

Review Article

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Medicinal plants in India

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Abstract

All living organisms depend upon plants for their survival. The use of plants in our daily life for food, shelter, medicines, fibre, etc is endless. The various bioactive compounds have direct or indirect use in the treatment of various human ailments. From time immemorial, human civilizations have been exploring the use of various plants and their products to cure several deadly diseases. In this article we have summarized the important medicinal plants growing in India and their uses.

Introduction

The use of plants for medicinal purposes has been known long before prehistoric times. The use of herbs by the Indian Vaidas, Unani Hakims, and Chinese for medicinal purpose has been known for over 4000 years as medicine. Rig-Veda in India is considered to be the oldest repository of medicinal usage of plants which was written during 4500 to 1600 BC. There were number of plants documented in the Ayurveda and Unani system of medicines.

Traditional systems of medicines continue to be widely practised in our country. An inadequate supply of allopathy drugs, their high cost and side effects have led to an increased demand of natural plant products to cure human diseases (Clark, 1996; Mittermeier et al., 2005; Hosseinzadeh et al., 2015). With no or minimal side effects, treatment with medicinal plants is safe. Since they are in sync with nature, they hold greater advantage over chemically treated products and synthetic medicines (Singh, 2015; Dar et al., 2017; Roshana, 2018).

This has led to a shift from allopathy medicine to natural products/naturopathy.

Indian forests have been known to be a rich repository of medicinal and aromatic plants. Ayurveda, Unani, Siddha and Folk (tribal) medicines are the major systems of indigenous medicines known in India. Of these, Ayurveda and Unani medicines are most developed and widely practised (Kirtikar, 1993; WHO, 1993).

In almost every Indian household, we will find a tulsi plant, which is a sacred plant. Indians love to have their tea with ginger and other spices. Indians strongly believe in traditional medicines for all diseases. Ayurvedic herbs are known to treat the disease from the root and thus aid in keeping us healthy and fit in the long run (Dixit, 2010; Donkar, 2016). The present review focusses on some important medicinal plants growing in India and their uses.

Importance of Medicinal Plants

With the present lifestyle it is very important for us to look back at our natural products and save our God gifted treasure. A brief account of some important medicinal plants growing in India is summarized in Table 1 (Kaul, 1997; Upadhyay et al., 2004; Miladi & Damak, 2008; Zahin et al., 2009; Dar et al., 2017).

1. Ayurvedic herbs are nutritious and have a unique flavour.
2. These have no side effects and can be consumed regularly for a healthy and balanced life.
3. They aid in proper absorption and digestion and have a holistic approach.
4. They are considered not to be specific for any disease but act as a preventive medicine.
5. They boost up the immune system

6. They are as good as allopathic medicines and are known to be effective in treating number of diseases.
7. It deals with the overall well-being thus bring harmony between mind, body and soul
8. Medicinal plants are rich resources of ingredients which are used in drug development- pharmacopoeial, non-pharmacopoeial or synthetic drugs.
9. They are used as blood purifiers to alter or change a long-standing condition by eliminating the metabolic toxins. Therefore they are also referred as 'blood cleansers'
10. Certain medicinal herbs have disinfectant property. They not only destroy disease causing germs but also inhibit the growth of pathogenic microbes that cause communicable diseases.

Table 1: Important medicinal plants in India

S.No.	Botanical name	Family	Vernacular name	Parts used	Medicinal uses
1.	<i>Abroma augustum</i>	Malvaceae	Ulatkambal/ Devil's cotton	Leaves	Gynaecological Problems, Irregularity in Periods
2.	<i>Abutilon indicum</i>	Malvaceae	Kanghi	Leaves	Nervine tonic, Joint Disorders, Increases Strength
3.	<i>Acacia nilotica</i>	Fabaceae	Babool	Seeds, bark	Oral care, Bleeding gums, wounds, young twigs used as toothbrush and skin diseases.
4.	<i>Acalypha indica</i>	Euphorbiaceae	Khokali/Indian mercury	All plant parts	Decoction used for asthma
5.	<i>Acorus calamus</i>	Acoraceae	Bach/Vacha	Rhizome	Flatulent Colic, Atonic Dyspepsia, Ulcers
6.	<i>Achyranthes aspera</i>	Amaranthaceae	Chirchita	Roots, leaves, seeds, flowers, fruits, seeds	Indigestion, Cough, Asthma, Liver health
7.	<i>Adhatoda vasica</i> <i>Nees</i>	Acanthaceae	Vasaka	Leaves and roots	Cough, Asthma, Bronchitis
8.	<i>Aegle marmelos</i>	Rutaceae	Bael	Fruit and bark	Diarrhoea, dysentery, and constipation.
9.	<i>Albizia lebbek</i>	Fabaceae	Shirish	Bark, leaves, flower, seed, stem, pod	Bronchial Asthma, Detoxification
10.	<i>Alhagia melorum</i>	Fabaceae	Yavasa/camel thorn	Roots, seeds	Rheumatism, Vomiting, Stomachache, Constipation
11.	<i>Allium cepa</i>	Liliaceae	Pyaz/onion	Bulb	Prostate health, Digestive
12.	<i>Allium sativa</i>	Liliaceae	Lahsun/garlic	Bulb	Ringworm, Dysentery, Wounds

13.	<i>Aloe vera</i>	Asphodelaceae	Grithkumari	Leaves and fruit	Laxative, wound healing, skin burns and ulcer
14.	<i>Alostonia scholaris</i>	Apocynaceae	Saptaparna	Bark, leaves, milky exudates	Malarial fever
15.	<i>Alpinia galanga</i>	Zingiberaceae	Galanjal/Kulianian	Aerial parts, leaves, roots, rhizome	Flatulence, Dyspepsia, Vomiting, Motion sickness, Catarrh
16.	<i>Amomum subulatum</i>	Zingiberaceae	Badi elaichi	Seeds	Bronchitis, Asthma, Appetizer, Digestant
17.	<i>Anacyclus pyrethrum</i>	Asteraceae	Akarkara/Pellitory	Roots	Toothache, Dryness of The Mouth, Throat, Catarrh, Loss of libido
18.	<i>Ananas comosus</i>	Bromeliaceae	Ananas/Pineapple	Fruit	Sore Throat, Diabetes, Heart Disease, Obesity
19.	<i>Andrographis paniculate</i>	Acanthaceae	Kalmegh/King of bitters	Aerial parts, roots	Indigestion, Acne, Diarrhoea
20.	<i>Annona squamosa</i>	Annonaceae	Custard apple	Seeds, leaves and bark	Diarrhoea, diabetes, ulcers and dysentery.
21.	<i>Aquilaria agallocha</i>	Thymelaeaceae	Agargasth/agarwood	Leaves	Bed-Wetting, Incontinence of Urinary Bladder
22.	<i>Araurcaria</i>	Araucariaceae	Christmas tree	Resin	Anti-ulcer, anti-viral, neuro-protective, anti-depressant, and anti-coagulant.
23.	<i>Argyrea speciosa</i>	Convolvulaceae	Vridhadaru	Leaves, roots, seeds	Diabetes, Skin Diseases, Wounds
24.	<i>Artocarpus heterophyllus</i>	Moraceae	Kathal	Whole plant	Fever, wounds, skin diseases, constipation, convulsions, diuretic, ophthalmic disorders, and snake bite.
25.	<i>Asparagus racemosus</i>	Asparagaceae	Shatavari	Roots	Infertility, Loss of Libido, Uterine health, Improves Lactation
26.	<i>Aquilaria agallocha</i>	Thymelaeaceae	Agargasth/agarwood	Leaves	Bed-Wetting, Incontinence of Urinary Bladder
27.	<i>Averrhoa carambola</i>	Oxalidaceae	Kamrakh	Fruit	Haemostatic, anti-oxidant, cough and cold.
28.	<i>Azadirachta indica</i>	Maliaceae	Neem	Whole plant	Essential oil uses like expectorant (removes phlegm) and counter-irritant.
29.	<i>Bacopa monniera</i>	Plantaginaceae	Brahmi	Leaves, stem	Enhances Memory, Anxiety, protects brain cells from chemicals that cause Alzheimer's.
30.	<i>Bahunia variegata</i>	Fabaceae	Kachnar	Fruits, buds, flowers, seeds, and bark	Used as an antidote to poison, dysentery, diarrhoea, piles, skin diseases, leprosy, intestinal worms, tumours and wounds.

31.	<i>Barleriaprionitis</i>	Acanthaceae	Katsareya/Vajradanti	All parts of the plant	Treat alopecia, rhinitis, skin diseases like scabies, ringworm, Strengthens Teeth, hair, Useful in Fever
32.	<i>Betula utilis</i>	Betulaceae	Bhoipatra	Bark of tree	Wounds, obesity
33.	<i>Boerhaavia diffusa</i>	Nyctaginaceae	Punarnava	Leaves, aerial part, root	Anti aging, prevents oedema, Anaemia, Liver Diseases, Wounds, Kidney health
34.	<i>Boswellia serrata</i>	Burseraceae	Salai guggal	Oleo gum resin from tree trunk	Joint Pains, Headache, Diabetes
35.	<i>Butea monosperma</i>	Fabaceae	Palash	All parts of the plant	Antidiabetic, antidiarrheal, anticonvulsives, chemoprotective, diuretic, Complexion of Skin, Worm Infestations, Roundworm
36.	<i>Brophyllum</i>	Crassulaceae	Dardpaat	Leaves	Kidney stone, swelling, hypertension and leukaemia.
37.	<i>Cannabis sativa</i>	Cannabinaceae	Bhang	Seeds and flower	Coughing, diarrhoea, pain and loss of appetite.
38.	<i>Catharanthus roseus</i>	Apocynaceae	Sadabahar	Leaves and flower	Diabetes.
39.	<i>Carica papaya</i>	Caricaceae	Papita	Fruit and leaves	High blood pressure, diabetes, dyspepsia, constipation, general debility, expel worms and cancer.
40.	<i>Celastruspaniculatus</i>	Celastraceae	Mal-kangini	Seeds	Muscle Cramps, Backache, Osteoarthritis, Hair care
41.	<i>Cinnamomum tamala</i>	Lauraceae	Tamalpatra/Tejpatta/Bay leaf	Leaves, bark	Diabetes, Digestion, Cold
42.	<i>Centella asiatica</i>	Umbelliferae	Gotu kola/Mandukparni/Brahmi	All parts of the plant	Treatment of wounds, burns, hypertrophic scar improves memory, brain health, hair growth
43.	<i>Cissus quadrangularis</i>	Vitaceae	Hadjod	Whole plant	Obesity, diabetes, treats bone fracture and high cholesterol.
44.	<i>Citrus limon</i>	Rutaceae	Lemon	Fruit and leaves	Blood cleanser, inflammation, nerve tonic, cancer, reducing high blood pressure and kidney stones.
45.	<i>Citrus macrocarpa</i>	Rutaceae	Chinese orange	Leaves, fruit, and root	Cough, cold and anti-microbial.

46.	<i>Citrus sinensis</i>	Rutaceae	Orange	Fruit and leaves	Cold, cough, anti-oxidants and diarrhoea.
47.	<i>Coriandrum sativum</i>	Umbelliferae	Dhaniya	Flower, leaves, fruit	Useful in Indigestion, Flatulence, Controls Spasmodic painswelling, stomatitis, conjunctivitis, bleeding disorders, cough and diuretic.
48.	<i>Costusspeciosus</i>	Costaceae	Ketaki	Rhizome	Fever, rash, asthma, bronchitis, Obesity, Hyperlipidaemia, Diabetes
49.	<i>Crataevanurvala</i>	Capparaceae	Varun	Leaves, bark	Kidney Stones, Bladder Stones Prostate health
50.	<i>Cycas revoluta</i>	Cycadaceae	Sagopalm	Leaves, seeds and shoot	Cancer, hepatoma, astringent, diuretic and tumours.
51.	<i>Cymbopogon citratus</i>	Poaceae	lemon grass	Leaves	Anti-convulsant, analgesic, antipyretic, anti-bacterial depressant, anti-fungal.
52.	<i>Cyperus rotundus</i>	Cyperaceae	Nagramotha	Rhizomes and root	Diuretic, carminative, emmenagogue, anthelmintic, stomachic, stimulant, analgesic, hypotensive, anti-inflammatory, anti-dysenteric, anti-rheumatic, diarrhoea, bleeding and dysentery.
53.	<i>Dalbergia sissoo</i>	Fabaceae	Sheesham	Leaves, bark, heart wood and pods	Eye pain, swelling, gynaecological disorders, bleeding disorders, anti-diabetic, analgesic, anti-oxidant and anti-inflammatory.
54.	<i>Datura stramonium</i>	Solanaceae	Datura	Seeds and leaves	Anti-asthmatic, antispasmodic, hypnotic, narcotic.
55.	<i>Delonix regia</i>	Fabaceae	Gul mohar	Seeds, leaves, bark	Antibacterial, anti-inflammatory, hepatoprotective, antimicrobial, antidiarrheal and anti-diabetic.
56.	<i>Desmodiumgang etium</i>	Fabaceae	Shalparni	Leaves, root	Analgesic, reduces toothache Anti-Inflammatory
57.	<i>Elaeocarpus ganitrus</i>	Tiliaceae	Rudraksh	Fruit and seeds	Nervous system disorders, anti-microbial, anti-ulcerogenic, anti-oxidant and anti-hypertensive.

58.	<i>Eleusine coracana</i>	Poaceae	Marua	Whole plant	Asthma, anti-helminthic, anti-diabetic, anti-oxidant, diuretic, febrifuge and inflammatory.
59.	<i>Elettaria cardamomum</i>	Zingiberaceae	Elaichi	Seeds	Indigestion, nausea, vomiting, pulmonary disease, laxative, dyspepsia, pulmonary tuberculosis, kidney stones, constipation and dysentery.
60.	<i>Eucalyptus</i>	Myrtaceae	Safaida	Oil	Essential oil uses like expectorant (removes phlegm) and counter-irritant.
61.	<i>Ficus benghalensis</i>	Moraceae	Bargad	Bark	Dysentery, diarrhoea, leucorrhoea, nervous disorders, reduces blood sugar in diabetes and Anti-asthmatic.
62.	<i>Ficus elastica</i>	Moraceae	Rubber	Leaves and stem bark	Anti-bacterial, anti-inflammatory, poultice, and skin diseases.
63.	<i>Ficus religiosa</i>	Moraceae	Peepal	Stem-bark, fruits, apical bud, latex, root, leaves and seeds	Gonorrhoea, dysentery, aphrodisiac, skin diseases, laxative, haemorrhages and urinary complaints.
64.	<i>Ficus virens</i>	Moraceae	Pilkan	Leaves, shoot and fruit	Leucorrhoea, ulcers, and gargle in salivation.
65.	<i>Glycyrrhiza glabra</i>	Fabaceae	Mulethi/liquorice	Root, rhizome	Antitussive, antimicrobial, antioxidant, anti-inflammatory, antiulcer, anticancer, etc. Digestive Disorders, Ulcers, Bronchitis, Skin health
66.	<i>Helianthus annuus</i>	Asteraceae	Sun flower	Flowers, seeds and leaves	Malaria, astringent, poultice and diuretic.
67.	<i>Hibiscus rosa-sinensis</i>	Malvaceae	Gulhad	Root, leaves and flowers	Diuretic, laxative, lowering blood pressure and cough, hair care.
68.	<i>Litchi chinensis</i>	Sapindaceae	Litchi	Fruit and leaves	Cough, flatulence, stomach ulcer, diabetes, obesity, anti-bacterial, hypoglycaemic, diuretic and antiviral.
69.	<i>Mangifera indica</i>	Anacardiaceae	Mango	Bark	Diarrhoea.
70.	<i>Manilkara zapota</i>	Sapotaceae	Chiku	Leaves, flower, bark, fruit, and seeds	Fever, wounds, ulcer, astringent, febrifuge, tonic, diarrhoea, indigestion, antipyretic and diuretic.

71.	<i>Mentha spicata</i>	Lamiaceae	Pudina	Whole plant	Anti-bacterial, anti-febrile, expectorant, antiseptic, chewing gum and for skin diseases.
72.	<i>Mimosa pudica</i>	Fabaceae	Touch-me –not	Roots, leaves and flower head	Diarrhoea, coughs, piles, inflammation, jaundices and wound healing.
73.	<i>Mimus opselengi</i>	Sapotaceae	Maulsari	Bark, flowers, fruits and seeds	Astringent, cooling, anthelmintic, tonic, febrifuge, bleeding gums, pyorrhoea and loose teeth.
74.	<i>Morus alba</i>	Moraceae	Mulberry	Leaves, fruit, bark of root and small branches	Diaphoretic, anti-rheumatic, anti-spasmodic, diuretic, blood tonic and anti-inflammatory.
75.	<i>Murraya koenigii</i>	Rutaceae	Kadi-patta	Whole plant	Anti-emetic, tonic, stomachic, anti-diarrheal, relieves renal pain and febrifuge.
76.	<i>Musa paradisiacal</i>	Musaceae	Banana	Fruit	Coronary disease, uric arthritis, gout, anaemia, gastritis, chronic dysentery, scurvy and diarrhoea.
77.	<i>Neolamarckiac adamba</i>	Rubiaceae	Kadamba	Root , bark , leaves ,fruit	Fever, muscular pains, cough, oedema, aphrodisiac, ulcers and anti-inflammatory.
78.	<i>Nyctanthesarb ortristis</i>	Oleaceae	Harsinghar	Flower and leaves	Anti-bacterial, anti-inflammatory, anthelmintic, expectorant, constipation, arthritis, fever and anti-asthmatic.
79.	<i>Ocimum canum</i>	Lamiaceae	Kali-Tulsi	Leaves and seeds	Skin disease and haemorrhage.
80.	<i>Ocimum sanctum.</i>	Lamiaceae	Sweet-Tulsi	Leaves and seeds	Wound wash, dysuria and common cold.
81.	<i>Papaver somniferum</i>	Papaveraceae	Poopy	Seeds	Cough, hypnotic, cancer, hypochondria, hysteria, insomnia, tumors, rheumatism, snakebites, sprains and ulcers.
82.	<i>Pinus roxburghii</i>	Pinaceae	Pine	Resin and wood	Antiseptic, diuretic, vermifuge, rheumatic, coughs, cold, influenza, T B, diaphoretic, stimulant and ulcers.
83.	<i>Piper longum</i>	Piperaceae	Pipalli	Whole spike, piplamool(dried roots and thick stem)	Asthma, Cough, Indigestion

84.	<i>Piper betel</i>	Piperaceae	Paan	Root, leaves and root	Antiseptic, anti-bacterial, anti-lactagogue, antioxidant, luteolytic, carminative, expectorant, fever and heart diseases.
85.	<i>Psidium guajava</i>	Myrtaceae	Guava	Fruit, leaves, bark, roots	Diarrhoea, dysmenorrhoea, hyperlipidaemia, hypertension, cancer and dyslipidaemia.
86.	<i>Plumeria alba</i>	Apocynaceae	Chamba	Heart wood and oil	Vermifuge and laxative.
87.	<i>Polyalthia longifolia</i>	Annonaceae	Pseudo Ashoka	Bark, leaves and seeds	Antipyretic, skin diseases, inflammation, diabetes and to lower high blood pressure.
88.	<i>Prunus domestica</i>	Rosaceae	Aloo Bukhara	Fruit, leaves and seeds	Laxative, stomach, febrifuge and cancer.
89.	<i>Prunus dulcis</i>	Rosaceae	Almond	Seeds	Cancer, hyperlipidaemia, diabetes, anaemia, constipation, skin disorders and respiratory diseases.
90.	<i>Prunus serrulate</i>	Rosaceae	Cherry blossom	Fruit	Anti-oxidative and antiviral.
91.	<i>Punica granatum</i>	Punicaceae	Pomegranate	Fruit, seed, flower	Chronic, diarrhoea, dysentery, pile, uterine disorders, anaemia and hyperdipsia.
92.	<i>Pyrus communis</i>	Rosaceae	Pear	Fruit	Diuretic, obesity, hypertension, dropsy, oedemas, pain, kidney stones, renal inadequacy, analgesic, diabetes and blood circulation.
93.	<i>Rauwolfia serpentina</i>	Apocynaceae	Snakeroot	Leaves and fruit	High blood pressure, mental disorders, insomnia, snake bites, hypertension.
94.	<i>Rosa spp.</i>	Rosaceae	Gulab	Flower	Cleansing the gall bladder, nourishing the scalp, dermatitis, and eczema.
95.	<i>Santalum album</i>	Santalaceae	Chandan	Heart wood and oil	Skin disorder, burning, sensation, jaundice, and cough.
96.	<i>Saraca indica</i>	Fabaceae	Ashoka	Bark	Menstrual Irregularities, Uterine Stimulant
97.	<i>Santalum album</i>	Santalaceae	Chandan	Heart wood and oil	Skin disorder, burning, sensation, jaundice, and cough.

98.	<i>Syzygium cumini</i>	Myrtaceae	Jamun	Seeds, leaves and bark	Diabetes, hyperglycaemia, Cough, asthma, bronchitis, flatulence, abdominal pain, dysentery, anaemia, depression, nervous system, related disorders and ulcers.
99.	<i>Tagetes spp.</i>	Asteraceae	Marigold	Flower	Analgesic, anti-inflammatory, antispasmodic, astringent, bactericide, carminative and emmenagogue.
100.	<i>Tamarindus indica</i>	Fabaceae	Imli	Flower, seeds, fruit, bark and leaves	Cardiac disorders, non-healing wounds, anorexia, rheumatoid arthritis, dyspepsia, liver health jaundice, anaemia, anti-microbial.
101.	<i>Terminalia arjuna</i>	Combretaceae	Arjun	Bark	Heart disease.
102.	<i>Terminalia bellirica</i>	Combretaceae	Bhaera	Bark and seeds	Cough, insomnia, dropsy, vomiting and ulcer.
103.	<i>Tinospora cordifolia</i>	Menispermaceae	Giloy	Stem	Diabetes, fever, rheumatism, dyspepsia and urinary diseases.
104.	<i>Trachyspermum ammi</i>	Umbelliferae	Ajwain	Leaves and seeds	Digestion, diarrhoea, anti-spasmodic, expectorant, bronchitis, cough, cold, influenza, arthritis, asthma and rheumatism.
105.	<i>Tylophora indica</i>	Apocynaceae	Damabel	Root and leaves	Asthma, allergies and rheumatism.
106.	<i>Vitis vinifera</i>	Vitaceae	Grapes	Fruit, leaves, stem, flowers and young branch	Laxative, stomachic, diuretic, tonic, skin diseases and emmenagogue.
107.	<i>Withania somnifera</i>	Solanaceae	Ashwaghandha	Root and leaves	Restorative tonic, stress, nerves disorder, arthritis, rheumatism and intestinal infection.


Conclusion

The vast uses of medicinal plants for our daily uses is gradually being recognized the world over. We need to nurture and save our plants for a healthy and happy human life.

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