

Medico ethnobotany of some tuberous plants in remote areas of Farrukhabad district

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ABSTRACT

Present study deals with medico-ethnobotany of 21 tuberous plants belonging to 19 genera of 12 families used in different concerns by local villagers in remote areas of Farrukhabad district. A medico-ethnobotanical survey was conducted in various remote areas of Farrukhabad district in different seasons. All plants included in this study were taxonomically identified. They are used with high reliability by local inhabitants. Alliaceae (Liliaceae) is the dominant family which represents 5 species. Most of the plants are utilized in more than one disease and easily available throughout the year.

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Key words : Medicoethnobotany, Household remedies, Ethnobotany

INTRODUCTION

Throughout the history of human civilization, plants and their by-products have been major sources of medicine. Medicinal knowledge of numerous plant species has made an outstanding contribution in the origin an evaluation of many traditional herbal system of medicine. The earliest mention of medicinal utility of plants is found in *Rigveda*, which is oldest written repository of human knowledge written between 4500-1600 BC. The inhabitants of Indus valley civilization used a number of medicinal plants. India has a vast diversity of geographic and climatic conditions, which increase in bio-diversity and give raise to many ethno-medicinal and folk medicinal groups of users. In India a great number of plant and their by-products are used in Ayurvedic, Unani, Siddha as well as Homeopathy and Allopathic system of medicines. Over entire India, many traditional, ethnic, local, folk or household medicinal

systems are popular. All these systems are closely related with plants. These plants are used as a single drug or as a component of simple or often quite complex proprietary preparation. The importance and medicinal utility of plants did not decrease after thousands of years. They play leading role in primary healthcare as well as treatment of severe diseases of rural, tribal, poor and common people of our society (Kamboj, 2005; Agnihotri *et al.*, 2006, 2007).

Present study is based on medicinal utility of some tuberous plants in remote areas of Farrukhabad district, which is situated at the central part of central Uttar Pradesh. More than 50 per cent population of district depends upon farming. Entire district is irrigated by Ganga, Ramganga, Kalinadi and Bhuriganga rivers. Potato, wheat, tobacco, guava and mango are the major crops of the district. Whole district is divided into three Tehsils and seven development blocks.

In plant kingdom, some plants have a tuber-shaped storage organ, which occurs on or below the soil surface. This tuber-shape storage region is characterized as bulb, corn, rhizome, tuberous root, stolon or pseudo bulb type. Most of the tubers have edible properties and they are utilized as fruit or vegetable form. Most of the tubers showed vegetative reproduction and they are used in a number of ethnic, folk or household medicinal formulations

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(Bendrey and Kumar, 2000).

MATERIALS AND METHODS

The study was conducted during January 2010 to December 2010 in 16 remote villages of Farrukhabad district. A number of field trips were organized in order to collect information about ethno-medicinal or folk medicinal utility of tuberous plants used by local inhabitants or remote areas of Farrukhabad district. The major target sites were Rajepur, Amritpur, Bhojpur, Yaqutganj, Kampil, Shamsabad, Ujramau, Hathikhana etc. Plant specimens were collected from different localities, forest patches, plantations, fields, gardens, water logged moist soils and road side vegetations. The information was collected with the help of local inhabitants such as old men and women, local physicians (*Vaidyas* and *Hakeems*), herbal sellers (*Pansaaris*), herbal cultivators, farmers, *Nats*, *Kanjar* (*Gihar*) etc.

Each informant was shown collected plant specimen. Utility of tuberous plants as ethnic or folk medicine was collected and documented with their local names, botanical names, families, and methods of utilization.

RESULTS AND DISCUSSION

In the present study 21 plant species belonging to 19 genera and 12 families were identified. Identified plant species are arranged in Table 1 which deals botanical names, families, local / English names and methods of utilization of identified tuberous plants. 21 plant species belonging to families have been recorded. Out of these, all families belonged to Angiosperms. 12 dicots and 9 monocots species were identified. Most of the plants were annual and cultivated. Alliaceae (*Liliaceae*) was the dominant family with 5 species, followed by Zingiberaceae (3 species). Brassicaceae (3 species) and Solanaceae (2 species). while Chenopodiaceae, Amaryllidaceae, Aracaceae, Apiaceae, Asteraceae,

Table 1 : Botanical names (family), local names / English names and medicinal utility of tuberous plants found in Farrukhabad district

Sr. No.	Botanical name of plants	Local/English name	Uses (Methods of utilization)
1.	<i>Allium cepa</i> L. (Alliaceae)	Pyaz (Onion)	Paste of bulb fried with pure ghee is prescribed in hysteria. Fried paste of bulb with mustard oil prescribed for swelling of wounds and sores Juice of bulb with lime water used for treatment of diarrhea and cholera Fresh juice with honey is effective drug of cough and cold.
2.	<i>Alpina speciosa</i> (Zingiberaceae)	Kulanjan (Greater galangal)	Dried powder of rhizome is prescribed in cough, cold and tonsillitis. Rhizome paste or powder is effective in gastric problems.
3.	<i>Allium sativum</i> L. (Alliaceae)	Lahsun (Garlic)	Cloves of bulbs fried with seasmus oil or pure ghee is orally prescribed for the treatment of chronic fever, malaria, sciatica, arthritis, gout and other types of joint pains. Leaves are used as poultice in rheumatism. Poultice of bulb is used for the treatment of boils, abscess, phlegmous, etc. Pulp of cloves is utilized in colitis, atherosclerosis, and hypercholestromia.
4.	<i>Asparagus racemosus</i> Willd (Alliaceae)	Satavar (Wild Asparagus)	Root paste or powder mixed with milk is taken for health, vigour and arthritis. Root paste or powder is also effective for the treatment of diarrhea, dysentery, and impotency, reproductive and nervous system disorders.
5.	<i>Beta vulgaris</i> L. (Chenopodiaceae)	Chukandar (Beet root)	Juice of swollen roots is useful in general debility. Leaf paste is useful in cuts and burns.
6.	<i>Brassica oleraceae</i> L. (Brassicaceae)	Ganth gobhi (Knol Knol)	Cooked tubers are prescribed in human consumption. Leaf juice is prescribed for bone and tooth problems.
7.	<i>Brassica rapa</i> L. (Brassicaceae)	Shalgam (Turnip)	Seed oil mixed with camphor is useful for the treatment of muscular rheumatism, dengue and bronchitis. Cooked or dry tuber powder is prescribed in carcinoma and exacerbations.

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8.	<i>Crinum asiaticum</i> L. (Amaryllidaceae)	Sudarshan (Cranium)	Paste of tumer root externally used for healing wounds and tumers. Leaves are used in the healing of wounds. Bulbs are used as a poison antidote.
9.	<i>Chlorophytum tuberosum</i> L. (Alliaceae)	Safed musli (Spider plant)	Powder of tuberous roots with milk prescribed for general tonic for health and vigour. Decoction of roots prescribed for dysmenorrhoea.
10.	<i>Colocasia esculenta</i> L. (Araceae)	Ghuiyan / Arbi (Arum, Taro)	Leaf juice is useful in internal haemorrhages. Juice of corm is useful in somatalgia and alopecia.
11.	<i>Curcuma domestica</i> valet. (Zingiberaceae)	Haldi (Turmeric)	Poultice of rhizome used for cuts and wounds to avoid their cicatrisation. Powdered rhizome is prescribed for the treatment of rheumatism, ulcers, intestinal and liver disorders. Powder orally taken with milk for the treatment of internal or external wounds, tumers and any other injuries.
12.	<i>Daucus carota</i> L. (Apiaceae)	Gajar (Carrot)	Seed powder is useful in dropsy and kidney trouble. Root juice is prescribed in weakness of liver and night blindness.
13.	<i>Heliathus tuberosus</i> L. (Asteraceae)	Hathichuk (Jerusalem artichoke)	Cooked tubers are prescribed in diabetes
14.	<i>Iponmea batatas</i> (Convolvulaceae)	Shakarkand (Sweet potato)	Cooked roots are used as general tonic for health and vigour, diabetes and hyperdipsia.
15.	<i>Nymphaea nouchali</i> Burm. F. (Nymphaeaceae)	Bougoula (Indian water lily)	Rhizome paste is effective for the treatment of child diarrhea and dysentery Decoction of flowers used in heatstroke as well as skin disorders.
16.	<i>Raphamus sativus</i> L. (Brassicaceae)	Muli (Radish)	Root juice are effective in urinary trouble, piles, and gastrodynia. Seed powder is taken for the cure of menstruation problems.
17.	<i>Solanum tuberosum</i> L. (Solanaceae)	Aloo (Potato)	Tuber paste is applied in burns. Extract of leaves is used in cough and cold
18.	<i>Trapa natans</i> L. (Trapaceae)	Singhara (Water chestnut)	Seed powder used in intestinal and sperm disorders.
19.	<i>Urginea indica</i> (Roxb.) Kunth. (Alliaceae)	Jungli Pyaz (Indian squill)	Cooked bulbs with Sendha salt is prescribed in cough, cold, asthma and bronchitis. Powder of bulbs effective for the treatment of leucorrhoea.
20.	<i>Withania somnifera</i> (L.) Dunal (Solanaceae)	Ashwagandha	Root paste is used in rheumatism, painful swelling and old age problems. Dried root powder with milk is used as general tonic for health and vigour as well as brain tonic.
21.	<i>Zingiber officinale</i> (Zingiberaceae)	Adrak (Ginger)	Powder of dry rhizome is taken with water in intestinal disorder and colic and abdominal pain. Juice of fresh rhizome is effective for the treatment of cough and cold. Fresh rhizome grinded with cow's milk and prescribed for dysmenorrhoea.

Convovulaceae, Nympheaceae and Trapaceae were reported by single species.

The curative properties of some very important plants like *Allium cepa* L., *Alpina speciosa* L., *Allium sativum* L., *Solanum tuberosum* L., *Urginea indica* (Roxb.) Kunth and *Zingiber officinale* are effective in cough, cold and other respiratory system disorders, while diarrhea and dysentery and other digestive and intestinal system disorders are treated by *Allium cepa* L., *Alpina speciosa* L., *Asparagus racemosus* Willd., *Brassica oleraceae* L., *Curcuma domestica* Valet., *Nymphaea nouchali* Burm. F., *Raphanus sativus* L., *Trapa* and *Zingiber officinale* (Dash 1983; Sharma *et al.*, 2008; Sharma, 2006).

Different formulations of *Allium sativum* L., *Brassica rapa* L., *Curcuma domestica* Valet. and *Withania somnifera* (L.) Dunal. are useful for the treatment of rheumatism and arthritis. External swelling wounds, sores, burns and other injuries are cured by *Allium cepa* L., *Allium sativum* L., *Beta vulgaris* L., *Cranium asiaticum* L., *Curcuma domestica* Valet. and *Solanum tuberosum* L (Murthy, 1982; Moss 1987; Hussain, 1992).

Various types of fever is cured by *Allium sativum* L., *Brassica rapa* L. and *Cranium asiaticum* L., while *Asparagus racemosus* Willd., *Chlorophytum tuberosum* L., *Ipomea batatas* L., *Trapa natans* L. and *Withania somnifera* (L.) Dunal are utilized as general tonic for health and vigour as well as reproductive and nervous system disorders (Jain, 1964; Sharma *et al.*, 2008; Agnihotri and Sharma, 2009).

Helianthus tuberosus L., is prescribed in diabetes while *Ipomea batatas* L. is prescribed in diabetes as well as hyperdipsia. *Raphanus sativus* L. is effective in menstruation problems and *Urginea indica* (Roxb.) Kunth is utilized for the treatment of leucorrhoea. *Chlorophytum tuberosum* L. and *Zingiber officinale* are prescribed for the treatment of dysmenorrhoea (King, 1974; Agnihotri *et al.*, 2010).

Cranium asiaticum L. is used as a poison antidote while *Calocasia esculanta* L. is effective in internal hemorrhages, somatalgia and alopecia. Hysteria is cured by *Allium cepa* L. while atherosclerosis and hypercholesterolemia is cured by *Allium sativum* (Agnihotri and Sharma, 2009).

Curcuma domestica Valet. and *Daucus carota* L. are prescribed in liver disorders while *Nymphaea nouchali* Burm. F. is utilized in heat stroke and skin disorders. Dropsy, kidney troubles and night blindness is treated by *Daucus carota* L. and bone and tooth problems are treated by *Brassica oleraceae* L (Jain, 1991; Maheshwari, 2000).

Most of the tuberous plants included in present study

are very common and growing as wild or cultivated conditions in throughout India. Many plants are used for similar purpose in other parts of India (Jain, 1964, 1991, 1999; Kateva *et al.*, 2004). Most of the plants are occurring throughout the year and they are effective in more than one disease.

Medicinal utility and importance of these plants has not decreased after thousands of years. People of this areas use these plants as ethno-medicine with great reliability. It is also observed that the people of remote areas of Farrukhabad district prefer their cure by means of ethnomedicines than going to the doctor in case of common diseases. It is remarkable that these ethnomedicines are still apropos in this era of modernization, urbanization and industrialization. practitioners and users of Sivasagar, who expressed their own formulation with loosing intellectual property rights for grater benefits of the society.

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