

# Plants Used as Medicine by Tribals

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**Abstract:** Worldwide, there are numerous tribal communities that live in small, dispersed groups in plains, forests, hills, and other locations far from the general population. Their economic, cultural, and social patterns vary from region to region. India has the largest tribal population, accounting for 8.6% of the country's total population. Most of India's rural residents, live close to forests and rely on the edible, medicinal, and other parts of plants for their daily sustenance.

Prehistoric medicinal plants are still used by Indians. Throughout the entirety of human and environmental evolution, indigenous healing practices have been culturally accepted. About 40% of all health care is delivered through traditional medicine, which is widely used. Plant-based remedies make up about 85% of traditional medicines. Many indigenous communities have used medicinal plants for centuries to treat a wide range of ailments, particularly those that arise on a daily basis. This form of traditional medicine is based on hundreds of years of beliefs and observations.

As a result of their close ties to the natural world, these indigenous people are well-versed in the use of plants to treat a variety of illnesses, with nearly 6500 plants used by Southeast Asian traditional healers. The modern pharmaceutical industry has been dominated by the documentation of tribal plants and their traditional uses as medicines. These tribal plants' inherent antimicrobial activity can be enhanced by their respective synthesis of AgNPs. These tribal plants can also serve as a potent source for the development of anticancerous and antibiological drugs with minimal or no adverse effects for the user.

More than 50,000 of the 4,22,000 flowering plants that have been identified worldwide are utilized for medicinal purposes. Over 43% of all flowering plants in India are thought to have medicinal value. In ancient literature, it has been documented that medicinal plants were used in India for a long time. However, organized research in this area began in 1956 and is currently gaining recognition and popularity as a result of the decline in plant populations and the loss of traditional knowledge.

**Keywords:** *Green synthesis, Silver nanoparticles, Tribal plants, Antimicrobial.*

## TRIBAL PLANTS

There are numerous tribal communities all over the world that live in small, dispersed groups in plains, forests, hills, and other locations far from the general population. Their economic, cultural, and social patterns vary from region to region. India has the largest tribal population, accounting for 8.6% of the country's total population. The tribal population of India belongs to three races: the protoaustraloids, the mongoloids, and the negritos. India has 29 states and 7 union territories. In addition, the Indian tribes have been referred to by a variety of names, including Anusuchit Jan Jati (scheduled tribe), Pahari (hill dwellers), Adimjati (primitive people), Girijan (hill dwellers), and Vanyajati (caste of the forest).

As a result of their close ties to the natural world, these indigenous people are well-versed in the use of plants to treat a variety of illnesses, with nearly 6500 plants used by Southeast Asian traditional healers. The modern pharmaceutical industry has been dominated by the documentation of tribal plants and their traditional uses as medicines. These tribal plants' inherent antimicrobial activity can be enhanced by their respective synthesis of AgNPs. These tribal plants can also serve as a potent source for the development of anticancerous and antibiological drugs with minimal or no adverse effects for the user.

Silver was used as a food and water preserver by ancient Greeks, Romans, and Egyptians because of its excellent antimicrobial properties. As a result, it was the third metal they used, after gold and copper. Additionally, silver has been used to restore the body in the traditional Ayurvedic medicine for around 2000 years as silver ash, both in its suspended and colloidal forms. Even silver nitrate was utilized in medicine to treat brain infections, heal wounds, and act as a purgative. A different name for silver used by ancient Acharyas was Rajata, and the CharakaSamhita, an Ayurvedic scheduled book, includes this name.

It is useful in therapeutics due to its clear, lustrous properties and genuine properties, such as bright whitening of metal during heating or cutting without the formation of ridges or furrows. Due to its high solubility, absorbance, and catalytic effect on the body, RajataBhasma was found to be effective in boosting the immune system.

Theranostic agents, ocular drug delivery to the target site in ophthalmology, nanoparticle-assisted drug delivery to the skin, as it can act as a route for delivery of local and systematic drug, as anti-inflammatory drugs, antiphotoreacting drugs, antioxidants, antimicrobial agents, targeted chemotherapeutic agent, and nanodots are all examples of applications for which nanotechnology is important in modern research. Nanoparticles are used in the food industry to find contaminants or microbes in packaged foods and to prevent obesity with nanofoods. Alternative water sources can be treated more effectively with nano-enabled water and

wastewater systems. It is also used in the textile industry because it is durable for fabrics, protects well from ultraviolet rays, has antistatic properties, and is resistant to cotton and silk wrinkles. Nanomaterials can be used in agriculture to boost seed germination efficiency and safeguard plants by detecting pathogens and pesticide residue utilized in electronic storage systems as well.

Indian tribal knowledge is also extensive. Indigenous and tribal people rely on the plants and animals of the forest for their food, medicines, and building materials. The Himalayan and Aravalli ranges, the Eastern Ghats, and the two biodiversity hotspots in Arunachal Pradesh and the Western Ghats all have extensive forest cover. In India, tribal knowledge is thought to be declining. This has been attributed to numerous factors. The tribal population is less dependent on the forests for their survival thanks to development projects and forest reserves. Oral communication has traditionally been the method by which tribal knowledge has been passed down from one generation to the next. The new generation is leaving the tribal cultures and habitats, so the tradition is now on the decline. The undocumented information regarding the tribes' plant names and terminologies will be lost forever because they are specific to each region. Additionally, it has been observed that tribal communities frequently resist sharing their knowledge. In order for anthropologists to obtain the data, they must become friends with them.

It has been noted that tribal people use different medicinal plants to treat a specific disease than AYUSH practitioners do. The tribal community, for instance, uses *Rauwolfiaserpentina* as an antidote to snakebite, and the plant's reserpine has been used to treat hypertension. Many fresh leaves are ground into a paste or crushed to extract juice in tribal custom to treat a variety of ailments.

*Artemisia annua*, which was used in China to treat fevers, was the source of the discovery of artemisinin in the early 1970s. Fresh plant juice was used, just like in the old system. Chinese scientist You-You Tu used this information to extract artemisinin, an antimalarial drug. The phytochemists make use of dried plant materials, which could lead to the active principles that are missing. There are additional methods for acquiring forest plant materials. One approach is to inquire about which plants cattle and livestock do not consume.

*Catharanthus roseus*, which contains vincristine, is not eaten by animals or attacked by insects. Similar is the situation with *Annonasquamosa* (sitaphal), which has toxic compounds called acetogenins. In the forests of Andhra Pradesh, the poisonous plant *Cleistanthus collinus* can be found. *Cleistanthin-B*, which is harmful to fish, was discovered by the Department of Chemistry at Osmania University. The flowers of *Buteamonosperma*, also known as flame of the forest, are a popular coloring material, and the oils that are extracted from the seeds of *Buteamonosperma* are used to treat skin diseases. Numerous additional examples exist. The color and shape of the millets grown by the tribal population differ from those grown elsewhere. It is necessary to investigate the nutritional and toxicological aspects of forest millets and possibly make them widely available.

Gathering and digitizing tribal knowledge of medicinal, edible, heartwood, plant products like gums and colorants, etc. is necessary. Forest plants must be surveyed and collected by phytochemists, pharmacologists, taxonomists, and other scientists with relevant expertise for laboratory research.

## HERBAL REMEDIES

Herbs were found to be the most commonly used plants in this survey (46%), followed by shrubs (26%), trees (14%) and climbers (14%) in descending order. In this study area, numerous species belonging to the families Euphorbiaceae, Fabaceae, Solanaceae, and Asteraceae are frequently used. Ten treatments are made possible by the first two families.

Leaves, roots, stems, fruits, the entire aerial part of the plant, barks (root and stem), and flowers are the parts of the plant that are used for medicinal purposes. However, the most commonly used component was found to be leaves.

Skin conditions were prevalent in the study area. 14 plants were used by Kani tribes in the Tirunelveli Hills of Tamil Nadu to treat skin issues. According to Harsha et al., tribes in the Uttar Karnataka district of Tamil Nadu used 52 herbal preparations made from 31 plants to treat skin diseases. 2003, and 38 plant species were used to treat wounds by the people of South Africa's Eastern Cape Province. In various regions of the world, a number of studies have listed the plants that are used to treat skin diseases and heal wounds reported that 48 plants were used to treat gastrointestinal problems and 16 plant species were used to treat respiratory illnesses in north Iran. The treatment for respiratory tract infections' safety and effectiveness were examined.

Nine species of plants were used by traditional healers in the Kancheepuram district to treat stomach issues, including three for stomachaches and six for digestive issues reported that the paliyar community used 21 medicinal plants from 20 families to treat gastro-intestinal complaints.

13 plants were used by the tribal people of Western Madhya Pradesh, India, to treat jaundice (Samvatsar and Diwanji, 2000). *Phyllanthus amarus* and *Eclipta prostrata* were used to treat jaundice in the current study. For toothache, *Spilanthes acmella* was used. It has been reported that *Syzygium cumini*, *Santalum album*, and *Ficus retusa* treat diabetes. In terms of treating oral diseases, it is consistent with previous reports. The local traditional healers used *Andrographis paniculata*, *Catharanthus roseus*, and *Gymnema sylvestre* to treat diabetes. As antidiabetic agents, the tribal people of India's Sikkim and Darjeeling Himalayan region used 37 species of plants from 28 families.

Ten different remedies were used in this study to treat respiratory issues. *Ocimum basilicum* and *Adhatodavasica*, two of the plants that were looked at, are frequently used to make medicines to treat respiratory problems. While 14 remedies were used to treat respiratory issues, *Adhatodazeylanica* and *Vitexnegundo* are two commonly used plants among the plants surveyed.

The findings of our ethnomedicinal plant survey confirm the therapeutic potential of some traditional medicine-associated plants. Additionally, these findings provide a solid foundation for selecting potential plant species for additional phytochemical and pharmacological research. To treat paralysis, *Zizyphus mauritiana* leaf paste and *Ailanthes excelsa* leaf paste are applied topically and taken internally. Poison bites can be treated with the herb *Andrographis paniculata*; to treat asthma, *Mukiamaderaspatana* leaf juice is applied topically to the head with gingelly oil prior to taking a bath. *Euphorbia hirta* leaf and fruit powder is used to treat *Leucorrhoea*, *Leucasaspera* (headache and snakebite), and *Cardiospermum helicacabum* (Arthritis), according to research.

In conclusion, the collected data indicate that the majority of treatments are taken orally. The preparations of herbal medicines that tribal people prescribe are either based on a single plant or a combination of several plant parts. The majority of the preparations reported come from a single plant; Rarely are mixtures used. The fresh parts of plants are used to make medicine. Dried parts are also utilized when fresh plant parts are unavailable. In general, people in the area under study continue to have a firm belief in the success and efficacy of herbal medicine. This study's findings demonstrate that this tribal community's healthcare system is still heavily reliant on medicinal plants.

This research provides ethnobotanical information about the medicinal plants that the tribal people of Irulas used to treat a variety of illnesses. In addition, this study must be continued with an emphasis on its pharmacological validation because it will encourage the practical application of botanicals. Chemical studies, in-depth ethnobotanical research, and screening for medicinal properties will all contribute to the development of a cost-effective and dependable source of medicine for the benefit of humanity.

## CONCLUSION

Keeping traditional medicine alive as a cultural and medicinal resource necessitates the preservation of herbal medicinal plants and the traditional knowledge of how to use them. The scope of ethnobotany has been discussed. The ethnic people's traditional knowledge plays a significant role in the prompt and accurate identification of natural resources. Biswas and Mukherjee say that 70% of Ayurvedic medicines for healing wounds come from plants, 20% from minerals, and 10% from animal products. Unexploited or pteridophytic plants are being used in ethnomedicine for their antimicrobial properties, but very little research has been done on these aspects. The botanical name of the species was followed by the local name, the parts used, the method of preparation, and the ethnomedical uses of the remedy. Local residents who are unaware of the significance of medicinal plants to the ecosystem are taking advantage of particular species.

Traditional healers of today are very old. India's 75 percent of the population still uses herbal preparations in the form of powder, extracts, and decoctions because these are readily available in nature and the natives have a stronger faith in traditional knowledge. India has a rich history of medicinal plants. According to reports, sixteen species of pteridophytes collected from the greater Mymensingh district in Bangladesh were studied for their use as vegetables and traditional herbal medicine, highlighting the advantages and disadvantages of orthodox medicine. There have been reports of approximately 305 genera and more than 10,000 species from all over the world, as well as approximately 191 genera and more than 1000 species from India. Traditional communities, third-world nations, and industrialized societies alike benefit greatly from research into herbal medicines and ethnomedical systems as therapeutic agents. In light of their conservation and management, the issues of sustainable harvesting and management of ethnobotanical species were discussed.

Traditional healers, herbalists, and elderly rural residents are the only ones with knowledge of medicinal plants. This study came to the conclusion that many people rural areas of continue to rely on medicinal plants, at least for the treatment of some simple diseases like colds, coughs, fevers, headaches, poison ivy, skin conditions, and tooth infections. Knowledge healers have positive interactions with patients, which would raise the standard of care they provide. There is a possibility that this wealth of knowledge will be lost in the near future due to a lack of interest among the younger generation and their propensity to relocate to cities in search of lucrative employment. As a result, proper specimen documentation and identification are required to acquire and preserve this traditional medical system.

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