



## A Review on: Study and Therapeutic uses of Indian medicinal Plants

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### KEYWORDS

Traditional Medicinal plants, Healing property, Antioxidant activity, Antimicrobial activity

### ABSTRACT:

**Introduction:** Medicinal plants have been used from the Vedic era. Traditional herbal medicines have played a vital role in health systems, and are used to treat various acute and chronic conditions without or minimal toxic effect. In India, around 80-85% of the population more or less uses the traditional type of medicines. Herbal plants are often used as a natural remedy to cure various health problems. The medicinal plants contain alkaloids, tannins, flavonoids, polyphenol, Essential oils (EOs), glycosides, resins, saponins, tannins, and terpenoids. Medicinal plants have many biological activities, including Antimicrobial, Antioxidant, Anti-inflammatory, antiviral, antitumor, antimalarial, Antinociceptive, Antifungal, Anticancer, Antihistaminic, Antiulcerogenic, Vasodilator, Hypolipidemic, Hepatoprotective, Nephroprotective, and Cardio protective etc. Now a day's Traditional medicine used in a novel drug delivery systems.

**Objectives:** Medicinal plants used as medicines to treat disease, promote health and to reduce the use of chemical remedies. Also to enhance immune response to disease agents, manage risk factors, and alleviate diseases.

**Results:** In the present minor review project, these 32 medicinal plants studied for the treatment of many diseases of human beings along with animals diseases. These photochemical possess a broad range of medicinal properties that can be utilized for therapeutic purposes Majority of the medicinal plants were herbs than shrubs trees and climbers respectively

**Conclusions:** From the above study we conclude that plants have a very versatile life style. In the present minor review project, these 32 medicinal plants studied for the treatment of many diseases of human beings along with animals diseases. These photochemical possess a broad range of medicinal properties that can be utilized for therapeutic purposes.

### 1. Introduction

Medicinal plants have been used in traditional medicine since prehistoric times. The term of medicinal plants include a various types of plants used in herbalism and some of these plants have a medicinal activities. Medicinal plants have similar properties to pharmaceutical drugs, and can be used to treat diseases, prevent bacteria and mold growth, and more. They are also widely used in folk medicine in non-industrialized societies because they are cheaper and more readily available than modern medicines. Medicinal plants are plants or plant parts that contain substances that can be used for therapeutic or nutritional purposes. They can also be precursors for the synthesis of useful drugs. Each plant or herb has a

specific quality and can be used to treat multitude of ailments and diseases. Medicinal plants like aloe, turmeric, tulsi, pepper, elachi and ginger are commonly used in a number of Ayurvedic home remedies and are considered to be the best aid among fighting ailments related to throat and skin. Throughout the ages, humans have relied on nature for their basic needs, for the production of food, shelter, clothing, transportation, fertilizers, flavours and fragrances, and medicines. Plants have been utilized as medicines for thousands of years. These medicines initially took the form of crude drugs such as tinctures, teas, poultices, powders, and other herbal formulations. For thousands of years, these plants have been used to prevent and treat many types of diseases including respiratory diseases like asthma



Many herbs and spices are used in Indian cooking, such as onion, garlic, ginger, turmeric, clove, cardamom, cinnamon, cumin, coriander, fenugreek, fennel, ajwain, bay leaf, hing etc. Ayurvedic medicine uses all of these either in diet or as medicine. Use of medicinal plants as a source of medicine has been an ancient practice and is an important component of the health care system in India. General public, academic and government interest in traditional medicines is growing rapidly due to the increased side effects of the adverse drug reaction and cost factor of the modern system of medicine.

These plant species include both wild and cultivated ones. Majority of the medicinal plants are herbs rather than shrubs, trees and climbers. The parts of the plants which were used for medicinal purposes were leaves, roots, flowers, bark, fruits, rhizomes etc. The bioactive constituents or plants extracts may be used for treatment of various diseases and these would be used as a new formulation for the novel drugs discovery in pharmaceutical industries. Medicinal Plant is of the great of the health of individual and communities. The medicinal value of plants lies in some chemical active substances that produce define physiological action on the human body [1, 2]

## 2. Objectives

Medicinal plants used as medicines to treat disease, promote health and to reduce the use of chemical remedies. They contain bioactive compounds with a variety of therapeutic properties, including anti-inflammatory, antiviral, antitumor, antimalarial, and analgesic properties.

## 3. Theory:

Medicinal plants represent as an alternative treatment to various diseases, and their use is increasingly prevalent throughout the world. Due to the large number of plant species with medicinal properties, the medicinal properties of plants are mainly due to the presence of active primary metabolites. Use of medicinal plants for the treatment of various diseases has been a part of human culture since ancient times. Number of medicinal plant used to treat disease or disorder like *Withania somnifera*, *Glycyrrhiza glabra*, *Moringa oleifera*, *Andrographis paniculata*, *Bacopa monnieri*, *Aegle marmelos*, *Terminalia arjuna*, *Terminalia bellirica*, *Gmelina arborea Roxb*, *Ilamulachi*, *Coccinia*

*grandis*, *Kaempferia rotunda*, *Ficus religiosa*, *Artocarpus heterophyllus*, *Nelumbo nucifera*, *Mesua ferrea*, *Datura metel*, *Catharanthus roseus*, *Thespesia populnea*, *Azadirachta indica*, *Butea monosperma*, *Convolvulus prostrates*, *Syzygium cumuni*, *Mimosa pudica*, *Basella alba*, *Phyllanthus emblica*, *chloroxylon swietenia*, *centipeda minima*, *murraya koenigii*, *morus alba*, *wedelia chinensis*, *plumeria alba*.

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. This description makes it possible to distinguish between medicinal plants whose therapeutic properties and constituents have been established scientifically.

### Medicinal plants with their properties: [6-10]

#### 1. Botanical Name: *Withania somnifera*

**Common Name:** Ashwagandha

**Family:** Solanaceae

**Plant Part:** Tuberous root

**Habit:** Herb

**Plant Properties:** Anti-inflammatory, analgesic, and antipyretic properties, cardiovascular diseases.



Fig 1. *Withania somnifera* (Ashwagandha)

#### 2. Botanical Name: *Glycyrrhiza glabra*

**Common Name:** liquorice

**Family:** Fabaceae

**Plant Part:** Roots and rhizomes

**Habit:** Herb

**Plant Properties:** Antimicrobial, antioxidant, anti-inflammatory, antitussive, antidiabetic, antiviral, anticancer, antimutagenic, and antiulcer.



Fig 2. *Glycyrrhiza glabra* (Liquorice)



Fig 4. *Andrographis paniculata* (Kalmegh)

3. **Botanical Name:** *Moringa oleifera*  
**Common Name:** Miracle tree  
**Family:** Moringaceae  
**Plant Part:** leaves, seeds, bark, roots, and flowers  
**Habit:** Tree  
**Plant Properties:** Anticancer effects, Anti-inflammatory activity, Antidiabetic and wound healing activity, Antioxidant effects.

5. **Botanical Name:** *Bacopa monnieri*  
**Common Name:** Brahmi  
**Family:** Scrophulariaceae  
**Plant Part:** Leaves, Stem  
**Habit:** Herb  
**Plant Properties:** Memory improvement, insomnia, epilepsy, and as an anxiolytic



Fig 3. *Moringa oleifera* (Miracle tree)

4. **Botanical Name:** *Andrographis paniculata*  
**Common Name:** Kalmegh  
**Family:** Acanthaceae  
**Plant Part:** Leaves, Roots, Stem & Aerial Parts  
**Habit:** Herb  
**Plant Properties:** Anti-inflammatory, Common cold, Antioxidant, Antibacterial, Antiviral, Antimalarial, Antidiabetic, and Hepatoprotective.



Fig 6. *Bacopa monnieri* (Brahmi)

6. **Botanical Name:** *Aegle marmelos*  
**Common Name:** Bel  
**Family:** Rutaceae  
**Plant Part:** Fruit, Leaves  
**Habit:** Tree  
**Plant Properties:** Antidiarrhoeal, antimicrobial, antiviral, anticancer, chemo preventive, antipyretic, ulcer healing, antigenotoxic, diuretic, antifertility, and anti-inflammatory properties.



Fig 5. *Aegle marmelos* (Bel)



Fig 8. *Terminalia bellirica* (Bohera)

7. **Botanical Name:** *Terminalia arjuna*

**Common Name:** Arjuna

**Family:** Combretaceae

**Plant Part:** Bark

**Habit:** Tree

**Plant Properties:** Antibacterial, Antifungal, Antiviral, Antidiabetics, Antioxidant, Anti-inflammatory, Anti-microbial, Wound healing, Anti-aging, Anti-arthritics, Gastro protective.

9. **Botanical Name:** *Gmelina arborea* Roxb

**Common Name:** Gamhar, Beechwood

**Family:** *Lamiaceae*

**Plant Part:** Bark, Levaes, Wood, Stem, Fruits

**Habit:** Tree

**Plant Properties:** Anaemia, ulcers, constipation, promote hair growth, to improve memory and digestive power.



Fig 7. *Terminalia arjuna* (Arjuna)



Fig 9. *Gmelina arborea* Roxb (Gamhar)

8. **Botanical Name:** *Terminalia bellirica*

**Common Name:** Bohera

**Family:** Combretaceae

**Plant Part:** Leaves, Fruit, Wood

**Habit:** Herb

**Plant Properties:** Antioxidant, Anti-inflammatory, Wound healing, Hepatoprotective, Anticancer.

10. **Botanical Name:** *Ilamulachi*

**Common Name:** Kalanchoe pinnata

**Family:** Crassulaceae

**Plant Part:** Leaf

**Habit:** Herb

**Plant Properties:** Stomach disorders, cuts and wounds, renal calculi



Fig 10. *Ilamulachi* (*Kalanchoe pinnata*)

11. **Botanical Name:** *Coccinia grandis*  
**Common Name:** little gourd  
**Family:** Cucurbitaceae  
**Plant Part:** Fruit, Tuber  
**Habit:** Herb  
**Plant Properties:** Skin diseases, diabetes, Jaundice



Fig 11. *Coccinia grandis* (Little gourd)

12. **Botanical Name:** *Kaempferia rotunda*  
**Common Name:** Indian crocus  
**Family:** Zingiberaceae  
**Plant Part:** Rhizome  
**Habit:** Herb  
**Plant Properties:** Urinary diseases, Diabetes, Gynaecological disorders.



Fig 12. *Kaempferia rotunda* (Indian crocus)

13. **Botanical Name:** *Ficus religiosa*  
**Common Name:** Peepal tree  
**Family:** Moraceae  
**Plant Part:** Leaf, Bark  
**Habit:** Tree  
**Plant Properties:** Skin diseases, poisonous stings & bites



Fig 13. *Ficus religiosa* (Peepal tree)

14. **Botanical Name:** *Artocarpus heterophyllus*  
**Common Name:** Panasa  
**Family:** Moraceae  
**Plant Part:** Leaf, seed, root  
**Habit:** Herb  
**Plant Properties:** Skin diseases, ulcer, and rheumatic disorders.



Fig 14. *Artocarpus heterophyllus* (Jackfruit)

**15. Botanical Name:** *Nelumbo nucifera*

**Common Name:** Kamala

**Family:** Nelumbonaceae

**Plant Part:** Leaf, flower, root tuber

**Habit:** Herb

**Plant Properties:** Fever, diarrhoea  
gynaecological diseases.



Fig 16. *Mesua ferrea* (Nagkesar)

**17. Botanical Name:** *Datura metel*

**Common Name:** Datura

**Family:** Solanaceae

**Plant Part:** Leaf, fruit

**Habit:** Herb

**Plant Properties:** Dyspnoea, skin diseases,  
dandruff.



Fig 15. *Nelumbo nucifera* (Sacred lotus)

**16. Botanical Name:** *Mesua ferrea*

**Common Name:** Nagakesara

**Family:** Calophyllaceae

**Plant Part:** Bark, leaves, sudorific seed **Habit:**  
Tree

**Plant Properties:** Flower used in piles, bleeding,  
seed oil antirheumatic.



Fig 17. *Datura metel* (Dhatura)

**18. Botanical Name:** *Catharanthus roseus*

**Common Name:** Sada-bahar.

**Family:** Apocynaceae

**Plant Part:** Root

**Habit:** Herb

**Plant Properties:** Hypertension, Psychological  
disorder.



Fig 18. *Catharanthus roseus* (Sada-bahar)

**19. Botanical Name:** *Thespesia populnea*

**Common Name:** Portia tree

**Family:** Malvaceae

**Plant Part:** Leaf, bark

**Habit:** Tree

**Plant Properties:** Liver disorders, skin disorders, urinary diseases.



Fig 19. *Thespesia populnea* (Portia tree)

**20. Botanical Name:** *Azadirachta indica*

**Common Name:** Neem

**Family:** Meliaceae

**Plant**

Leaves, Flowers, Stem, Root, Bark, Fruits

**Habit:** Tree

**Plant Properties:** Antimicrobial, Anti-inflammatory, Exfoliant, Boost the immune system, Anti-Diabetes, Blood purifier, Anti-infective.

**Part:**



Fig 20. *Azadirachta indica* (Neem)

**21. Botanical Name:** *Butea monosperma*

**Common Name:** Palas

**Family:** Leguminosae

**Plant Part:** Flowers, Bark, Leaf, Seeds

**Habit:** Tree

**Plant Properties:** Antimicrobial, wound healing, anti-diarrheal, hypoglycemic, hepatoprotective, antihelmintic, anti-convulsive, anti-stress, anti-diabetic, and anti-inflammatory.



Fig 21. *Butea monosperma* (Palas)

**22. Botanical Name:** *Convolvulus prostrates*

**Common Name:** Shankhpushpi

**Family:** Convolvulaceae

**Plant Part:** Leaves, Flower, Stem, Root, Seds, Ash

**Habit:** Herb

**Plant Properties:** To treat cough, cold, fever, and inflammation-related neurodegenerative disorders like Alzheimer's and Parkinson's diseases.



Fig 22. *Convolvulus prostrates* (Shankhpushpi)



Fig 24. *Ficus racemosa* (Lajvanti)

**23. Botanical Name:** *Syzygium cumuni*

**Common Name:** Jamiun

**Family:** Myrtaceae

**Plant Part:** Leaves, Flower, Stem, Root, Seds, Ash

**Habit:** Herb

**Plant Properties:** Antidiabetic, Gastrointestinal protective, Antimicrobial, Radioprotective, and Antioxidant.



Fig 23. *Syzygium cumuni* (Jamun)

**24. Botanical Name:** *Mimosa pudica*

**Common Name:** Lajvanti

**Family:** Fabaceae or Leguminosae

**Plant Part:** Root,Leaves,Stem,lowers,Fruits

**Habit:** Herb

**Plant Properties:** antibacterial, antivenom, antifertility, anticonvulsant, antidepressant, aphrodisiac

**25. Botanical Name:** *Basella alba*

**Common Name:** Indian spinach

**Family:** Basellaceae

**Plant Part:** Stem leaves,Root,Flowers

**Habit:** Herb

**Plant Properties:** Abdominal Disorder,Hemorrhagic conditions,Dysentery,Diuretics.



Fig 25. *Basella alba* (Indian spinach)

**26. Botanical Name:** *Phyllanthus emblica*

**Common Name:** Amla, Indian gooseberry

**Family:** Phyllanthaceae

**Plant Part:** Leaves,Seeds,Roots,Flowers

**Habit:** Tree

**Plant Properties:** Antioxidant, Anti-inflammatory, Hepatoprotective, Antimicrobial, Memory enhancer, Adaptogenic.



Fig 26. *Phyllanthus emblica* (Amla)

**27. Botanical Name:** chloroxylon swietenia  
**Common Name:** Ceylon satinwood  
**Family:** Rutaceae  
**Plant Part:** Leaves,Bark,Stemm,Wood,Seed  
**Habit:** Tree  
**Plant Properties:** Antimicrobial, anti-fertility, analgesic, insecticidal, and anti-feedant properties.



Fig 27. *chloroxylon swietenia* (Ceylon satinwood)

**28. Botanical Name:** *centipeda minima*  
**Common Name:** sneezeweed  
**Family:** Asteraceae  
**Plant Part:** Whole Plant  
**Habit:** Herb  
**Plant Properties:** Anti-inflammatory, anti-arthritic, antiproliferative, anticancer, antiviral, antibacterial, and hepatoprotective properties.



Fig 28. *centipeda minima* (Sneezeweed)

**29. Botanical Name:** *murraya koenigii*  
**Common Name:** Curry Leaves  
**Family:** Rutaceae  
**Plant Part:** Leaves, roots, and berries  
**Habit:** Tree  
**Plant Properties:** Anti-inflammatory, antioxidant, antitumor properties, Skin disease, Hair growth promoter, Blood purifier.



Fig 29. *Murraya koenigii* (Curry leaves)

**30. Botanical Name:** *morus alba*  
**Common Name:** mulberry  
**Family:** Moraceae  
**Plant Part:** Leaves, Fruit, roots, Bark  
**Habit:** Tree  
**Plant Properties:** Anthelmintic, Anti-diabetic, Liver disorder, Antioxidant, Antiinflammatory.



Fig 30. *morus alba* (Mulberry)

**31. Botanical Name:** *wedelia chinensis*

**Common Name:** Bhringraj

**Family:** Asteraceae

**Plant Part:** Whole Plant

**Habit:** Herb

**Plant Properties:** Antioxidant, anti-inflammatory, and antimicrobial activities.



Fig 31. *wedelia chinensis* (Bhringraj)

**32. Botanical Name:** *plumeria alba*

**Common Name:** White champa

**Family:** Apocynaceae

**Plant Part:** Root,Bark,Flowers,Seeds,Latex

**Habit:** Tree

**Plant Properties:** Skin diseases, Antimicrobial agents, Cosmetics, to treat diarrhea, cough, fever, and asthma.



Fig 32. *plumeria alba* (White champa)

**CONCLUSIONS:** From the above study we conclude that plants have a very versatile life style. In the present minor review project, these 32 medicinal plants studied for the treatment of many diseases of human beings along with animals diseases. These photochemical possess a broad range of medicinal properties that can be utilized for therapeutic purposes Majority of the medicinal plants were herbs than shrubs trees and climbers respectively. And the part of the plants which used for medicinal purpose was leaves, root, flower, bark, fruits, rhizome etc.

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