



UTILITY OF SELF GROWN MEDICINAL PLANTS AS TRADITIONAL REMEDY IN FARRUKHABAD DISTRICT

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Abstract:

Utility of plants against disease is quite proved since time immemorial. It is recorded and documented that Indians in ancient times developed and perfected a well organized medicinal system which is closely related with plants. These plants are used as a single drug or as a component of simple or often quite complex proprietary preparation. There are a variety of medicinal plants that are self-grown or wild with rich medicinal properties. The parts of these plants that are used in medicine are bark, roots, seeds, leaves, flowers, fruits, nuts etc. The present study is focused on the role of self-grown medicinal plants as household or folk remedies in the Uttar Pradesh district of Farrukhabad in primary health preservation. 37 plants with their local names, botanical names, ecology, habitat, medicinal utilities and methods of use against diseases are described and analysed in this research. Most of the plants are readily available and useful for more than one disease during the year. We will make therapy cheaper, non-reactive, safer and easily available to all by conserving these valuable plants.

Keywords: Self-grown, Ethnomedicinal, Herbal, Folk Medicines.

INTRODUCTION

Plants have been nature's most interesting artefacts ever. They also played a crucial role in the needs of human beings for health care. Humans depend upon plants for their healthcare needs since the very beginning of civilization. Ancient Indians first discovered the medicinal properties of plants (Agnihotri *et al.*, 2018). *Rigveda* is the first known book of entire world which introduced the medicinal utility of plants. It contains lot of verses on medicinal knowledge about plants. *Atharvaveda* has the maximum verses on ancient medicinal knowledge. One of the early treatises on Indian medicine, the *Charak Samhita* records the utility of over 340 drugs of plants origin. *Sushruta Samhita* described about 650 medicines, mostly based on plants or plant derivatives. (Agnihotri *et al.*, 2018).

The medicinal aspects of plants did not decrease after thousands of years. A number of people are using plant based medicines or traditional medicines with high reliability. According to World Health Organization (WHO), more than 70% population of entire globe depends upon traditional or folk medicines. Plants and their derivatives are a major source of most of the traditional medicines in rural parts of India. About 80% of the rural population used traditional medicines for their health care needs (Kamboj, 2005; Agnihotri *et al.*, 2013).

India has a variety of geographical and climatic conditions that increase its biodiversity and gives raise to many ethnomedicinal or folk medicinal groups of users. In India, more than 8000 plants are used as medicines. Out of these, a number of plants and their products are used in Ayurvedic, Unani, Siddha, Homoeopathy as well as Allopathic systems of medicine (Dash, 1983; Hussain, 1956). Across entire India, a large number of traditional ethnic, local or folk medicinal systems are popular. They play leading role in primary health care as well as treatment of severe diseases of tribal people, poor and common man of our country (Sharma *et al.*, 2005).

Numerous plants occur in self-grown conditions along road sides, railway lines, in fields, gardens, at water logged, moist soil and other unsafe places. Out of these, many plants are rich in medicinal properties and utilized as remedies of various diseases. This study is based on ethnomedicinal utility of some commonly grown plants. Farrukhabad district is situated in the central region of Uttar Pradesh. More than 50% population of this district depends upon farming; whole district is irrigated by the water of Ganga, Ramganga and Kali rivers. Potato, Wheat, Tobacco and sugarcane are the major crops of this area. The ethno medicinal exploration of Farrukhabad has revealed that numerous plant species are being used by the local people for the treatment of various diseases like rheumatic arthritis, Jaundice, respiratory and cardiac diseases, digestive system disorders, urinary and reproductive troubles, liver and spleen problems, hair and skin problems and poisonous insect bites etc. The area is largely inhabited by rural and some tribal population having traditional beliefs, dialects and ways of life. They have devised their own traditional methods of preparing crude drugs by using plants or plant products and their administration to

patients. The results are satisfactory to the users. They have great faith in traditional medicines. The study provides an insight into the ethnomedicinal utility of self grown plants in Farrukhabad district.

METHODOLOGY

To research the medicinal values of self-grown plants in Farrukhabad district, a field survey was conducted. Plants collected from different localities, forest patches, plantations, fields, gardens, railway lines, water logged and moist soils and road side vegetation. It was demanded that informants go to areas where these plants flourish or carry the drug used by local people. With the assistance of local vaidyas, hakeems, old farmers, local conversants, hermits, herbal cultivators, sailors, etc the information was collected. Collected plant specimens were shown to each informant. Through the available literature, the therapeutic usefulness of plants was crosschecked. The research group submitted photos of plants and specimens. All 37 species of plants have been taxonomically described.

RESULT AND DISCUSSION

The study is conducted during July 2019 to June 2020. During the study, 37 plant species belonging to 22 families were identified as of medicinally importance, because the villagers as well as the urban communities of the area generally used them for their primary healthcare. The key basis of the analysis is qualitative and some quantitative data. Plant species described are grouped in the form of Table 1 and Table 2.

The Table 1 comprises of botanical names, families, local names, habit and habitat and growing or occurring period. Table 2 contains name of plants, useful plant parts and medicinal utility of plants with preparation methods. 37 medicinal plant species belonging to 22 families and 35 genera have been recorded. Out of these, 33 plant species of 20 families are dicots and 4 plants species of 2 families are monocots. Furthermore, 17 of these plants were annual and 16 were perennial. *Solanaceae* was the dominant family with 5 species, followed by *Euphorbiaceae* (4 species), *Asteraceae*, *Alliaceae* (3 species), *Amaranthaceae*, *Acanthaceae*, *Asclepiadaceae*, *Convolvulaceae*, *Laminaceae* represented 2 species each, *Chenopodiaceae*, *Apiaceae*, *Fabaceae*, *Malvaceae*, *Nyctaginaceae*, *Apocynaceae*, *Scrophulariaceae*, *Cannabaceae*, *Poaceae*, *Cappariaceae*, *Verbenaceae*, *laminaceae*, *Oxidilaidaceae* and *Minispermaceae* were represented by single species. Most of the plants occur throughout the year and are useful in more than one disease. *Calotropus* and *Solanum* genera were represented by 2 species and rest of all plants had one species.

The curative properties of some very important plants like *Abrus precatorius* L., *Adhatoda vasica* Nees, *Amaranthus spinosus* L., *Ocimum sanctum* L. are useful in respiratory disorders (Jain, 1981; Agnihotri, 2018). *Boerhavia diffusa* L., *Aloe vera* L., *Andrographis paniculata* (Burm. f.) Nees, *Chenopodium album* L., *Eclipta alba* Hassk., *Phyllanthus neruri* L., *Chenopodium albul* L., and *Tinospora cordifolia* Willd are very effective in liver and spleen disorders. *Abutilon indicum* L., *Asparagus racemosus* Willd, *Centella asiatica* L., *Cynodon dactylon* (L.) pers, *Euphorbia hirta* L., *Phyllanthus neruri* L. are useful in the treatment of diarrhoea and dysentery (Agnihotri and Bhatnagar, 2011; Agnihotri and Rajendiran, 2020). *Asparagus racemosus* Willd and *Withania somnifera* (L.) Dunal are used in impotency, reproductive system disorders and as a general tonic for health and vigor. Skin diseases are treated by *Aloe vera* L., *Calotropus procera* (L.) pers, *Datura metel* L., *Euphorbia hirta* L., *Nicotina tobacum* L., *Aloe vera* L., *Andrographis paniculata* (Burm.f.) Nees, *Ocimum sanctum* L. and *Tinospora cordifolia* Willd. Snake bite and scorpion sting is treated by *Achyranthes aspera* L., *Eclipta alba* Hassk and *Lantana indica* L. (Jain, 1981, Agnihotri and Sharma, 2009). *Abrus precatorius* L. and *Aloe vera* L. are effective remedies of menstrual problems while *Amaranthus spinosus* L. and *Centella asiatica* L. are useful in leucorrhoea. Dental problems are treated by *Adhatoda vasica* Nees, *Achyranthes aspera* L. and *Nicotina tobacum* L. All types of arthritis are cured by *Abutilon indicum* L., *Asparagus racemosus* Willd, *Lantana indica* L. and *Withania somnifera* (L) Dunal. Cardiac problems are cured by *Boerhavia diffusa* L., *Chenopodium album* L., *Solanum nigrum* L. and *Tinospora cordifolia* Willd. Excretory system disorders are treated with effective remedies like *Cuscuta reflexa* Roxb., *Phyllanthus neruri* L. and *Solanum nigrum* L. etc. (Sharma *et al.*, 2005; Agnihotri, 2018).

Most of the plants included in this study are common and grow in most parts of the country. Several plants are used for similar purpose in other parts of India. It is also reported that some medicinal plants are used as a remedy in Farrukhabad region but not in other parts of the country, while some other well known plants are rarely used or not used in this region. It was also observed that poor or less literate people have more knowledge than well literate and persons of higher income group. Present study highlights new opportunities about the self grown medicinal plants relating conservation protection, documentation and sustainable rural development. At present, commercial cultivation of medicinal plants is limited to only 70-80 plant species, while more than about 8000 plants grow in India can be used as medicines. The conservation of traditional knowledge is a meaningful and burning topic in today's era of globalisation, industrialization and urbanisation, so the proper conservation and documentation of these plants is the need of the hour.

A cheaper, non-reactive, readily available source of primary health conservation is medicinal plants. The thesis is expected to open up new possibilities for health research, rural development and the well-being of ordinary Indians.

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Table-1
Botanical Names, Families, Local Names, Habit and Occurring period of self grown plants in Farrukhabad District

S.No.	Botanical Name of Plant	Family	Local Name	Habit	Occurring Period
1.	<i>Abrus precatorius</i> L.	Fabaceae	Ghumchi, Ratti	Annual herb climber	Summer and Rainy season
2.	<i>Abutilon indicum</i> L.	Malvaceae	Kanghi	Under shrub	Throughout the year
3.	<i>Acalypha indica</i> L.	Euphorbiaceae	Kuppi	Annual herb	Rainy and winter season
4.	<i>Achyranthes aspera</i> L.	Amaranthaceae	Chirchita, Latjira	Spinous herb	Rainy and winter season
5.	<i>Adhatoda vasica</i> Nees	Acanthaceae	Vasa, Adusa	Evergreen sub herbaceous	Throughout the year
6.	<i>Allium sativum</i> L.	Alliaceae	Lahsun, Garlic	Annual herb, cultivated	Throughout the year
7.	<i>Aloe vera</i> L.	Alliaceae	Gheequar	A coarse perennial herb	Throughout the year
8.	<i>Amaranthus spinosus</i> L.	Amaranthaceae	Jungli choulai	Annual spinous herb	Rainy to winter season
9.	<i>Andrographis paniculata</i> (Burm.f.) Nees	Acanthaceae	Kiryat, Kalmegh	Annual herb wild or cultivated	Throughout the year
10.	<i>Asparagus racemosus</i> willd.	Liliaceae	Satavar	Climber under shrub	Throughout the year
11.	<i>Bacopa monnieri</i> L. Pennell	Scrophulariaceae	Brahmi	Annual herb	Throughout the year
12.	<i>Boerhaavia diffusa</i> L.	Nyctaginaceae	Punarnava, Biskhapara	Perennial diffuse herb	Throughout the year
13.	<i>Calotropus gigantea</i> L.	Asclepiadaceae	Safed Aak	Perennial shrub	Throughout the year
14.	<i>Calotropus procera</i> (L.) R.B.R.	Asclepiadaceae	Aak, Madaar	Perennial under shrub	Throughout the year
15.	<i>Cannabis sativa</i> L.	Cannabinaceae	Ganja	Perennial shrub	Throughout the year
16.	<i>Centella asiatica</i> L.	Apiaceae	Mandukaparni	Annual small trailing herb	Throughout the year at moist places
17.	<i>Chenopodium album</i> L.	Chenopodiaceae	Bathua	Annual herb wild or cultivated	Winter and spring season
18.	<i>Convolus pluricaulis</i> choisy	Convolvulaceae	Shankpushpi	Annual herb	Summer and rainy season
19.	<i>Cuscuta reflexa</i> Roxb.	Convolvulaceae	Amarbel, Akashbel	Annual climbing herb	Throughout the year
20.	<i>Cynodon dactylon</i> (Linn.) pers.	Poaceae	Doob ghaas	Perennial grass	Throughout the year
21.	<i>Datura metel</i> L.	Solanaceae	Dhatura	Annual or perennial herb	Throughout the year
22.	<i>Eclipta alba</i> Hassk	Asteraceae	Bhrangraj, Bhangra	Annual herb	Throughout the year

S.No.	Botanical Name of Plant	Family	Local Name	Habit	Occurring Period
23.	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Dudhi	Annual herb	Throughout the year
24.	<i>Gynandropsis pentaphylla</i> L.	Cappariaceae	Hur-Hur	Perennial shrub under	Throughout the year
25.	<i>Hemidesmus indicus</i> (L.) Schult	Apocynaceae	Anantamul	Annual herb	Throughout the year
26.	<i>Jatropha gossypifolia</i> L.	Euphorbiaceae	Bherenda	Perennial shrub	Throughout the year
27.	<i>Lantana indica</i> L.	Verbenaceae	Kuri, Barr	Perennial shrub	Throughout the year
28.	<i>Mentha arvensis</i> L.	Lamiaceae	Pudina	Annual herb, Cultivated	Throughout the year
29.	<i>Nicotina tabacum</i> L.	Solanaceae	Tambaku	Annual herb wild or cultivated	Throughout the year
30.	<i>Ocimum sanctum</i> L.	Lamiaceae	Tulsi	Annual herb wild or cultivated	Throughout the year
31.	<i>Oxalis corniculata</i> L.	Oxalidaceae	Khatti buti	Annual herb wild	Throughout the year
32.	<i>Phyllanthus neruri</i> L.	Euphorbiaceae	Bhumi amla	Annual herb	Throughout the year
33.	<i>Solanum nigrum</i> L.	Solanaceae	Makoi	Annual herb	Throughout the year
34.	<i>Solanum xanthocarpum</i> L.	Solanaceae	Kateli	Perennial spinous under shrub	Throughout the year
35.	<i>Tagetes erecta</i>	Asteraceae	Genda	Annual herb	Throughout the year
36.	<i>Tinospora cordifolia</i> , Willd.	Menispermaceae	Giloe amrita	Perennial deciduous twiner	Throughout the year
37.	<i>Withania somnifera</i> (L.) Dunal	Solanaceae	Ashwagandha, Asgandh	Perennial shrub under	Throughout the year

Table-2
Names, useful parts and methods of utilization of plants

S.No.	Name of Plants	Useful Part	Uses (Methods of utilization)
1.	<i>Abrus precatorius</i> L.	Leaves, roots	Decoction of leaves used for cough, cold, asthma and colic pain. Root paste is used in cough, cold, asthma, chronic bronchitis and menstrual problems.
2.	<i>Abutilon indicum</i> L.	Leaves, roots, seeds	Leaf extract with butter milk is given orally to cure dysentery. Decoction or paste of roots is prescribed in fever, chest infection and arthritis. Seed paste or leaf extract with castor oil is used to cure piles.
3.	<i>Acalypha indica</i> L.	Whole plant	Decoction of whole plant is useful in cough, cold, asthma, bronchitis and pneumonia. Leaves paste with garlic is prescribed in diarrhoea and dysentery.
4.	<i>Achyranthus aspera</i> L.	Inflorescence, roots, leaves, seeds	Inflorescence and seed paste is applied on the wound of snake bite and scorpion sting. Seed powder or roots paste mixed with honey is prescribed in cough, cold, asthma and lung diseases. Paste of roots is useful in tooth problems.
5.	<i>Adhatoda vasica</i> Nees	Roots, leaves	The leaf extract has been used for the treatment of bronchitis and asthma. Root powder with milk is given in cough, cold, asthma and breathlessness. Fresh juice of leaves or root paste is effective in piles, pyorrhea and ulcer.
6.	<i>Allium sativum</i> L.	Bulb, leaves	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 hypercholestromlaemia
7.	<i>Aloe vera</i> L.	Leaves	Fresh juice of leaves is useful in fever, healing wounds burns, cuts and all skin diseases. Leaf pulp is useful in menstrual suppression.
8.	<i>Amaranthus spinous</i> L.	Leaves, roots	Leaf paste is useful in cough, cold and respiratory system disorders. Root paste or powder is effective on leucorrhoea, haemoptysis and haematemeses.
9.	<i>Andrographis paniculata</i> (Burm f.) Nees	Whole plant	The leaf paste or extract has been used for the treatment of dysentery, diarrhea, tonsillitis. Whole plant powder is effective in piles, pyorrhea and ulcer.
10.	<i>Asparagus racemosus</i> Willd.	Tuberous roots	Root paste or powder mixed with milk is taken for health and vigor. Root paste or powder is also effective for the treatment of diarrhea, dysentery and impotency and nervous system disorders.
11.	<i>Bacopa monnieri</i> (L.) Pennell	Whole plant	Whole plant juice or powder is used as brain tonic and general debility Plant juice is prescribed for the treatment of leucoderma, syphilis, dysmenorrhea and elephantiasis.
12.	<i>Boerhaavia diffusa</i> L.	Whole plant	Root decoction is given in jaundice and cardiac disorders.
13.	<i>Calotropus procera</i> (L.) R.B.R.	Roots and leaves	Powdered roots are used in gastric disorders. Leaves paste is effective in the treatment of skin problems.
14.	<i>Calogropus gigantea</i> L.	Flower	Flowers are given in cough, cold and asthma.
15.	<i>Cannabis sativa</i> L.	Stem and bark	Stem bark paste is effective in swellings and hydrocele.

S.No.	Name of Plants	Useful Part	Uses (Methods of utilization)
16.	<i>Chenopodium album</i> L.	Whole plant	Cooked leaves are used in seminal weakness, cardiac and liver disorders and general debility.
17.	<i>Centella asiatica</i> L.	Whole plant	Whole plant paste or decoction is effective in the treatment of diarrhea dysentery, jaundice, leucorrhoea and dysmenorrhoea.
18.	<i>Convolvul pluricaulis</i> choisy	Whole plant	Plant paste or powder is used as a brain tonic.
19.	<i>Cuscuta reflexa</i> Roxb.	Whole plant	Whole plant extract is effective in asthma, bronchitis, fever and excretory system disorders. Leaf paste applied in the form of poultices is prescribed for wounds, cuts and sores.
20.	<i>Cynodon dactylon</i> (L.) pers.	Whole plant	Whole plant mixed with turmeric is applied to cure scabies, cuts, wounds and other skin infections. Plant paste and decoction is used against vomiting, diarrhea, dysentery and general debility.
21.	<i>Datura metel</i> L.	Seeds and leaves	Powdered seeds mixed with warm Brassica oil are used in ear ache and extend leaves paste mixed with turmeric is applied in the treatment of wounds and sores swellings.
22.	<i>Eclipta alba</i> Hassk.	Whole plant	Powdered leaves or fresh plant paste is used as shampoo. Roots are used in snake bite and scorpion sting. Whole plant powder or decoction is prescribed in liver and spleen disorders.
23.	<i>Euphorbia hirta</i> L.	Whole plant	Whole plant paste relieved in diarrhea, dysentery, vomiting and intestinal disorders. Latex is applied to cure wounds, pimples, corn and warts.
24.	<i>Gynandropsis pentophylla</i>	Leaves and roots	Leaf juice is used against ear ache, wounds, and ulcers. Decoction of roots is used in fever.
25.	<i>Hemidesmus indicus</i> (L.) Schult	Roots	Root paste used in burning sensation. Root paste or powder is used in leprosy, asthma, bronchitis and leucoderma.
26.	<i>Jatropha gossypifolia</i> L.	Roots	Decoction of roots is used for curing of piles.
27.	<i>Lantana indica</i> L.	Leaves, whole plant	Whole plant decoction is given in rheumatism. Leaf extract is given in snake bite and scorpion sting.
28.	<i>Mentha arvensis</i> L.	Leaves	Leaves paste or powder used in rheumatic problems and digestive system disorders.
29.	<i>Nicotina tabacum</i> L.	Leaves	Leaf paste is useful in skin diseases, wounds, painful tumors and back sores. Leaf powder is effective on dental problems.
30.	<i>Ocimum sanctum</i> L.	Leaves	Leaf paste is used for stomach and intestinal disorders. Decoction of leaves is given in fever. Leaf juice is given to cure malaria, dysentery and dyspepsia.
31.	<i>Oxalis corniculata</i> L.	Whole plant	Plant paste is massaged on head and body ache.
32.	<i>Phyllanthus neruri</i> L.	Whole plant	Whole plant paste or decoction is given in all problems of liver and spleen. Decoction is effective on diseases of urinary track. Plant extract is given in diarrhoea and dysentery.
33.	<i>Solanum nigrum</i> L.	Whole plant	Leaf juice is given in inflammation of kidney and bladder. leaf juice is given in heart diseases and spleen enlargement, whole plant decoction is used in enlargement of liver and jaundice.
34.	<i>Solanum xanthocarpum</i> L.	Roots	Root paste or powder is effective or chronic bronchitis, asthma and other respiratory system disorders.

S.No.	Name of Plants	Useful Part	Uses (Methods of utilization)
35.	<i>Tagetes erecta</i>	Leaves	Leaf paste is effective for treatment of bleeding. Leaves juice is used in ear ache, wound and sores.
36.	<i>Tinospora cordifolia</i> Willd	Whole plant	Decoction of roots or stem is given in cardiac and abdominal disorders. Root powder is used for curing chronic fever. Warm leaves are wrapped around fracture and painful joints.
37.	<i>Withania somnifera</i> (L.) Dunal	Roots	Root paste is used in rheumatism, painful swelling and old age problems. Dried root powder is given with milk as general tonic for health and vigor.