plant resources as remedies is probably as ancient as man himself. The aforesaid uses are the ones practiced in day to day life of rural people living in forests.

The use of the traditional medicine is widespread in this region with higher percentage of population relying on it. This is because of lack of modern medical facilities available in this region and the expensive medicine system which these people are unable to afford.

Conclusion

The survey indicated that the study area has a number of medicinal plants to treat a wide spectrum of human ailments. This study also points out that certain species of medicinal plants are being exploited by the locals who are unaware of the importance of medicinal plants in the ecosystem. Due to lack of interest among the younger generation as well as their tendency to migrate to cities for employment, there is a possibility of losing this wealth of knowledge in the near future. Therefore, greater efforts are required to document and identify specimens to preserve this traditional system of medicine.

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