



OSCIMUM SANCTUM: TULSI (HOLY BASIL)

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Abstract:

It is an odoriferous plant. Since its earliest days, plants have provided the human race with sources of therapeutic substances. In actuality, all medicines used to be derived from natural products. Tulsi's primary chemical components are oleanolic acid, ursolic acid, since many years ago, rosmarinic acid, eugenol, carvacrol, linalool, and -caryophyllene have been widely used in food, perfumery, and dental and oral products. Plant extracts are still being researched for more potent, less toxic medications of plant origin that can be used to treat diseases brought on by pathogenic bacteria. Due to the high content of eugenol in tulsi, recent research indicate that it may act as a COX-2 inhibitor, similar to many contemporary medications. The objective of the current study was to assess the phytochemical screening of aqueous extracts of Ocimum leaves. These medicinal plants can be utilised as pharmaceutical adjuvants in the creation of a variety of dosage forms, research has demonstrated.

Key Words:

Oleanolic acid, ursolic, Rosmarinus acid, Eugenol, Carvacrol, Linalool, B-caryophyllene, Ocimum.

Introduction

Ocimum sanctum is also referred to as Tulsi, and belongs to the laminaceae family.

India is the world's greatest producer of medicinal plants, while Southeast Asia is where *ocimum sanctum* is grown. Individuals' health has been given healing potential by herbs. This plant is increasingly in demand for medical purposes. According to Ayurveda, Siddha, Unani, and other traditional systems, there are about 35,000 medicinal plants that are employed for therapeutic effects. whereby one of the most significant plants for medicinal purposes is *ocimum sanctum*.

It is used to treat a wide range of illnesses, including bacterial infections, fungal infections, cancer, arthritis, chronic fever, infertility, eye diseases, hepatoprotective, antispasmodic, and analgesic disorders. protecting the heart This medicinal plant has also been demonstrated to lower blood glucose levels, making it a successful diabetic treatment. *Ocimum sanctum* has a variety of chemical components, including oleanolic acid, rosmarinic acid, ursolic acid, eugenol, linalool, carvacrol, element, caryophyllene, and germacrene. *Ocimum sanctum* is thought to have stimulating and diuretic properties. The leaves of medicinal herbs can also be used to produce volatile and fixed oils. The volatile oils camphene, myrcene, and sabinene are used to make monoterpene, some of which create linalool and borneol when exposed to oxygen. This's phytochemical analysis A medicinal herb can determine the types of substances found in *ocimum sanctum* extract. Identifying bioactive substances and their effects is another purpose. They frequently serve as models for the creation of novel medications. ^{2,3,4,5,6}

Material and Methods.

A medicinal herb can determine the types of substances found in *ocimum sanctum* extract. Identifying bioactive substances and their effects is another purpose. They frequently serve as models for the creation of novel medications.

Plant material

In the month of December 2018, fresh leaves of the medicinal herb *ocimum sanctum* (Tulsi) were collected from the Galgotias University herbal garden in Greater Noida. To remove dusts and other undesired items that had gathered on the collected leaves from their natural environment, they were carefully washed with tap water. The leaves were shaded and air dried without dust. After 4-5 days for aqueous extraction, the correctly dried leaves were ground into a fine powder using a grinding machine, and the tulsi leaf powder was then accurately weighed. For extraction, the tulsi leaf powder was kept in a spotless, firmly closed container. ^{2}

Botanical description

Upright and bushy, tulsi can reach a height of 18 inches. Oval leaves with serrated edges and varying shades of purple are produced by the hairy stem of this plant. The tulsi plant produces tiny rust-colored berries and upright purple or reddish flowers. Similar to other basil types, it has a strong, pungent scent and flavour. ^{14,1}

Tulsi plants

1.

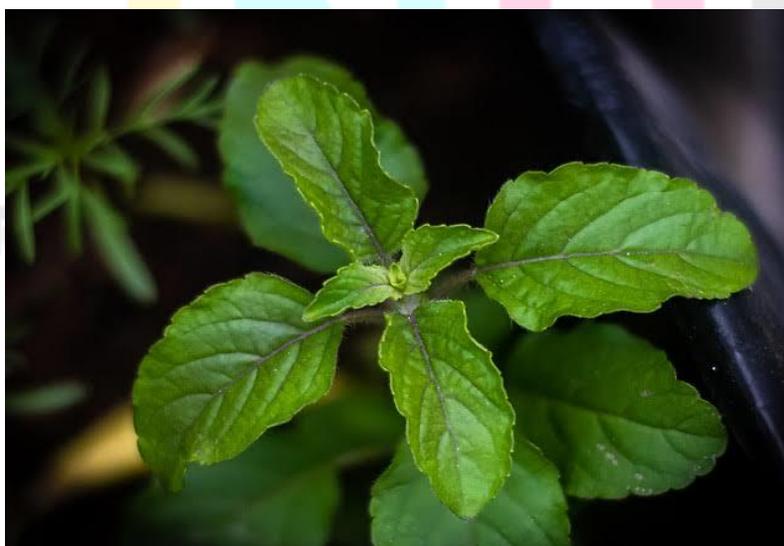


fig1. tulsi plant.

2.



fig2. tulsi plant.

3.



fig3. tulsi plant.



4.

fig. tulsi plant.



fig5. tulsi plant.

Cultivation

Although it can grow into a perennial, tulsi is a hardy annual. If the flowers are removed before they bloom. After the last frost, sow tulsi seeds in well-drained, fertile, light soil and cover with a thin layer of dirt. Provide tulsi with at least four hours of direct sunlight, shield it from the hot afternoon heat, and piping hot water. Use a balanced water-soluble fertilizer throughout the active growing season and stop using it during the cooler months when the tulsi plant lies dormant. Water the holy basil thoroughly and allow it to dry out between applications. ⁽¹⁴⁾

TAXONOMY OF TULSI: -

Kingdom: - Planta

Divison: - Magnoliophyte

Class: - Magnoliopsida

Order: - Lamiales

Family: - Liliaceae

Genus: - Ocimum

Species: - Sanctum ^{15}**OTHER NAME'S: -**

English name - Holy basil/sacred basil

Hindi name - Tulsi

Sanskrit name - Tulasi

Gujarati name – Tulsi ^{16}**CHEMICAL CONSTITUENTS OF TULSI****table no.1**

Essential oils	Benzaldehyde, Eicosane, Borneol, Cubinol, Bornyl acetate, Eucalyptol, Camphor, Caryophyllineoxide, Cis-alpha, Aromadendrene Oxide Terpinol, Cardinene, Eugenol, Farnesene, Farnesol, Furaldehyde, Germacrene, Heptanol, Humulene, Selinene, Limonene, beta-Guaiene, n-butyl benzoate Oleic acid, sabinene, phytol, Camphene, alpha- Pinene, beta-Pinene, and Linalool.	Leaves
Alcoholic Extract	Aesculetin, Vitexin, Caffeic acid, Circineol, Gallic Acid, Galuteolin, Isorientin, Isovitexin, Luteoline, Orientin, Apgenin, Stigmasterol, Chlorogenic acid, Urosolic acid, Vallinine, Viceni, Molludistin, Aesculetin, Procatechuic acid.	Leaves/ Areal plants.
Mineral content	Vitamin C, Zinc, Vitamin A, Phosphorus, Calcium, Copertron, and Chromium.	Whole plant

PHARMACOLOGICAL IMPLEMENTATION OF OCIMUM SANCTUM(TULSI):**Analgesic activity.**

Singh et al. indicate that the writhing-inhibiting activity of the oil is peripherally mediated due to the combined inhibitory effects of prostaglandins, histamine, and acetylcholine on the website www.allayurveda.com in a dose-dependent way.

Antihistaminic activity.

The effectiveness of a 50% aqueous ethanol extract of dried and fresh OS leaves, as well as the volatile and fixed oils, against guinea pigs suffering from acetylcholine and histamine-induced PCD was examined. The guinea pigs were greatly protected from proconvulsive dyspnea caused by histamine and acetylcholine by the 50% ethanol extract, volatile oil from fresh leaves, and fixed oil from the seeds. However, the guinea pigs were not shielded from proconvulsive dyspnea brought on by histamine by the 50% ethanol extract of dried leaves. ^{21}

Healing activity.

The tulsi herb provides a wide range of therapeutic benefits. The leaves strengthen the nerves and improve memory. They encourage clearing the bronchial tube of mucus and catarrhal debris. The leaves increase sweat production and stomach strength. The plant's seeds are mucilaginous.

Fever and common cold.

Tender leaves that have been boiled in tea can help to avoid infections like malaria and dengue fever during the rainy season. A decoction of the leaves cooked with powdered cardamom in half a liter of water, combined with sugar and milk, lowers the temperature in cases of acute fevers. You can use the juice from tulsi plants to reduce fever. Every two to three hours, a tulsi leaf extract in fresh water should be administered. One can continue to take sips of cool water in between.

It works just as well to lower the temperature in kids.

Cough.

TULSIS is a key component of several Ayurvedic expectorants and cough syrups. In bronchitis and asthma, it aids in the mobilization of mucus. Tulasi leaves can be chewed to treat colds and flu

Sore throat.

Water that has been cooked with basil leaves can be consumed to treat a sore throat.

This water can also be gargled with ^{23}.

Immunomodulator and anti allergic.

Tulsi's essential oil was discovered to possess anti-allergic qualities. The substance was discovered to prevent mast cell degranulation and histamine release when given to laboratory animals in the presence of allergens. According to these investigations, *Ocimum sanctum* extracts may be useful in treating immunological disorders like allergies and asthma.

Antimicrobial activity

Tulsi essential oil has antiviral, antifungal, and antibacterial effects. *E. coli*, *B. anthracis*, *M. tuberculosis*, and other types of bacteria cannot grow. It has a potency that is one-tenth that of streptomycin and one-fourth that of isoniazid in terms of antitubercular activity. In patients with viral hepatitis and viral encephalitis, preparations containing Tulsi extracts dramatically decrease the course of sickness, clinical symptoms, and biochemical indicators ^{24.}

Uses

- 1.Expectorant and bronchodilator actions; used for bronchial asthma.
- 2.used to treat bronchitis and TB, among other respiratory illnesses.
- 3.to treat rhinitis (inflammation of nasal mucus membrane).
4. Can be used to treat and prevent the severe acute respiratory syndrome (SARS), as well.

It is necessary to smash the tulsi plant's root and boil it briefly with turmeric powder before filtering it. Two spoonfuls of this remedy, taken twice day, will both treat SARS and help you avoid getting it.

5. A useful expectorant is tulsi tea with honey, especially when a fever is present.
6. Children with catarrh and bronchitis are treated with leaf juice.
7. Chewing the leaves helps with cold and flu symptoms. Additionally, a decoction of the leaves, cloves, and table salt provides instant relief in influenza.

Conclusion

a widely used natural treatment for a variety of illnesses, including wounds, bronchitis, liver conditions, catarrhal fever, otalgia, lumbago, hiccough, ophthalmia, stomach disorders, genitourinary disorders, skin diseases, different poisonings, and mental

stress disorders¹⁻². Additionally, it possesses qualities that are aromatic, stomachic, carminative, demulcent, diaphoretic, diuretic, expectorant, alexiteric, vermifuge, and febrifuge.

Due to its ability to prolong life, tulsi is frequently referred to as "the elixir of life." Ayurveda and Siddha systems of medicine use various plant parts to treat and prevent a variety of diseases and conditions, including the common cold, cough, flu, earache, fever, colic pain, sore throat, hepatic diseases, malaria fever, flatulence, migraine headaches, fatigue, skin conditions, wounds, insomnia, arthritis, digestive disorders, night blindness, diarrhea, and influenza. This review will undoubtedly assist researchers and clinicians working with *O. sanctum* to understand how to use it properly as this herb is thought to be quite important and to have a variety of pharmacological and therapeutic qualities.

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