

# NATURALLY OCCURRING MEDICINE THAT HELP IN IMPROVING THE HEALTH AND APPEARANCE OF MANKIND

## Abstract

There are many common health conditions that interfere with daily life and the way people look. These range from mild ailments like pain and skin rashes to extremely dangerous conditions like cancer. Although these conditions may seem overly simple, if they are not treated, they can lead to serious complications that have an impact on the health and prosperity of the individual. In light of this, it is vital to treat the symptoms using the best naturally occurring herbs to do so as quickly as is reasonably possible, with outstanding outcomes and fewer reactions, and with the least amount of work necessary to cure a food. These plants, such as Biophytum sensitivum, Ocimum basilicum, Slippery Elm Bark, Annona Muricata, Indigofera Tinctoria, Psoralea, Jatropha Curcas, and others... They have a wide range of therapeutic qualities, and these are employed to cure overly simple conditions, making it hard to treat exceedingly complicated conditions. This natural remedy was used to treat metabolic disturbances and contaminations in addition to treating the patient's condition. It was also used to enhance the magnificence of both sexes.

**Keywords:** Herbs, Metabolic Disorder, Infections, Pain, Acne, Cancer.

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## I. INTRODUCTION TO NATURAL HERBS

Plants have played a significant role in the treatment of a vast array of ailments, diseases, and disharmonies for a very long time. Despite the beginning of the modern arrangement, the natural customary pharmaceutical structures, nearby information from traditionalist old stories, are serving a sizable piece of the people, particularly in national and familial districts. Nasab FK et al.,(2014).

The demand for Ayurveda and other conventional medical practises is rising on a global scale. The rural population of India uses almost 80% of the traditional medical practices and herbal remedies. It is believed that more than 960 plant species have been utilised in the Indian herbal industry. The estimated value of the Indian herbal sector's annual revenue is 80 billion rupees. Ayush products, which comprise those from Ayurveda, Unani, Siddha, and homoeopathy, account for more than 3% of all Indian pharmaceutical herbal exports. One of India's oldest conventional medical systems, the AYUSH sector hasn't been able to take advantage of the potential presented by the developing market. Mills S et al., (2005).

The majority of the time, herbal medications contains a variety of pharmacologically active substances. In certain cases, the precise chemical having the therapeutic action is unknown. Many herbalists held the view that whole plant extracts are more therapeutically potent than isolated components. Due to their multi-ingredient nature, herbal medications produce more complicated results in efficacy testing than synthetic treatments.

Secondary metabolites of plants and complete plants have been used in food since the beginning of recorded human history, creating the most significant scientific foundation for human security in varied locations since ancient times. For many years, herbal supplements have been used for distant goals. Gardner Zet al.,(2012).

Medicinal plants are typically regarded as one-year gramineous plants without any strict context. According to the type of plant and plant part used in the process, such as flowers, leaves, branches, roots, or whole sectors which include aerial parts or roots of the plants, herbs have been utilized to treat both acute and chronic illnesses, prepare food products, and enhance nutrition. Because of the endless advantages and significant advantages of therapeutic plants, plants have also been thought to boost physiological health in addition to ensuring human sustenance. Gurib-Fakim A(2006).

Herbal remedies have demonstrated little to no side effects or losses, however chemical medications can have detrimental physical and mental side effects. Herbs are frequently used to treat ailments, which has led to friction throughout the world over the use of well-known strong herb plants as food ingredients. The secondary metabolic agents, in addition to the well-known plant extract chemicals like carotenoids, flavonoids, or polyphenols, have also been demonstrated to exhibit antioxidative activities by a number of methods. Sofowora A(1982)

## II. DIFFERENT TYPES OF HEALTH ALIMENTS

1. **Acne:** Acne (acne vulgaris, common acne) is a condition of the hair follicles of the face, chest, and back that affects nearly all teens during puberty, with the exception of a few isolated individuals of primitive Neolithic societies. Although germs contribute to the onset of this illness, they are not the disease's root cause. Acne often appears in women in their late 20s. Acne appears on the skin as:

- blocked pores (also known as "comedones"), sometimes known as "blackheads" or "whiteheads,"
- painful red bumps, also known as "pimples" or "zits,"
- pustules (bumps containing pus), and
- sporadically as "cysts" (deep pimples, boils).

Numerous acne treatment options are offered at pharmacies without the need for prescription medication. But a doctor should be consulted for treatment alternatives for more severe cases of acne.

2. **Asthma:** The condition asthma affects the airways. An individual with asthma experiences breathing-related symptoms, which frequently interfere with sleep. An individual can be freed from daytime fatigue. Asthmatic typically makes it difficult for an individual to participate in leisure activities, sports, and daily activities, which can make people with asthma feel demotivated and socially isolated.
3. **Arthritis:** The term "arthritis disease" refers to a group of more than 100 illnesses and ailments that affect joints, the tissues around joints, and other connective tissues. Depending on the precise type of the disease, arthritis frequently causes pain and stiffness in and around one or more joints. Some rheumatic disorders can also affect the immune system and several bodily internal organs.
4. **Diabetes:** Numerous studies have established clear connections between depression, anxiety, and diabetes. About one in four persons with type 2 diabetes and one in six people with the disease experience depression and anxiety, respectively. The majority of young people with type 1 diabetes who are between the ages of 13 and 19 had moderate to severe symptoms of anxiety and depression.
5. **Cancer:** Cancer is a condition that affects body cells. The regular controlled proliferation of cells will be influenced, leading to uncontrolled growth of cells, if something leads to an error in the genetic blueprints of existing cells. The term "cancer" is used to describe cells that are dividing uncontrollably and spreading throughout the body. Due to the fact that malignant cells can develop from nearly every type of tissue cell, the term "cancer" actually refers to roughly 100 different disorders.
6. **Respiratory Diseases:** Chronic lower respiratory disorders such chronic obstructive pulmonary disease (COPD) are the third most common cause of mortality for those 65 and older, accounting for 124,693 fatalities in 2014. Around 10% of men and 13% of women in the 65+ age group have asthma, while approximately ten percent of women and

11% of men have chronic bronchitis or emphysema, according to the federal Interagency Forum on Aging-Related Statistics. When a persistent respiratory condition is prevalent, people are more susceptible to pneumonia and other infections, which in turn raises elder risk factors. Such situations can be avoided by having regular lung function tests, taking medications as prescribed, and keeping a healthy lifestyle that includes the right amount of physical exercise and efficient oxygen use.

### III. LIST OF HERBS USED FOR THE TREATMENT OF HEALTH AILMENTS

These are the few herbs used for the treatment of some health ailments.

- Biophytum sensitivum
- Ocimum basilicum
- Slippery Elm Bark
- Annona muricata
- Indigofera tinctoria
- Psoralea
- Jatropha Curcas

### IV. INTRODUCTION OF SPECIFIC HERB

1. **Biophytum Sensitivum:** There is a small, sensitive annual herb, growing throughout the tropical regions of South Asia, Africa and Madagascar, which is named as *Biophytum sensitivum* DC (Oxalidaceae). This “little tree plant” is known for its interesting characteristic similar to the touch-me-not plant. It is commonly known as Lajjaluka in Sanskrit, as it can be observed as inward curling of its leaves in response to touch stimuli. The Mukkutti (flowers) are significant for the people of Kerala, both for its medicinal and for its cultural and traditional values. During the national festival of Onam in Kerala, intricate and colourful arrangements of its flowers laid on the floor, called Pookalam, are made.

Generally, the whole plant is frequently used for medicinal purpose. An ethnopharmacological survey of six medicinal plants in Mali and West Africa, however, demonstrated that the majority of traditional medicines are produced from leaves.

- **Availability:** *Biophytum sensitivum* DC (Oxalidaceae) is a plant that typically grows under the shade of trees at low to moderate altitudes. It is also found in marshes and plains in tropical Africa and Asia, as well as in Malaysia, Indonesia, India, Nepal, Thailand, and Sri Lanka's hotter regions. From seeds, *B. sensitivum* can be easily multiplied. Rich soil with a pH that is just slightly acidic is ideal for it. The plants flourish in moist soil. Winter watering needs to be cut back, but the soil shouldn't be allowed to dry out. It needs moderate humidity and temperatures between 16°C to 29°C. During August to January, flowers bloom.
- **Cultivation:** It has become incredibly challenging to cultivate this plant because the seeds have remained dormant. created a procedure to rejuvenate *B. sensitivum* from its diverse explants using somatic, indirect, and direct embryogenesis. Through callus

culture and micro-propagation methods, the potential for regeneration in *B. sensitivum* has been investigated. 14 shoots are formed after micropropagating leaf and shoot tip explants in MS media with 0.05 mg/l TDZ and 1 mg/l BAP. The callus made from shoot tip and leaf explants was hardened before being moved to the field, where it flourished and was later determined to be normal. It has been documented that employing MS medium supplemented with 2, 4-D or NAA in conjunction with BAP-induced callusing in stem, inflorescence tip, and flower bud explants, the plant can regenerate by direct and indirect organogenesis as well as somatic embryogenesis. On soil medium, 90% of plantlets produced from somatic embryos and 80% of plantlets from roots survived.

- **Pharmacognosy:** Oxalidales, Family: Oxalidaceae, Order: Oxalidales, Division: Magnoliophyta, *Biophytum sensitivum* (L: Linnaeus) DC. The aerial parts of *B. sensitivum* were used to isolate two biflavones, cupressuflavone and amentoflavone, two acids, 4-Caffeoylquinic acid and 5-Caffeoylquinic acid, and three flavonoids, luteolin 7-methyl ether, isoorientin, and 3'-methoxyluteolin 7-O-glucoside. The bacterium *B. sensitivum* also contains certain phenolic chemicals. Proanthocyanidins and 3', 8''-biapigenin, two condensed forms of tannins, have also been isolated from the plant's aerial portion.
  - **Usage of Herbs for Curing Conditions:** This plant's many crude extracts have demonstrated a wide range of properties, including antioxidant, anti-inflammatory, and anticancer activity. The primary source for developing anti-cancer drugs is now medicinal plants. The leaves of *B. sensitivum* demonstrated considerable anticancer action in mice having Dalton's Lymphoma Ascites (DLA), demonstrating *B. sensitivum* as a valuable, therapeutically effective medicinal plant.
  - **Medical Uses:** It is utilised medicinally in the conventional Siddha and Ayurvedic systems. It is one of the lucky plants that make up the Ayurvedic formula "Dasapushpam" group. The powder is suggested by Ayurveda for gonorrhoea and lithiasis, and the decoction is suggested for amenorrhoea and dysmenorrhoea. According to Ayurveda, a powder with honey is recommended for abnormal growths, glandular swellings, particularly for hypothyroidism; pulverised leaves with water have a diuretic effect and quench thirst in yellow fever. The leaves are used as an expectorant in the Philippines and as an asthma treatment in Java. In the Siddha system, the ground leaves and buttermilk are given to treat diarrhoea, the ground seeds are used to wounds and ulcers, the plant's samoolam is combined with honey to treat cough and chest congestion, and the paste made from the leaves is used to treat burns and contusions. In Cameroon, a mixture of powder, salt, and red oil is occasionally consumed to treat epilepsy.
2. **Ocimum Basilicum:** *Ocimum basilicum* L., popularly known as sweet basil, is a common culinary herb that grows all over the world and is a member of the Lamiaceae family. Basil is well-known as a herb used in traditional medicine and is recognised as such in a number of nations. Basil leaves are used as a tonic and vermifuge in folk medicine. Basil tea is consumed hot and is used to alleviate diarrhoea, gas, and nausea. Basil plant oil has been reported to help with rhinitis, spasms, colds, and mental fatigue. Additionally, basil

plant oil is applied as emergency treatment for wasp and snake stings. Based on their geographic ancestry, the species' main constituents vary considerably. The chemical structure and CNS pharmacological properties of essential oil for the species grown in Egypt, however, have not been reported.

- **Availability:** *Ocimum basilicum*, which is thought to have originated in the warmer regions of Indo-Malaya, is widely distributed in the tropical and hotter parts of the Indo-Pakistan peninsula. It typically flourishes in settings like wastelands and on slopes. It is also produced as pot plants because of its therapeutic importance. Entomophylous pollination, or pollination with the help of insects, occurs on these plants.
- **Climate and Soil Requirement:** Species of *Ocimum* can grow successfully in well-drained soil. Generally speaking, horticulture is best suited to tropical and subtropical climates.
- **Seed Propagation:** Given the frequent cross-pollination of *Ocimum* species, some heterozygosity is necessary for vigour and yield characteristics. The majority of the polygenes that control these traits are thought to have additive effects.
- **Nursery Raising:** Depending on the season, seed planting is done in properly prepared seed beds starting in the third week of February and continuing until the middle of March. Two weeks prior to transplanting, nursery beds should be sprayed with a 2% urea solution to stimulate growth.
- **Transplanting:** The procedure is performed at the end of March or the first week of April. The majority of *Ocimum* species are found to work well at a spacing of 45–60 cm.
- **Irrigation:** Water stress is not something basil can handle. Trickle irrigation or overhead irrigation must be used to provide a consistent and even delivery of moisture. When harvesting, care must be taken to prevent damage to the irrigation line if trickle irrigation is being used.
- **Harvesting:** Harvesting occurs at the beginning or peak of blooming.
- **Collection:** Polat and Tarhan conducted a study on basil (*Ocimum basilicum*) for dehydrating utilising five distinct techniques of drying, including contact drying, drying in the oven, shaded-open air drying, sun drying, and the use of microwave methods. The following parameters were measured for each drying technique: drying time, final moisture content, colour examination, drying kinetics, and essential oil analysis. This led to the proper drying of Basil using air that was heated to 445–55°C.
- **Processing of useful Herbal Part:** Soran et al. used three distinct procedures, including the maceration process extraction in a microwave field, and sonication, to extract the essential oils from *Ocimum basilicum*. The fingerprint data of the extracts was examined and retrieved using the TLC/HPTLC technique. Gas chromatography

with flame-ionization detection was used to characterise the effectiveness of the extraction and to identify the bioactive terpenic chemicals. The results of this investigation led to the conclusion that the most effective extraction method is maceration, followed by microwave and ultrasound. The optimal extraction solvent system is ethyl ether + ethanol (1:1, v/v).

- **Pharmacognosy:** Continent: Plantae, Magnoliophyta, Magnoliopsida, Lamiales, Lamiaceae, Magnoliophyta, Class, Species: *Ocimum the basilicum* species. It is an autogamous plant, sweet basil. Both an annual and a perennial herb, sweet basil is an aromatic herb. Sweet basil can reach a height of 1-2 feet. Throughout the summer, basil plants grow green leaves that are about 2 inches long. Basil blooms are frequently eliminated in order to boost the output of leaves. Very short pedicels with a five mm long calyx and growing fruit make up the plant. The lower lip has two centre teeth and is longer than the upper lip. The bracts are stalked and shorter than the calyx.
- **Chemical Composition of Basil Essential Oil:** Numerous studies on the chemical makeup of *O. basilicum* essential oil have been conducted around the globe. Numerous writers isolated the essential oil from *O. basilicum* and discovered that the plant contains a variety of volatile components. Linalool, cineol, eugenol, methyl cinnamate, camphor, methyl eugenol, methyl chavicol, -elemene, -ocimene, camphene, carvacrol, -bergamotene, -cadinol, and geranial are the principal components.
- **Usage of Herbs for Curing Conditions:** The components that are isolated from plants are employed in medical compositions either exactly as they are or after being chemically altered. Numerous ethnomedical uses for *O. basilicum* have been reported. The effectiveness of *O. basilicum* essential oil was examined against the bacterial strains *S. aureus*, *E. faecalis*, *E. coli*, *P. aeruginosa*, and the yeast *Candida albicans*. When compared to other *Ocimum* species, *O. basilicum* demonstrated the best MIC against *C. albicans*. This plant's extracts have been shown to have antibacterial, antiviral, larvicidal, and antinociceptive properties. It has been used for thousands of years as a digestive and neurological system tonic and for its anthelmintic, antipyretic, stomachic, taste-improving, cardioprotective, and blood disease treatment properties. It has been found to be helpful for a variety of conditions, including respiratory diseases, insecticidal, and muscle spasms. As an antioxidant and anti-inflammatory agent, it also works to treat dysentery, headaches, colic, dizziness, piles, cough, paralysis, nervousness, numbness, febrile illnesses, nausea, migraines, stomach cramps, and gonorrhoea. The essential oil is applied to acne, snakebites, and insect bites. Due to its antitoxic properties, it is also used to treat kidney and respiratory conditions. Basil tea is used to cure diarrhoea, vomiting, hyssop for cough, constipation, and mental weariness. Since the 1930s, *O. basilicum* has been researched, and more than 200 chemical components of the essential oils have been found.
- **Medical Uses:** *Ocimum basilicum L* is a common plant grown in many homes that has a wide range of therapeutic benefits. This herb would be a blessing in disguise for the

average person. Numerous clinical trials must be conducted to support its medicinal and therapeutic benefits. In our cultivated areas, *O. basilicum* The leaves, seeds, and roots of the basil plant are used as common household treatments since it is grown as an ornamental plant for gardens. Numerous plant parts are suggested as exhilarants (demulcents), expectorants, antiperiodics, and emmenagogues. The leaves are frequently employed as aromatic, expectorant, and antibacterial since they are frequently fragrant. The decoction of leaves is used to treat gastrointestinal and liver problems. For gastric, hepatic disorders, the decoction of leaves are used. The decoction of leaves is used to treat gastrointestinal and liver problems. The decoction of leaves is also used as a tonic for the stomach, catarrh, bronchitis, in heat-induced cough, diuretics, and emmenagogues. The leaves are made into pastes and administered on inflammations. The seeds are mucilaginous, demulcent, coolant, and useful as a home medicine, particularly in the summer, when used as syrups. The seeds are advised for urino-genital issues like gonorrhoea. The oil of seeds is utilised to treat syphilis, otitis, and otorrhea. The aromatic oil from basil leaves and seeds is used in perfumes and toiletries. When added to syrups, seeds quickly become mucilaginous. Seeds are also particularly good against palpitations and heart debility. The decoction of roots is used to treat malaria as an antiperiodic. The leaves' extract, applied as drops, is used to treat earaches

- 3. Slippery Elm Bark:** The slippery elm, *Ulmus rubra*, is a species of elm that is indigenous to eastern North America. It can be found in the southeast of North Dakota, in the east as far as Maine and southern Quebec, in the south as far as northernmost Florida, and in the west as eastern Texas. It thrives in moist uplands, though it will also grow in dry, intermediate soils. Other frequent names for elms are red, grey, soft, moose, and Indian.

The tree was first referred to as a member of *Ulmus americana* in 1753, but Pennsylvania scientist Gotthilf Muhlenberg later recognised it as a distinct species, *Ulmus rubra*. In literature on dietary supplements and complementary medicine, the slightly later name *U. fulva*, which was published by French botanist André Michaux in 1803, is still frequently used.

Medium-sized deciduous tree *Ulmus rubra* can reach heights of 12 to 19 metres (39 to 62 feet), and on rare occasions as high as 30 metres (98 feet). It has a spreading head of branches. Since its heartwood is reddish-brown, the tree also goes by the moniker "red elm."

- **Availability:** The slippery elm, *Ulmus rubra*, is a species of elm that is native to eastern North America. Its range extends from southeast the state of North Dakota to eastern Texas and extends east to Maine and southern Quebec. It prospers in moist uplands, though it will also grow in dry, intermediate soils.
- **Cultivation:** In its native country, the species has not been planted as an ornament. It was brought to Europe and Australia but never flourished there; Elwes & Henry knew of no good examples, and the final tree planted at Kew barely grew to a height of 12 m (39 ft) in 60 years. Since the Royal Botanic Garden Edinburgh had a policy of dispersing trees across the city (such as the Wentworth Elm), specimens provided by



the Späth nursery as *U. fulva* may still exist in Edinburgh. Around 1990, a specimen was felled at RBGE.

- **Pharmacognosy:** Continent: Plantae, Angiosperms, clade Clades include Eudicots and Rosids. Rosales, then the Ulmaceae family the genus *Ulmus* Animal: *U. rubra*  
Main chemical components: The inner bark of the slippery elm tree is primarily composed of dietary fibres such cellulose, lignin, mucilage, and gums. Water and the long-chain polysaccharides in mucilage mix to form a viscous, semi-solid substance that is thought to be the main active component. Polysaccharides are made up of highly branched D-galactose, L-rhamnose, D-galacturonic acid, and their methylated derivatives. There are also additional components such phytosterols, starch, oleic acid, minerals, and palmitic acids.
- **Usage of Herbs for Curing Conditions:** According to the Natural Medicines Comprehensive Database, the plant's slippery elm is used to treat colic, constipation, haemorrhoids, sore throat, coughs, diarrhoea, irritable bowel syndrome (IBS), urinary tract infections (UTI), herpes, syphilis, cystitis, tapeworm expulsion, stomach ulcers, duodenal ulcers, colitis, diverticulitis, GI inflammation, and acidity.
- **Medical Uses:** According to the Natural Medicines Comprehensive Database, the plant's slippery elm is used to treat colic, constipation, haemorrhoids, sore throat, coughs, diarrhoea, irritable bowel syndrome (IBS), urinary tract infections (UTI), herpes, syphilis, cystitis, tapeworm expulsion, stomach ulcers, duodenal ulcers, colitis, diverticulitis, GI inflammation, and acidity. It has been used as a remedy for mucous membrane inflammation by Native Americans as a poultice and as a component of traditional Oriental medicine formulations. In conventional Oriental medicine, edoema, inflammation, and cancer have all been treated using elm bark. Today, it has been employed in commercially available products for throat irritation treatment, such as herbal teas and lozenges, but in concentrated pill and liquid forms.

*Ulmus rubra* is consumed as food as well. Its anecdotal advantages make it significant. It is regarded as helpful for treating illnesses that cause upper airway mucosal irritation and/or inflammation due to its pervasive characteristics and how society views it. Scientific data, however, does not actually support its existence. Table 1 provides examples of some of the ways that slippery elm has been used to treat upper airway issues.

There are numerous conventional medicinal uses for *Ulmus rubra*. The mucilaginous inner bark of the tree has been used as a demulcent for a very long time and is still produced commercially in the United States for this application after receiving approval from the U.S. Food and Drug Administration for sale as an over-the-counter demulcent. Sometimes dried leaves are processed into a powder, put into tea.

4. **Annona Muricata:** Since the last few decades, *Annona muricata* L, a plant in the Annonaceae family, has been the subject of much research because it has therapeutic promise. By Billo'n, the Annonaceae family's therapeutic applications have been

documented since 1869. Since then, *Annona muricata* L has caught the interest of researchers due to its toxicological and biological properties.

- **Availability:** Mexico, Cuba, and Central America are the original home of soursop. Today, it is grown on several Pacific islands as well as in other regions of Southeast Asia. It was transported from Mexico to the Philippines via the Manila-Acapulo Galleon trade. They produce fruit all year round. They are typically grown in foreign nations including the USA, Mozambique, Somalia, and Uganda. In a few areas of Andhra Pradesh and the Eastern Ghat in India, natural diversity has been seen. However, it has been grown in kitchen gardens for local consumption. The fruit's flesh contains fibre, an inedible black seed, and a white pulp that is edible.
- **Growth and Development:** *A. muricata* develops sylleptic shoots, which allow for unrestricted branching. There are no noticeable flushes; extension development can happen at any time of the year and progresses rather slowly. Flower buds first appear after extension growth. The flowers' positions—most often terminal on short shoots and anywhere along the axis of long shoots—indicate that they are initiated terminally, with the meristem being pushed to a lateral location as extension growth of the stalk is resumed. A dry season forces synchronised shoot growth and blooming, which results in a harvest peak three months later. However, during the rainy season, the synchronisation rapidly deteriorates. Flower bud development in *Annona* species typically takes 27 to 35 days from commencement to anthesis. Although the soursop bears fruit all year long, summer and early fall often see the highest yields, with early spring occasionally seeing a secondary peak. There have been no documented photoperiod responses.

Wind and self-pollination are rare (1.5%), and natural pollination in soursop is complicated and typically provides very little fruit set and yield. The protandrous flowers discharge their pollen as the evening approaches and the outer petals open. The later and very little opening of the inner petals allows for the entrance of tiny insects drawn to the flower's smell. Given that few blooms bear fruit and that many fruits are deformed due to the large number of unfertilized ovules, it is presumed that these insects cross-pollinate, albeit relatively ineffectively. These nitidulid beetles (*Carpophilus* and *Uroporus* spp.) are regarded significant pollinators, despite the fact that in some instances their presence has not been shown to have any noticeable effects. It is advised to keep rotting fruit around as an attractant since these beetles reproduce very quickly in fruit remnants. According to some reports, three nitidulid beetles can improve fruit set by 25% per flower.

The main issue limiting yield appears to be insufficient pollination, hence hand pollination is frequently advised for commercial production. It is only practical, though, in situations where there is a distinct blossoming phase. Frequently, highly effective hand pollination can produce considerable economic gains due to increased fruit set and bigger, symmetrical fruit. The efficacy of pollination by hand might vary, being less successful with young, robust trees and on extremely damp overcast days. A skilled worker can pollinate 150 flowers in 1 hour with an 80–100% success rate.

Fruit development follows the normal sigmoidal curve, maturing in 16–24 weeks. Near fruit maturity, low humidity (60% RH) and low temperature (13°C) might worsen fruit skin rusting and delay fruit maturation.

- **Pharmacognosy:** Guan'abana (Latin American Spanish), Omusitafeli, Soursop (English), and Graviola (Portuguese) are some more local names for *A. muricata*. This plant belongs to the species of the genus *Annona* according to the following taxonomic categories. Continent: Plantae, Angiosperms (Magnoliophyta) Division, Magnolids Class, Magnoliales Order, Annonaceae Family *Annona* is a genus and *A. muricata* is a species. Over 70 species make up the genus *Annona*, with *A. muricata* being the most extensively cultivated.

The soursop tree has low branches and is between 5 and 10 metres tall and 15 and 83 cm in diameter. They typically produce flowers and fruit throughout the year, but the seasons differ based on altitude. It is found in and around tropical parts of South and Central America, Southeast Asia, and Western Africa at an altitude below 1200 m above sea level, with temperatures ranging from 25 to 28 °C. It has a relative humidity of 60 to 80 percent and receives more than 1500 millimetres of rain annually. An edible fruit called a soursop has an oval shape and is dark green in colour. The fruit weighs between 0.4 to 1.0 kilogramme in Mexico, Venezuela, and Nicaragua; but, in certain other nations, it can even weigh up to 4 kg. Fresh seeds have a dark black appearance; dry seeds may take on a light brown hue. Each fruit has between 55 and 170 seeds. Fruit's edible flesh has a distinctive flavour and appears white and creamy.

There have been reports of about 212 bioactive chemicals in *A. muricata*. The main substances found there include acetogenins, alkaloids, and phenols. The primary plant organs investigated are the leaves and seeds since they are more commonly used. Aqueous extracts have gained attention recently, while organic extracts are still the main complexes utilized to discover phytochemicals. However, a few additional substances, like carbohydrates and essential oils, have not been taken into account in this assessment.

- **Usage of Herbs for Curing Conditions:** In the 50 reports of pharmacological investigations included in this study, approximately 32% are in vivo studies using murine models, 60% are in vitro studies, and 2% are clinical trials. Regarding extract types, 84% of them belong to the maceration of any plant part using an organic solvent, and 16% of them to an aqueous one. About 23% of the in vitro investigations were related to antiprotozoal activity, about 18% were related to insecticidal activity, and about 30% were related to cytotoxic activity. For the remaining 29%, antioxidant, antibacterial, and antiviral activity was consistent.
- **Medical Uses:** The following list of soursop's therapeutic qualities is organized according to human diseases and ailments.
  - **Anticancer:** Recently, there has been a lot of talk about how effective soursop extract is at treating cancer. Soursop will help avoid cancer and bolstering as a

result. The tea made from the soursop plant's leaves exhibits the best anticancer effects.

- **Antitumor:** 5 to 7 grammes of ripe fruit juice per day can prevent the genesis, growth, and calcification of tumour cells in the human kidney.
  - **Antiarthritic:** Drinking soursop fruit juice can help treat joint pain, edoema, and stiffness since it has antiarthritic properties.
  - **Antidiabetic:** By consuming raw soursop fruit, which stimulates insulin release by liver cells through action on the enzymatic system, excess glucose accumulation in diabetes patients will be reduced.
  - **Anti-inflammatory, endocrine and liver:** It is a fantastic complement for the endocrine system and for preserving regular hormone production in various body glands.
  - **Sedative:** It is renowned for having a relaxing impact at night by promoting restful sleep and preventing symptoms of being sleepy during the day. Additionally, it combats hypertension and restores cardiac muscle function following a heart attack.
  - **Antidiarrheal:** It is more efficient than artificial antibiotics, kills germs, and functions as a strong pesticide. The bark and leaves together have a fungicidal activity, which eliminates specific fungi that cause diseases like herpes and psoriasis, which results in erythema.
  - **Antiparasitic:** Using one Ayurvedic soursop tablet before meals for seven days helps to get rid of parasites, especially in kids, because to its powerful insecticidal action.
  - **Colds:** Soursop tea is used to treat inflammation of the mucosal membrane and colds.
  - **Diuretic:** It aids in the removal of extra uric acid from the body as well as liquid acids that help build cholesterol.
  - **Obesity:** By preventing the buildup of body fat, it aids in a progressive decrease of weight.
- **Other Uses:**
    - **Fruit:** In the Virgin Islands, the fruit is utilised as bait for fish traps.
    - **Seeds:** When employed in pulverised form, the seeds are efficient insecticides against head lice, pea aphids, and black carpet beetle larvae. Typically, seed oil is used to eradicate head lice.
    - **Leaves:** *the leaf decoction is more deadly for head lice and bedbugs.*
    - **Bark:** Numerous parts of plants, including the bark, seeds, and roots, have been employed as fish poison. The bark of the trees has been used for tanning.
    - **Wood:** The wood of the tree is light in weight, brittle, pale, soft, and aromatic, and because it doesn't induce hair loss on the neck, it has been used to make ox yokes. The fruits, leaves, bark, seeds, and other parts of the plant have all been used medicinally.

**5. Indigofera Tinctoria:** One of the earliest sources of indigo dye was a plant species from the bean family called *Indigofera tinctoria*, usually known as real indigo. Despite being cultivated all over the world for many years, it has no known native environment. It has

naturalized in tropical and temperate Asia, as well as some regions of Africa. The majority of dye is now synthetic, although *I. tinctoria*'s natural dye is still readily available and sold as natural colouring. It is known as tarum in Indonesia and nila in Malaysia. It is referred to as basma in Iran and several regions of the former Soviet Union. The plant is also frequently planted as a groundcover that helps the soil.

- **Availability:** The majority of African nations, Asia (from Arabia to South-East Asia), and Australia all have wild or naturalised populations of it. It appears to be a wild occurrence on Madagascar, but it was likely imported and sometimes naturalised on the majority of the other islands in the Indian Ocean. There is no doubt that it has been introduced to tropical America. It is currently distributed throughout the tropical world as a result of previous exploitation and cultivation.
- **Cultivation:** It is a tropical and subtropical region-specific plant. It is located at 1,600 metres above sea level. The plants are well-developed in regions where the yearly daytime temperature ranges from 22 to 28 °C. However, they can withstand temperatures between 7 and 32 °C, as well as a mean annual rainfall of 1,300 to 1,700 mm and a range of 640 to 3,000 mm. It demands a location in direct sunlight and any soil that is well-drained, somewhat retentive, and fertile.

Tolerates pH values of 4.3 to 8.7 but prefers a range of 6 to 7. requires a place that is protected from strong winds. When the plants are 4 to 5 months old and have developed a closed stand, typically at the flowering stage, branches are harvested by cutting 10 to 20 cm above ground level. The crop needs to be gathered right away because it could be destroyed in a few hours by flooding or strong rainfall. In India, cut branches are tied into 130 kg-plus bundles and shipped to the dye facility. A year may have up to three harvests.

This species develops nodules on the roots to fix atmospheric nitrogen in symbiotic relationships with specific soil microbes. Although the growing plant uses some of the nitrogen fixed by the bacteria, other nearby growing plants may also use it.

- **Propagation and Planting:** Seed is used for propagation, and 20–30 kg/ha are required. The seeds frequently have a stiff seed coat (up to 85% of the time), however scarification with sulfuric acid or overnight soaking in water can increase germination to over 90%. Hoeing or one or two plowings after showers are followed by light harrowing before and after broadcast planting to prepare the fields. It is also possible to rehearse sowing in a nursery and transplanting into the ground.
- **Harvesting:** When the plants are 4-5 months old and have established a closed stand, typically at the flowering stage, branches are harvested by cutting 10-20 cm above ground level. The crop needs to be gathered right away because it could be destroyed in a few hours by flooding or strong rainfall. In India, cut branches are tied into 130 kg-plus bundles and shipped to the dye facility. When planted as a ratoon crop, it is possible to have up to three harvests per year.

- **Pharmacognosy:** *Indigofera tinctoria* Linn. is a 4-6 feet tall annual herb that is widely used in China, India, and other nations as a source of indigo. In the Indian medical system, it has been commonly utilised for bronchitis, liver problems, neurological disorders, and epilepsy. It belongs to the following families and genera: Fabaceae, Fabales, Genus Indigofera, and I. tinctoria.
- **Chemical Constituents:** Fourteen compounds were isolated from the ethanol extract of the plant and identified as maackiain, beta-hydroxy-olean, 12-diene, 12-oleanen, 11-dione, 3beta-acetoxy-12-oleanen-11-one, formononetin, formononetin-7-O-beta-D-glucoside, 7,4'-dihydroxy-3'-methoxy isoflavone, afromosin, genistein, calycosin-7-O-beta-D-glucoside, vicenin-2, isoliquiritigenin, beta-sitosterol and daucosterol.
- **Medical Uses:** A leaf infusion is used to treat a variety of conditions, including epilepsy and mental diseases, asthma and bronchitis, fever, complaints of the stomach, liver, kidney, and spleen, and as a rabies preventative. It is also sometimes blended with honey or milk. The leaves are turned into an ointment and used externally to treat skin conditions, cuts, sores, ulcers, and haemorrhoids.

In India, the seed is tinctured to treat lice. For the treatment of kidney stones, syphilis, gonorrhoea, and toothaches, a root preparation is used. In India, worm-infested wounds are treated topically with a watery root paste. There, a root infusion is used to treat insect and scorpion stings as well as snakebites as an antidote.

Take some indigo leaves, mix them up, and add them to hot water for glowing skin. Apply the boiling leaves to any area of skin after extracting them. To acquire glowing skin, massage it into the skin for a while. Additionally, little patches and boils on the skin will vanish.

6. **Psoralea:** *Psoralea corylifolia* is an endangered species, and the Chinese, British, and American Pharmacopoeias, the Indian Pharmaceutical Codex, as well as other traditional medical systems like Ayurveda, Unani, and Siddha, all describe the plant's therapeutic relevance. The Ayurvedic texts extensively discuss the use of Bakuchi (*Psoralea corylifolia* Linn.) for the treatment of skin conditions. Due to its essential involvement in the treatment of numerous ailments, this herb has its unique ethno-medical significance. It has both therapeutic and nutritional benefits. Charaka and Vriddha Vagbhatta describe Bakuchi in Shaka Varga.

- **Availability:** It is found all throughout the tropics and subtropics of the planet, but is particularly common in South Africa and China. This plant is found all throughout the plains of India, particularly in Rajasthan, Eastern Punjab, and the surrounding regions of Uttar Pradesh, the Himalayas, Bundelkhand, Oudh, Bengal, Dehradun, Karnataka, Bihar, Deccan, and Bombay.
- **Pharmacognosy:** *P. corylifolia* is a member of the Fabales family, which is in the Plantae kingdom. the *Psoralea* genus *Perylifolia corylifolia*.

*Psoralea corylifolia's* phytochemical analysis revealed that it contains - sitosterol, terpenoids, phenolic compounds, saponins, glycosides, tannins, derivatives

of chalcones, coumestans, coumarins, monoterpenes, and benzofuran glycosides. The seeds contain albumin, nonvolatile terpenoid oil, 13.2% extractive matter, 8.6% dark brown resin, sugar, ash, 0.05% essential oil, and trace amounts of manganese and alkaloidal substance.

The various phytochemicals reported are psoralen, psoralidin, corylin, bakuchiol, isopsoralen and corylifolin, 4-methoxy flavone, Monoterpenoids-bakuchiol A and B and (S)-Bakuchiol, bavachin, bavachinin, bavachalcone, corylifol A, B and C, neobavaisochalcone, isoneobavachalcone, isobavachalcone, 8-prenyl Diadzein, brosimacutin, bakuchalcone and erythrinin.

Other phytochemicals that have been identified include psoracorylifol A–E, 12, 13-dihydro-12, and 13-epoxy bakuchiol.<sup>63-64</sup> There have been reports of *Psoralea corylifolia* dichloromethane extracts containing angelicin and cyclobakuchiols A and B. avachin, avachinin psoralester, psorachromene, diadzein, genistein, 6-prenyl naringenin, 3-hydroxy bakuchiol, Other phytoconstituents from *Psoralea corylifolia* include 7-methoxybavachin, chromenoflavone, 4-hydroxylonchocarpin, bavachalcone, bavachin, corylifolinin, and bavachinin..

- **Medical Uses:** All flower parts, including the roots, stems, leaves, and seeds, can be used to treat a variety of skin conditions like leucoderma, rashes, and infections. It is also known as the "Leprosy destroyer" or "Kushtanashini". It has been widely utilised by both proponents of the Western medical system and practitioners of Indian medicine since antiquity as a treatment for leucoderma.

7. **Jatropha Curcas:** Linnaeus coined the name *Jatropha curcas*, and despite the existence of a number of synonyms, it is still used today. The spurge family, Euphorbiaceae, which includes 228 genera and more than 6500 species of trees and shrubs, includes *J. curcas*. The tribe Jatropheae of the subfamily Crotonoideae contains the genus *Jatropha*. The genus has over 180 species, the majority of which are found in warm, temperate, subtropical, and seasonally dry parts of the tropics.

A flowering plant belonging to the spurge family is called *Jatropha curcas*. It belongs to the Euphorbiaceae family, which is endemic to the American tropics, central America, and most likely Mexico. Although it originated in the tropics of America, it has migrated from Mexico to Argentina and throughout the world's tropical and subtropical regions, where it has since become naturalised and invasive in many areas. The Portuguese physician Garcia de Orta used the term "curcas" more than 400 years ago as a particular descriptor. The common English names for it are physic nut, Barbados nut, poison nut, purging nut, and bubble bush.

- **Availability:** *J. curcas*'s origin is still unknown, but it is thought that Mexico and Central America are its original countries. It has been imported to Africa and Asia and is grown all across the tropics and subtropics for both traditional use and as a hedge crop.

- **Cultivation:** *J. curcas* can be grown easily because it thrives in tropical and subtropical climates. It can grow in any environment, including wastelands, gravelly sandy soils, and salinity. While research does not support the healthy growth of the plant in the aforementioned places, they can survive in stony, low soil environments. After being sown, seeds fully germinate after 9 days. Manure application after seed germination has been found to be beneficial for plant growth, in contrast to manure application prior to or during seed germination, which has demonstrated a detrimental effect. The growth of the plant can then be propagated by cutting utilising the method of seed multiplication.

Only at the very end of a stem (terminally) can flowers appear, and because the plant has numerous branches, many fruits are also produced. These plants can coexist with one another. The ratio of male to female flowers is another criterion that indicates the level of output. More fruit is produced when there are more female flowers present. *J. curcas* can endure mean annual precipitation of 250 mm (10 in). For the first two years, the plant should only be watered towards the conclusion of the dry season. It is not necessary to periodically plant and plough because to a life expectancy of roughly 40 years. External application of pesticides is not required because plants naturally possess pesticidal and fungicidal characteristics. In rural Bengal, it is used to cure dhoti itch, a common fungal skin illness.

*Jatropha curcas* begins to yield after 9 to 12 months, but the best production won't likely occur for another 2-3 years. The range of seed output is 0.4 t/ha in the first year, rising to 5 t/ha after three years, according to expectations. When planted in hedges, jatropha is said to produce between 0.8 and 1.0 kg of seed per metre of live fence.

- **Processing of Useful Herbal Part:** Specialized facilities are typically required for seed extraction and processing. One hectare of cultivation will provide 400 to 600 litres of oil if the soil is average, with oil content ranging from 28% to 30% and 80% extraction. The oily seeds are turned into oil, which can either be used directly to power combustion engines ("straight vegetable oil") or transesterified to create biodiesel. Jatropha oil causes severe vomiting and diarrhoea, making it unfit for human ingestion.
- **Pharmacognosy:** Jatropha is a semi-evergreen shrub that can grow up to 6 metres (20 feet) in height. It can grow in deserts because it can withstand high temperatures. It includes hazardous phorbol esters, which are present. However, there are also edible (non-toxic) indigenous plants to Mexico; they include piñon manso, xuta, chuta, and aishte, among others. Additionally, *J. curcas* contains substances like phytate, saponins, trypsin inhibitors, and a lectin class known as curcin.

The oil content of the seeds, which ranges from 27 to 40 percent on average, may be processed to create high-quality biodiesel fuel that can be used in conventional diesel engines. You can use edible (non-toxic) provenances as food and animal feed.



- **Medical Uses:** The latex of the *Jatropha curcas* plant contains an alkaloid called "Jatrophine" that is thought to have anti-cancerous properties. Curcas oil, whose dose varies from 0.3 to 0.6 cc or 5 to 10 ml, has purgative qualities. Curcas oil has a lower viscosity than castor oil, not more. It is said to be effective in treating rheumatism, different skin conditions, dropsy, sciatica, and paralysis. It is also recognised to possess abortifacient qualities. The oil is used in Java to stimulate hair growth. Additionally, it is applied to domestic livestock ulcers.

The plant's delicate twigs are used to brush teeth; they are also said to strengthen gums and cure toothaches. The juice of plant is also used as a purgative and hemostat in Java. The leaves are also thought to have laxative and rubefacient qualities. The juice from the leaves is often applied externally to cure piles and infants' inflamed tongues. Because the sap from its twigs is thought to be styptic, it is also used to treat wounds and ulcers. The emulsion of sap is said to be useful against scabies, dermatitis, and wet eczema since it contains benzyl benzoate. The decoction of leaves is used to cure diarrhoea. The roots have potent anthelmintic qualities because they contain yellow oils. Sores can be treated externally by applying the root's bark. The bark is rubbed with asafoetida and buttermilk in Konkan, and the resulting paste is used to treat dyspepsia and diarrhoea. For rheumatism and leprosy, a decoction of the bark is used.

The fried and ground-up seeds of Travancore are used as a poison antidote and for relieving stomachaches. In addition to seeds, roots are utilised as a poison antidote. The seeds are regarded as an anthelmintic in Brazil. They are used as rat poison in Gabon and mashed with palm oil. The aqueous extracts of its leaves have been reported to have insecticidal effects.

In Ghana, the leaves are also used to fumigate homes to get rid of bedbugs. Leaf ether extracts have demonstrated antibiotic efficacy against *Styphlococcus aureus* and *Escherichia coli*. In the Philippines, the juice of the entire plant is used to stupefy fish.

## V. CONCLUSION

Since ancient times, people have used herbal remedies to cure everything from minor ailments to life-threatening diseases. This is due to the strong scientific backing for their usage. For treating a variety of illnesses and diseases. Even without a prescription or a physician, patients can take herbal medications to treat their medical ailments. They are fairly simple to obtain from a nearby pharmacy. Comparing herbal remedies to synthetic pharmaceuticals or other types of therapy used to treat certain ailments, it is common knowledge that they are more effective. They can be used without blending with additional excipients or ingredients because they are all recognized to be natural. The low or non-existence of side effects is one of the main advantages of herbal medication. In terms of overall wellness and illness prevention, they also frequently offer long-lasting advantages.

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