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A REVIEW ON SOME MEDICINAL PLANT SPECIES WITH THE MOST TRADITIONAL MEDICINAL USAGE IN INDIA

Shrishti Singh

School of Environmental Biology
A.P.S. University, Rewa (M.P.), India

**Corresponding author:* srishtithakur2098@gmail.com

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Abstract: Medicinal plants have been used since the Vedic era. In rural India, around 80 percent of the population more or less uses the traditional type of medicines. There are about 45,000 medicinal plant species in India, with concentrated spots in the region of Eastern Himalayas, Western Ghats and Andaman and Nicobar Island. The officially documented plants with medicinal potential are around 3000 but traditional practitioners use more than 6000. India is the largest producer of medicinal herbs and is called the botanical garden of the world. Nowadays in developing countries, assurance of the protection, quality and usefulness of medicinal plants and herbal products has now become a key issue. Almost every portion of the plant has its own medicinal properties. Medicinal plants possess many other properties like antioxidant, anti-inflammatory, anti-parasitic, anti-hemolytic, antibiotic, anti-insecticidal properties etc. These are widely used by tribal people all over the world. There is a long list of medicinal plant species which are helpful for mankind in many ways but the author tried to focus on explaining the traditional medicinal usage of 32 plant species in this review article.

Keywords: Antioxidant activity, Herbs, Medicinal plants, Traditional medicine, Usage.

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INTRODUCTION

The plants have a very versatile life style. About ten percent of all vascular plants are used as medicinal plants. Almost 80% of the world's populations more or less use traditional medicine (WHO, 2022). Every part of the plant serves as a boon for all living ones all over the universe (Bamola *et al*., 2018). Such medicinal plants play a crucial role in maintaining the health of mankind as these are good sources of many potent and powerful medicines (Chandra, 2013; Pandey, 2019; Sharma and Pareek, 2021; Rao, 2021; Lal, 2022). For thousands of years, these plants have been used to prevent and treat many types of diseases including respiratory diseases like asthma (Dogra *et al*., 2015).

The treatment of diseases is based upon deep observation of nature and their understanding of traditional knowledge of medical practices. For example, leaves of *Aegle marmelos* are useful in the treatment of jaundice, leucorrhoea,

conjunctivitis and deafness. Fruits provide energy and nutrition. The fruits, bark, leaves, seeds and roots of bel contain bioactive compounds such as coumarin, xanthotoxol, imperatorin, aegeline and marmeline. These compounds have antidiabetic, anticancerous, antifertility, antimicrobial, immunogenic and insecticidal activities. It is also used in the carminative and astringent and also a good remedy for snakebite (Gurjar *et al*., 2015).

The therapeutic potential of plant products can be traced back to over five thousand years ago as there is evidence of its use in the treatment of diseases and for revitalizing body systems in Indian, Egyptian, Chinese, Greek and Roman civilizations (Kanta *et al*., 2019). The use of plants as a source of research in the search for active compounds for medicine has been proven to have a significant scientific output (Manzano *et al.,* 2020). The knowledge of the development of ideas related to the usage of medicinal plants as well as the evolution of awareness has increased the ability of pharmacists and physicians to respond to the challenges that have emerged with the spreading of professional services in facilitation of man's life (Nishant, 2016).

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 (Petrovska, 2012). Herbal medicines such as Brahmi and Ashwagandha help boost one's energy level, increase nutrients, restore body cells and enhance a person's immunity (Patro, 2016). Worldwide, between 50,000 and 80,000 flowering plants are used medicinally. Of these, at least 15,000 may face extinction due to overharvesting and habitat loss (Roberson, 2008). The plant kingdom also provides a good alternative to the anti-snake venom. Traditionally medicinal plants have been used as folk medicine for the management of snake bites (Roshana and Sanmugarajah, 2018).

The tribal tracts are the store house of information and knowledge on the multiple uses of plants and animals (Prakash and Verma, 2021). Over the last century, ethnobotany has evolved into scientific discipline that focuses on the people plant relationship in a multidisciplinary manner (Shukla *et al*., 2010; Narayan, 2022). Some of the plants now days going to extinct due to over anthropogenic activities such as indiscriminate development, population explosion, impact of tourism, deforestation etc. that need to conserve (Mahesh and Satish, 2008; Prakash and Verma, 2022).

In India, therapeutic potential are widely used by all sections of people both as folk medicines in different indigenous systems of medicine like Siddha, Ayurveda and Unani and also as processed product of pharmaceutical industry (Srinivasan *et al*., 2007). Phytochemicals are the natural compounds occur in plants, vegetables and fruits that work with nutrients and fiber to act against diseases (Ullah *et al*., 2014). Medicinal plants are the source of secondary metabolites, like alkaloids, phytosterols, glycosides, phenols, flavonoids and diterpenes. Due to the presence of these secondary metabolites, medicinal plants have high healing potential (Yadav *et al*., 2017).

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. Keeping this in consideration there have been increased waves of interest in the field of research in natural product chemistry (Dar *et al*., 2017). There is utmost need to document the medicinal plants associated with traditional knowledge, which are vulnerable to shrink (Bisht *et al.,* 2013). Therefore it is necessary to preserve this indigenous knowledge on traditional medicines by proper documentation, identification of plant species used, and herbal preparation. It will be wise to involve the local communities in cultivation of the most utilized medicinal plants (Jima and Megersa, 2018).

Traditional uses of some plants as medicine

In the present review, author tried to explain the traditional medicinal usage of 32 plant species (Table 1; Photo 1-32) for the treatment of many diseases such as stomach pain, constipation, piles, dysentery, jaundice, diabetes, fever,

asthma, menstrual disorders, snake bite, skin diseases etc. The main objective of this review paper is to expand knowledge more about useful medicinal plants which are available in our surroundings.

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 medicinal effects of plants are due to secondary metabolite production of the plants. For the cultivation, processing of medicinal plants and the manufacture of herbal medicines, agro-industrial technologies need to be applied.

Table 1: Medicinal plants with their properties.

S. No.	Botanical Name	Common Name	Family	Parts used	Habit	Plant Properties
1.	*Aegle marmelos*	Bel (Photo 1)	Rutaceae	Fruit, Leaves	Tree	Fruit is used for constipation, reduce cholesterol, reduce cancer risk, help in scurvy and Snakebite. Leaves used for Jaundice, conjunctivitis, reduce swelling.
2.	*Acacia nilotica*	Babool (Photo 2)	Fabaceae	Baboolgum, Bark, Flower	Tree	Babool gums heal and stop the bleeding of wound. Bark helps to get rid of cough, cold and chest congestion. Flower powder mixed with water is given orally to animal twice a day to cure jaundice.
3.	*Allium sativum*	Lahsun (Photo 3)	Amaryllidaceae	Bulb	Herb	Have antibiotic properties, 3-4 cloves are taken raw twice a day to get relief from gastric and stomachache. It also lowers the cholesterol level in the blood, prevent heart attack and brain haemorrhage.
4.	*Asparagus racemosus*	Satavari (Photo 4)	Asparagaceae	Tuber, Root	Herb	Support lactation, reduces infertility and symptoms of menopause, Aphrodisiac, Rheumatism.
5.	*Aloe barbadensis*	Gwarpatha (Photo 5)	Liliaceae	Leaf pulp	Herb	Treat sunburn, lower blood sugar level, cure fever and also useful for all types of skin related problem.
6.	*Azadirachta indica*	Neem (Photo 6)	Meliaceae	Leaves and Bark	Tree	Leaf is used to treat leprosy, intestinal worm, stomach upset, and skin ulcer. Bark is used for malaria, intestinal ulcers, skin disease, pain and fever.
7.	*Bacopa monnieri*	Brahmi (Photo 7)	Plantaginaceae	Leaves	Herb	Boosting memory; reduce inflammation, anxiety and stress, treat insomnia, heals wound and prevent hair fall.
8.	*Butea monosperma*	Palas (Photo 8)	Fabaceae	Bark, Root	Tree	Bark used to treat dyspepsia, diarrhea, ulcers, sore throat and snakebite. Roots are used in tuberculosis, easing bowel movement, boosting sexual function, treats hypertension.
9.	*Calotropis procera*	Madar (Photo 9)	Asclepiadaceae	Latex	Shrub	To treat ringworm; useful in skin and respiratory diseases.

10.	*Carica papaya*	Papita (Photo 10)	Cariaceae	Latex of fruits and leaves	Tree	Latex fruit is used to treat ringworm and eczema, reduce risk of heart disease, prevents bloating and digestive disorder. Leaves are used in treating dengue fever, supports skin and hair health.
11.	*Cinnamomum verum*	Dalchini (Photo 11)	Lauraceae	Bark, Oil	Tree	Mood enhancer; useful in bronchitis, asthma, cardiac disorder, fever, flu, cough, edema, stimulate appetite.
12.	*Cuscuta reflexa*	Amarbel (Photo 12)	Convolulaceae	Whole plant	Parasitic herb	To treat jaundice, urination disorder, dysuria, eye and skin disorder, muscle and joints pain, cough, blood purifier, to treat bilious disorder, wound, inflammation and to reduce swelling.
13.	*Curcuma longa*	Haldi (Photo 13)	Zingiberaceae	Rhizome	Herb	Used for rheumatoid arthritis, skin cancer, small pox and chicken pox, UTI, wound healing, liver ailments; Powder mixed with ghee is used to cure swelling, pain of muscle and bone.
14.	*Dalbergia sisso*	Shisham (Photo 14)	Fabaceae	Leaves	Tree	Leaf paste mixed with water is given to animal to cure blisters and leg sore, used for body and stomach irritation, anemia, ulcers, eye diseases.
15.	*Embilica officinalis*	Amla (Photo 15)	Euphorbiaceae	Fruit	Tree	Used for hair care, eye care, diuretic, blood purifier, respiratory health; to treat anemia, Cough, cold, laxative, hypertension.
16.	*Evolvulus*	Shankhpushpi (Photo 16)	Convolulaceae	Roots and leaves	Herbs	Sharpen the memory, relive stress and anxiety, and improve sleep, used in Alzheimer's disease and Dementia.
17.	*Ficus racemosa*	Gular (Photo 17)	Moraceae	Fruit, Leaves, Roots	Tree	Fruit relieves constipation, leaves are useful in diabetes, high cholesterol and skin diseases. The sap root is given in diabetes.
18.	*Hibiscus rosa sinensis*	Gurhal (Photo 18)	Malvaceae	Flower and	Shrub leaves	Flowers used in treatment of excessive and painful menstruation, cystitis, venereal diseases, mumps, cough and cold. Juice of flowers and leaves are useful in hair treatment.
19.	*Mentha spicta*	Pudina (Photo 19)	Laminaceae	Leaves	Herb	Help in digestion; treats asthma, cure headache, eases stress and depression, nausea, skin cleanser, oral care, improve memory, treat bloody dysentery.
20.	*Mimosa pudica*	Lajwanti (Photo 20)	Fabaceae	Roots and leaves	Herb	Roots and leaves are crushed and filtered; one spoon of filtrate is taken with water to cure loose motion; leaves are used in hemorrhoids and urinary

						infections, sinus, sores, piles and fistula.
21.	*Nerium oleander*	Kaner (Photo 21)	Apocynaceae	Latex	Tree	Latex reduces muscle pain, useful in painful menstrual periods, leprosy, malaria, ringworm.
22.	*Nyctanthes arbor-tristis*	Harsingar (Photo 22)	Oleaceae	Leaves and flowers	Tree	Given for treating chronic fever, scurvy, arthritis, rheumatism, joint pain.
23.	*Ocimum sanctum*	Tulsi (Photo 23)	Lamiaceae	Leaves	Herb	Boost immunity, cures cold, cough, fever, lowers blood pressure, purifies blood, heal infections; treat respiratory and gastrointestinal disorders.
24.	*Plumeria alba*	Gulchin (Photo 24)	Apocynaceae	Leaves and root bark	Tree	Leaves are used in muscle pain and root bark is used in ts, blennorrhagia.
25.	*Peeper longum*	Pippali (Photo 25)	Piperaceae	Fruit, Root	Herb	Appetizer; used in bronchitis, cough, cold, lung problems, arthritis.
26.	*Saraca indica*	Ashoka (Photo 26)	Caesapinanceae	Bark flower	Tree	Relieves menstrual pain, uterine disorder, manage skin related problems.
27.	*Syzygium cumuni*	Jamun (Photo 27)	Myrtaceae	Fruit, Seed	Tree	Used in heart disease, arthritis, stomach pain; crushed seeds for diabetes.
28.	*Santalum album*	Chandan (Photo 28)	Santalaceae	Heartwood	Tree	Useful in skin disorder, cough, burning, jaundice, bronchitis, fever, UTI.
29.	*Tagetus erecta*	Genda (Photo 29)	Asteraceae	Flowers and leaves		Herb Flower powder mixed with water is given animal to cure hydrophobia. Juice of leaves is used to cure ear pain, to treat skin inflammation, eczema, and sunburns.
30.	*Tinospora cordifolia*	Giloe (Photo 30)	Menispermaceae		Stem	Herb Immunity booster; useful in throat infection, pile, gout, fever, jaundice, dengue fever.
31.	*Withania sominifera*	Ashwagandha (Photo 31)	Solanaceae	Root	Herb	Ashwagandha powder is used to treat diseases like diabetes, cancer, anxiety, infertility; also improve mood and memory; reduces stress.
32.	*Zingiber officinale*	Adrak (Photo 32)	Zingirberaceae	Root	Herb	Used to treat cold, nausea, arthritis, migraines, and throat infection.

1. *Aegle marmelos* (Bel)

2. *Acacia nilotica* (Babool)

3. *Allium sativum* (Lahsun)

4. *Asparagus racemosus* (Satavari)

5. *Aloe barbadensis* (Gwarpatha)

6. *Azadirachta indica* (Neem)

7. *Bacopa monnieri* (Brahmi)

8. *Butea monosperma* (Palas)

9. *Calotropis procera* (Madar)

10. *Carica papaya* (Papita)

11. *Cinnamomum verum* (Dalchini)

12. *Cuscuta reflexa* (Amarbel)

13. *Curcuma longa* (Haldi)

14. *Dalbergia sisso* (Shisham)

15. *Embilica officinalis* (Amla)

16. *Evolvulus* (Shankhpuhpi)

17. *Ficus racemosa* (Gular)

18. *Hibiscus rosa sinensis* (Gurhal)

19. *Mentha spicta* (Pudina)

20. *Mimosa pudica* (Lajvanti)

21. *Nerium oleander* (Kaner)

22. *Nyctanthes arbor-tristis* (Harsingar)

23. *Ocimum sanctum* (Tulsi)

24. *Plumeria alba* (Gulchin)

25. *Peeper longum* (Pippali)

26. *Saraca indica* (Ashoka)

27. *Syzygium cumuni* (Jamun)

28. *Santalum album* (Sandal)


29. *Tagetus erecta* (Genda)


30. *Tinospora cordifolia* (Giloe)


31. *Withania sominifera* (Ashwagandha)


32. *Zingiber officinale* (Adrak)

Photographs: Traditional medicinal plants commonly used in India (1-32).

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