



Ethnobotanical information of medicinal plants in Haridwar District

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Abstract

An ethnobotanical survey of plant species are used as folk medicines by various Ayurvedic Doctors Vaidhya's or Hakim's, rural and common peoples in Haridwar district. Information on the names of plants parts used and methods of preparation was collected through a questionnaire which was administered to herbalists, traditional healers and rural dwellers. In the present paper information about 61 medicinal angiospermic plant species belonging to 38 families and 60 genera, which are useful in different ailments are presented.

Keywords:- *Ethnobotanical, Medicinal plants, Folk medicines, Ayurveda*

Introduction

Many ethnobotanical research have been performed for collecting useful information on which every project focused, through the surveying in local markets Pei *et al.* (1990). Medicinal plants continue to play a central role in the healthcare system of large proportions of the world's population (Akerle, 1988). This system of medicine is as old as the Indian history itself, because it formed an integral part of the Indian traditions since time immemorial. Duthie (1903-1929) has worked on the flora of Upper Gangetic Plain. Jain (1965) has studied on medicinal plant of the tribals of Bastar. Gaur (1999) has studied the flora of district Garhwal, North West Himalaya with ethnobotanical notes. Mitaliya *et al.* (2001) worked on medicinal values of some selected stem bark used by tribals and rural folk in Gujarat. Shukla *et al.* (2001) also conducted an ethnobotanical survey for certain wild edible plants of district Bilaspur. Tomar and Singh (2005) worked on folk medicinal uses of some indigenous plants of Bagpat district of U.P. Tomar and Singh (2006) have worked on ethno-therapeutics of some medicinal plants from Khatauli blocks of Muzaffaranagar district (U.P).

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Materials and Method

Haridwar district covering an area of about 2360 km² is the Southwestern part of Uttarakhand state of India. Its latitude and longitude are 29.96° N and 78.16° E respectively. Haridwar is situated at height of 249.7 meters from the sea level between Shivalik hills in the north and northeast and Ganga River in the south.

Field surveys were undertaken across the various blocks of Haridwar district. The survey of folk medicinal plants was conducted from 2007-2008 of various blocks of Haridwar district. A semi structured survey was conducted among traditional Vaidyas- practitioners of Ayurvedic medicine. The purpose of the survey was to document their knowledge of preparing various herbal formulations. The survey also gathered information about the local names of medicinal plants, plant parts used in treatment. The plant species were identified with the help of available floras Hooker (1872 -1897); Duthie (1903-1929) and Maheshwari (1962).

Results and Discussion

Medicinal plants enumerated here (Table-1) are arranged alphabetically with their botanical names followed by family name, local name, plant part used and medicinal uses.

It has been realized that medicinal plants are going to play an important role for future in social health

Table-1: Characteristic of folk medicinal plants in Haridwar district

| Botanical names | Family | Local name | Parts used | Ethnomedical Preparation and uses |
|--|---------------|----------------|------------|--|
| <i>Abrus precatorius</i> (Linn.) | Fabaceae | Gomchi | Root | Root powder is taken orally along with cow's milk to treat scraping sting and snake bite. |
| <i>Abutilon indicum</i> (Linn.) Sweet | Malvaceae | Kanghi | Leaf/Root | Leaf Juice and root are taken orally to treat dental problems |
| <i>Abroma augusta</i> (Linn.) Lt. | Sterculiaceae | Utal Kambal | Leaves | Leaf juice is applied for skin disease and ring worm. |
| <i>Achyranthes aspera</i> (Linn.) | Amaranthaceae | Chirchita | Leaf | Leaf paste is applied topically to treat cuts and wounds . Dried aerial parts are taken orally in case of diabetes. |
| <i>Acorus calamus</i> (Linn.) | Araceae | Bach | Rhizome | Juice is used in mental disorder fever and cough. |
| <i>Achatoda vasica</i> (Nees.) | Acanthaceae | Vasa | Leaf | Leaves are ground with the flowers of <i>Hibiscus rosa sinensis</i> and taken orally to treat asthma. |
| <i>Aegle marmelos</i> (Linn.) | Rutaceae | Bel | Leaf | Leaf paste is applied topically to heal the wounds and Juice is extracted from fresh leaves and administered orally on an empty stomach in case of diabetes. |
| <i>Albizia lebbeck</i> (Linn.) benth | Mimosaceae | Siras | Stem | Stem paste is applied and bandaged with wet cloth and change once a hour in case of sprams. |
| <i>Allium cepa</i> (Linn.) | Liliaceae | Piyaz | Extract | Onion juice with mustard oil is applied as a liniment over painful joints. |
| <i>Allium sativum</i> (Linn.) | Liliaceae | Lahsun | Bulb | Decoction of 3-4 bulbs is given in the dose of two drops in ear twice a day for 4 days. |
| <i>Aloe barbadensis</i> (Mill.) | Liliaceae | Gheekwar | Leaf | The fleshy portion of the leaf is used for treating bum and sun burns. |
| <i>Akstonia scholaris</i> L. (R.Br) | Apocynaceae | Chitvan | Bark | Fresh bark is cutted into small pieces and decoction is prepared which is later filtered, concentrated and dried in shade out of this small pills use in asthma. |
| <i>Amaranthus spinosus</i> (Linn.) | Amaranthaceae | Katili Chauali | Root | Root paste is used as an extemal application. |
| <i>Andrographis paniculata</i> (Nees.) | Acanthaceae | Kalmegh | Leaf | Powdered leaf is mixed with cow and goat's milk and taken orally to treat diabetes. |
| <i>Argemone mexicana</i> (Linn.) | Papaveraceae | Peeli kateli | Latex | Latex is taken orally along with milk in case of urinary disorder. |
| <i>Asparagus racemosus</i> (Wild.) | Liliaceae | Satawar | Leaves | Dried leaves are powdered and are taken orally to cure stomach ache and urinary disorder. |

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Ethnobotanical information of medicinal plants

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|---|-----------------|--------------------|---------------|---|
| <i>Azadirachta indica</i> (A.Juss.) | Meliaceae | Neem | Leaf & Twig | Leaf paste is applied topically on the body to treat small pox and skin diseases the young twig are used as tooth brush. |
| <i>Barkeria prionitis</i> (Linn.) | Acanthaceae | Kalabarsa | Root | 2-3 teaspoons of decoction made of 15 gm of root is taken daily twice for one week in case of bronchitis. |
| <i>Bauhinia variegata</i> (Linn.) | Caesalpiniaceae | Kachnar | Bulbs | Fresh buds of these plants are given to patient in case of diarrhoea. |
| <i>Boerhavia diffusa</i> (Linn.) | Nyctaginaceae | Santh | Root | Root paste is applied topically to treat Hydrocele. |
| <i>Brassica campestris</i> | Brassicaceae | Peeli Sarson | Seed | Oil of sarson seeds are applied on skin eruption. |
| <i>Butea monosperma</i> (Lam.) | Fabaceae | Dahk/Palash | Bark | Juice extracted from bark is applied cuts and wounds and bark juice is given orally to get rid of intestinal worms. |
| <i>Catharanthus roseus</i> G. Don | Apocynaceae | Madagascar | Whole Plant | Whole plant is powdered and mixed with cow's milk and taken orally to treat diabetes. |
| <i>Calotropis procera</i> (Ait) R.Br | Asclepiadaceae | Aak | Flowers | Flowers buds are mixed with about 20 gm gur and given one time a day for 3-4 days in case of malaria. |
| <i>Camabis sativa</i> (Linn.) | Cannabaceae | Bhang | Leaves | A poultice of leaves is applied externally around the anus for one month to cure piles. |
| <i>Carica papaya</i> (Linn.) | Caricaceae | Papita | Latex | Small quantity of milky juice is given in stomachache. |
| <i>Cassia fistula</i> (Linn.) | Caesalpiniaceae | Amaltas | Fruits | Soup is prepared with fruit pulp and taken twice a daily in a day in the case of constipate. |
| <i>Cymbopogon citratus</i> (Slat.) | Poaceae | Lemon Grass | Leaves | A paste of the leaves made with butter milk is administered for expelling ring worms. |
| <i>Convolvulus prostratus</i> (Forsk) | Convolvulaceae | Shankpushpi | Whole Plant | About 100ml plant juice is mixed with 1000ml water and used for insomnia. |
| <i>Curcuma domestica</i> (Vahl) | Zingiberaceae | Haldi | Powder | 100ml of boiled milk mixed with Haldi and sugar is given for cold and pain. |
| <i>Coriandrum sativum</i> (Linn.) | Umbelliferae | Dhaniya | Fruits | Dried fruits are powdered and taken orally to cure fever. |
| <i>Cinnamomum tamata</i> (Buch-Horn) Nees & Eberm | Lauraceae | Tejpat | Bark & Leaves | Leaf used in diarrhoea and leaves used in cold and cough. |
| <i>Cynodon dactylon</i> (L.) pers | Poaceae | Doob | Whole plant | Decoction of whole plant is taken orally to keep the body cool. |
| <i>Datura metal</i> (Linn.) | Solanaceae | Dhatura | Leaf/seed | Leaf paste applied local in pain and skin. Few drops of leaf juice are poured in to ear to treat earache. A seed soaked in water is taken orally initially in case of asthma. |
| <i>Embellica officinalis</i> (Gaertn.) | Euphorbiaceae | Amala | Fruits | Fruits eaten to procure scurvy, gastric indigestion and vermifuge. |
| <i>Euphorbia hirta</i> (Linn.) | Euphorbiaceae | Dudhi | Latex | The milky latex is applied topically to treat wounds and lip cracks. |
| <i>Hibiscus rosa sinensis</i> (Linn.) | Malvaceae | Gudhal | Leaves | Paste of fresh leaves is applied on the hair for healthy and black hair. |
| <i>Hemidesmus indicus</i> (L.) R.Br. Muill. | Asclepiadaceae | Indian Impeacuanna | Whole plant | Juice extracted from the whole plant is taken internally to keep the body cool. |
| <i>Lantana camara</i> (Linn.) | Verbenaceae | Lantana | Flowers | A hand full of flower is ground with coconut oil and applied topically on the head to get relief from headache. |
| <i>Lawsonia inermis</i> (Linn.) | Lythraceae | Mehndi | Leaf | Leaf powder is mixed with coconut oil and applied topically to treat cuts and wounds. |
| <i>Margifera indica</i> (Linn.) | Anacardiaceae | Aam | Latex | The latex from leaf and stem bark is used to treat heel cracks. |
| <i>Mentha pipertia</i> (Linn.) | Lamiaceae | Pudina | Leaves | The leaves decoction is used in the treatment of jaundice. |
| <i>Mimosa pudica</i> (Linn.) | Mimosaceae | Chui-mui | Leaf | Pinch of leaf paste is applied topically to treat cuts and wounds. |
| <i>Nerium oleander</i> (Sol.) | Apocynaceae | Kaner | Stem | Juice prepared from the stem bark is boiled with gingely oil and two drops are poured in ear to treat ear pain. |
| <i>Ocimum sanctum</i> (Linn.) | Lamiaceae | Tuksi | Leaves | Leaves are crushed with onion bulbs and the juice is taken orally to treat cough, cold and headache. |
| <i>Plumeria alba</i> (Linn.) | Apocynaceae | Frangipani | Root | Root decoction taken orally for intestinal worm. |

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| <i>Piper longum</i> (Linn.) | Piperaceae | Piple | Fruits/root | Crushed fruit mixed with jaggery and ginger powder is boiled and is taken thrice daily before food for curing malaria. |
| <i>Punica granatum</i> (Linn.) | Punicaceae | Anar | Fruits/root | The juice of fruits and leaves is given to patient in case of dysentery. |
| <i>Rauwolfia serpentina</i> (Benth.ex.kurz) | Apocynaceae | Sarpagandha | leaf | Leaf juice is taken orally or washed leaves are tied on the breast to increase secretion of milk in women. |
| <i>Ricinus communis</i> (Linn.) | Euphorbiaceae | Arandi | Leaf | Oil coated leaves used for dressing blistered surface and ulcers. |
| <i>Rosa centifolia</i> (Linn.) | Rosaceae | Gulab | Flowers | Rose water of flowers is used as eye troubles. Used as an excellent uterine tonic. |
| <i>Saraca asoca</i> (Roxb.) Dewilde | Caesalpiniaceae | Ashok | Leaf | Used as an excellent uterine tonic. |
| <i>Solanum nigrum</i> (Linn.) | Solanaceae | Makoi | Whole plant | Whole plant parts are taken as food to treat cough. Powdered fruits are given orally to reduce fever. |
| <i>Stevia rebaudiana</i> (Bertoni.) | Asteraceae | Stevia | Leaf | Powder of leaves is used as a sugar free substitute by diabetic patients. |
| <i>Tabernaemontana divaricata</i> (L.) R.Br | Apocynaceae | Chandni | Latex | Latex is applied twice daily to prevent cavity formation. |
| <i>Terminalia arjuna</i> (Roxb.)Ex.De.Wight & Am | Combretaceae | Arjun | Fruit | Fruit paste is applied topically on wounds. |
| <i>Tinospora cordifolia</i> (Miers.) | Menispermaceae | Giloy | Leaf | Leaf paste is applied topically to treat wounds. |
| <i>Vitex negundo</i> (Linn.) | Verbenaceae | Nirgundi | Leaves | Leaves are boiled in water and vapor is inhaled twice a day to get relief from headache, fever, cold and fever. |
| <i>Withania somnifera</i> (Linn) | Solanaceae | Ashwagandha | Root | About 5 gm root powder of the plant is given with goat's milk for about 2 months in case of Arthritis. |
| <i>Wrightia tinctoria</i> (Roxb)R.Br. | Apocynaceae | Indrajau | Seeds | Juice of seeds taken orally to treat indigestion. |
| <i>Zingiber officinale</i> (Rose.) | Zingiberaceae | Adrak | Rhizomes | Milk boiled with adrak and sugar given for treating cold. |

system. Now the people are accepting indigenous or Ayurvedic medicine system, which have no side effect and easily available with minimum cost by (Ayurvedic medical practitioners) Vaidya or Hakim.

It was observed that out of 61 medicinal plant species, vulnerable and endangered categories, used for various ailments by the folk people. Plant parts used in the local medicines include root, bark, latex, leaves, flowers, fruits and seeds. The present study involves field work and interviews. Oral interviews were held in villages and new information recorded at the spot and medicinal plants was collected and preserved for the future use. Majority of the plant of the family are useful to treat cold, cough, fever, diabetes, cut and wound healing, asthma as well as wormicidal agents.

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