



## **SOME COMMON MEDICINAL PLANTS FOR THE MANAGEMENT OF NON-COMMUNICABLE DISEASES**

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### **ABSTRACT**

All around the world, billions of people are suffering from non-communicable diseases in different stages of their life. There has been an unparalleled worldwide rise in non-communicable diseases (NCDs), particularly cardiovascular diseases (CVD), respiratory diseases, obesity, diabetes, joint diseases, psychological (= neurological) diseases and cancer. NCDs are the leading cause of death as these are replacing communicable diseases, maternal and child health as well as malnutrition. The modern pharmacotherapy has decreased the mortality to some extent but has failed to stop the rise. The inaccessibility and inadequate response of conventional drugs in the management of NCDs is a big challenge. A large section of the world population cannot afford expensive pharmacotherapy. Therefore, there is an urgent need for inexpensive and preventive measures to control the rise in non-communicable diseases.

A large number of medicinal plants have been used in traditional health care for many years. The plants and plant products in the form of crude drugs as well as in various compound formulations are being used for combating non-communicable diseases. Medicinal plants play a vital role in preventing various diseases and their promotion and use fit into all existing strategies for better health of community. However, more efforts need to be made to properly identify, recognize and position medicinal plants in the design and implementation of these strategies. The present paper describes the use of various medicinal plants in the management of different non-communicable diseases.

**Keywords:** *Non-communicable diseases, medicinal plants.*

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### **1. INTRODUCTION**

Medicinal plants have been used in healthcare since time immemorial. Non communicable diseases (NCDs) are the leading cause of death as these are replacing communicable diseases, maternal and child health as well as malnutrition. The modern pharmacotherapy has decreased the mortality to some extent but has failed to stop the rise. The inaccessibility and inadequate response of conventional drugs in the management of NCDs is a big challenge. A large section of the world population cannot afford expensive pharmacotherapy. Therefore, there is an urgent need for inexpensive and preventive measures to control the rise in non-communicable diseases.

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#### **What is a medicinal plant?**

According to World Health Organization (WHO), a Traditional Medicine is a sum total of all knowledge and practices, whether applicable or not, used in diagnosis, prevention and elimination of physical, mental, or social imbalance and relying exclusively on practical experience and observation communicated from one generation to next generation, whether verbally or in writing. Over 90% of traditional medicine recipes/remedies contain medicinal plants but this paper will address, specifically, the medicinal plants that have been implicated with preventive measures in disease control strategies.

A medicinal plant is any plant which, in one or more of its organs, contains substances that can be used for therapeutic purposes or which are precursors for the synthesis of useful drugs. The term crude drugs of natural or biological origin is used by pharmacists and pharmacologists to describe whole plants or parts of plants which have medicinal properties. A medicinal plant should include:

- Plants or plant parts used medicinally in galenical preparations (e.g. decoctions, infusions, etc.) e.g. Cascara bark;
- plants used for extraction of pure substances either for direct medicinal use or for the hemi-synthesis of medicinal compounds (e.g. hemi-synthesis of sex hormones from diosgenin obtained from *Dioscorea* yams);

- food, spice, and perfumery plants used medicinally, e.g. ginger;
- Microscopic plants, e.g. fungi, actinomycetes, used for isolation of drugs, especially antibiotics. Examples are ergot (*Claviceps purpurea* growing on rye) or *Streptomyces griseus*; and
- Fiber plants, e.g. cotton, flax, jute, used for the preparation of surgical dressings.

#### MEDICINAL PLANTS – A BASE OF MANY IMPORTANT DRUGS FOR CONTROLLING NON COMMUNICABLE DISEASES:

Medicinal plants are considered as a rich resources of ingredients which can be used in drug development either pharmacopoeial, non-pharmacopoeial or synthetic drugs. A part from that, these plants play a critical role in the development of human cultures around the whole world. Moreover, some plants are considered as important source of nutrition and as a result of that they are recommended for their therapeutic values. Some of these plants include ginger, green tea, walnuts, aloe, pepper and turmeric etc. Table no.1 presents some plants and their derivatives are considered as important source for active ingredients which are used in the prevention of many non communicable diseases in the society.

TABLE 1. SOME COMMON MEDICINAL PLANTS

Sr. No.	Botanical Name	Common name	Family	Monocot /Dicot	Type	Use
1	<i>Acacia auriculiformis</i>	Auri	Fabaceae	Dicot	Perennial	treat rheumatism, root treats pain and sore eyes
2	<i>Acacia nilotica</i>	babool	Fabaceae	Dicot	Perennial	Antioxidant, antimicrobial, Antipyretic and antiinflammatory action
3	<i>Aegle marmelos</i>	bael patra	Rutaceae	Dicot	Perennial	used in chronic diarrhoea, dysentery and peptic ulcer
4	<i>Alstonia scholaris</i>	Saptaparn, Devils tree	Apocynaceae	Dicot	Perennial	Treat fever, malaria, troubles in digestion, tumors, ulcers
5	<i>Azadirachta indica</i>	Neem	Meliaceae	Dicot	Perennial	used as Antimalarial, antibacterial, antiviral, in various skin diseases
6	<i>Bauhinia variegata</i>	kachnar	Fabaceae	Dicot	Perennial	used as food and medicine
7	<i>Calliandra haematocephala</i>	Calliandra	Fabaceae	Dicot	Perennial	leaves have antibacterial and insecticidal properties
8	<i>Callistemon lanceolatus</i>	Bottle brush	Myrtaceae	Dicot	Perennial	Used as water accent, anticough, antibronchitis and insecticide
9	<i>Caryota urens</i>	Fish tail palm	Arecaceae	Dicot	Perennial	Antiinflammatory, antimalarial, analgesic, antioxidant
10	<i>Cassia fistula</i>	Amaltas	Fabaceae	Dicot	Perennial	used in ayurvedic medicines
11	<i>Cinnamomum camphora</i>	Kapoor	Lauraceae	Dicot	Perennial	Treat fungal infections, relieves pain and reduce itching
12	<i>Dalbergia sissoo</i>	Sheesham	Fabaceae	Dicot	Perennial	timber high quality

13	<i>Delonix regia</i>	Gulmohar	Fabaceae	Dicot	Perennial	Antibacterial,antidiabetic, anti-diarrheal,anti-inflammatory
14	<i>Elaeocarpus ganitrus</i>	Rudraksh	Elaeocarpaceae	Dicot	Perennial	Manages high B.P., asthma,mental disorders,diabetes
15	<i>Eucalyptus</i>	safeda	Myrtaceae	Dicot	Perennial	oil used as insect repellent and antimicrobial activity
16	<i>Ficus benghalensis</i>	bargad	Moraceae	Dicot	Perennial	Bark is used as tonic,antidiabetic and astringent in the treatment of Leucorrhoea
17	<i>Ficus carica</i>	Fig	Moraceae	Dicot	Perennial	cures diabetes,high cholestrol,and skin diseases
18	<i>Ficus racemosa</i>	gular	Moraceae	Dicot	Perennial	used in diabetes,liver disorders,diarrhea, inflammatory conditions
19	<i>Ficus religiosa</i>	Peepal	Moraceae	Dicot	Perennial	sacred tree,used in asthma,diabetes ,epilepsy, inflammatory disorder
20	<i>Ficus virens</i>	pilkhan	Moraceae	Dicot	Perennial	used as food and medicine
21	<i>Hibiscus rosa sinensis</i>	China rose	Malvaceae	Dicot	Perennial	anti-inflammatory properties and used in skin care products
22	<i>Holoptelia integrifolia</i>	Papdi	Ulmaceae	Dicot	Perennial	bark is used in Rheumatism,treating ringworm,skin diseases,leprosy
23	<i>Kigelia africana</i>	balam kheera	Bignoniaceae	Dicot	Perennial	skin care products,making sweet beer
24	<i>Livistona chinensis</i>	Fan Palm	arecaceae	Dicot	Perennial	Anticancer agent, antiproliferative and antiangiogenic properties
25	<i>Mangifera indica</i>	Mango	Anacardiaceae	Dicot	Perennial	used as food and medicine
26	<i>Melia azedarach</i>	Deg	Meliaceae	Dicot	Perennial	Timber high quality
27	<i>Millettia pinnata</i>	Karanj	Fabaceae	Dicot	Perennial	Oil used as antiseptic,lubricant,biodisel production
28	<i>Moringa oleifera</i>	Sahjan	Moringaceae	Dicot	Perennial	rich source of vitamins, mineral, amino acids, cures diabetes, liver, antimicrobial.
29	<i>Morus alba</i>	Mulberry	Moraceae	Dicot	Perennial	food for silkworm
30	<i>Musa</i>	banana	Musaceae	Dicot	Perennial	source of vit C,improves digestion
31	<i>Nerium oleander</i>	Kaner	Apocynaceae	Dicot	Perennial	Ornamental plant

32	<i>Plumeria rubra</i>	Champa	Apocynaceae	Dicot	Perennial	Antitoxic agent, skin diseases, cough and rheumatism
33	<i>Prunus persica</i>	Peach	Rosaceae	Dicot	Perennial	Fruiting tree
34	<i>Psidium guajava</i>	Guava	Myrtaceae	Dicot	Perennial	used as cough sedative, antidiarrheic, diabetes melitus, hypertension
35	<i>Saraca indica</i>	Ashoka	Fabaceae	Dicot	Perennial	used as medicine in menstruation
36	<i>Syzygium cumini</i>	Jamun	Myrtaceae	Dicot	Perennial	Relieves stomach pain, carminative, diuretic, in diabetes
37	<i>Tecoma stans</i>	Tecoma bells	Bignoniaceae	Dicot	Perennial	used as tonic, diuretic, antisyphilitic and vermifuge
38	<i>Tectona grandis</i>	Teak	Lamiaceae	Dicot	Perennial	timber high quality
39	<i>Terminalia arjuna</i>	Arjun	Combretaceae	Dicot	Perennial	used in heart diseases
40	<i>Terminalia bellerica</i>	Baheda	Combretaceae	Dicot	Perennial	used in Triphala

Recipes for the treatment of common ailments are given by the traditional medicine practitioners very effectively. Indian sages were also known to have remedies from plants which act against poisons from animals and snake bites.

## 2. CONCLUSION

As our lifestyle is now getting techno-friendly, we are moving away from nature. But, we cannot escape from nature because we are a part of nature. Traditionally there are a lot of medicinal plants used for the ailments related to different seasons. There is a need to promote them to save the human lives.

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