

Tulsi Miracle Herb Gift From Nature

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Abstract: Plants are regarded as one of the most essential supply of remedy and pills of nowadays and they have been used for distinctive illnesses of human beings global from the establishing of the civilization. *Ocimum sanctum* (Tulsi or Holy Basil) belongs to Family Labiaceae. Different components of this plant are historically utilized in the Ayurveda and Siddha structures for remedy of various ailments. The chemical composition of *Ocimum sanctum* is complex. Some often diagnosed biologically energetic phytochemical materials include: eugenol and urosolic acid; alkaloids and flavonoids; tannins and carbohydrates etc. The *Ocimum sanctum* Linn. has additionally been recommended to possess, anticancer, anti-diabetic, anti-fertility, antifungal, antimicrobial, cardio protective, analgesic, antispasmodic and adaptogenic actions. Eugenol (1-hydroxy-2-methoxy-4-allylbenzene) is the energetic elements current in *Ocimum sanctum* Linn. have been located to be mostly accountable for the therapeutic potentials. Numerous in vitro, creature and human investigations endure witness to tulsi having exceptional restorative things to do.

Keywords: Antifungal, Antidiabetic, Anticancer, Antimicrobial, Analgesic, Anti-Fertility

I. INTRODUCTION

Tulsi plant has a fantastic deal of essentialness for humankind, due to the fact of the complicated restorative benefits it gives. Tulsi leaves are extensively utilized in the readiness of Ayurvedic prescriptions. It is regarded to improve the lifestyles span of life. The extricates obtained from the plant are broadly added to use for relieving unique illnesses, for example, the primary cold, irritation, intestinal sickness, coronary illness, migraines, belly issue, kidney stones, coronary heart issue, and some more. The Indian basil Tulsi moreover helps in the decontamination of environment. Tulsi plant fills in as a dazzling repellent in combating towards flies, mosquitoes and creepy crawlies^[1] Several medicinal homes have been attributed to the plant now not solely in Ayurveda and Siddha however additionally in Greek, Roman and Unani gadget of medicines^[2] Tulsi (*Ocimum sanctum* L) is one of the most frequent herb used in Indian usual gadget and additionally name-d as "Holy Basil", "Queen of Herbs"^{[3][4]} Holy Basil and botanically referred to as *Ocimum sanctum*, Tulsi belongs to plant household Lamiaceae. It has made necessary contribution to the area of science from historic instances as additionally to contemporary lookup due to its massive quantity of medicinal homes^[5]

II. DESCRIPTION

Plant Anatomy:

Kingdom: Plantae

Division: Magnoliophyt

Class: Magnoliopsida

Order: Lamiales

Family: Lamiaceae

Genus: *Ocimum*

Species: *O. tenuiflorum*

Botanical Name: *Ocimum Tenuiflorum*

III. MORPHOLOGY

It is an erect, herbaceous, more-branched, gentle hairy, biennial or triennial plant, 30-75 cm high.

The leaves are elliptic-oblong, acute or obtuse, complete or serrate, pubescent on each sides minutely gland dotted; the vegetation are purplish or crimson, in racemes, shut whorled; the nut-lets are sub-globose or greatly ellipsoid, barely compressed, almost smooth, pale-brown or reddish with small black markings

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219

SPECIES OF TULSI

O.gratissimum (Ram Tulsi),

O.canum (DulalTulsi)

O. basclicum (BanTulsi),

O. kilimandschricum, *O.americanum*, *O. camphora* and *O.micranthum* are examples of known important species of genus *Ocimum* that grow in different parts of the world and are known to have medicinal properties^[6]



- Rama or Light Tulsi (*Ocimum Sanctum*)
- Shyama or Dark Tulsi (*Ocimum Sanctum*)

IV. CULTURAL IMPORTANCE OF TULSI(OCIMUM SANCTUM)IN INDIA.

Tulsi is the plant dearest to the lord vishnu.this represent purity.is viewed as the holy plant in the Indian subcontinent.inindia humans develop tulsi as spiritual plant .

A hindu residence is incomplete except the tulsiplant.hindus function exclusive tulsipooja in month of Kartik which commenced after sharadpurnima.it the time of tulsivivah.The stem,leaves,seeds and even the soil are viewed as a holy ^[7]

V. DISTRIBUTION VALUE

Tulsi, a herb famous to have lifestyles prolonging and rejuvenating properties, is native to tropical Asia the place it grows wild in heat areas . It has been used in Asia, Africa and the Middle East for centuries, the place it is extensively integrated in cuisine, cosmetics, natural treatments and non-secular ceremonies. , the plant has end up on hand round the world and grown in the UK. As the Tulsi plant travelled West, it grew to become regarded Plants “holy” basil as is mirrored in its Latin binomial, *O. sanctum* L. (which is now diagnosed as a synonym of *O. tenuiflorum* L.)^[8]

VI. HEALTH BENEFITS OF TULSI IN OUR DAILY LIFE

- Healing power.
- Common cold, fever.
- Cough
- Sore throat
- Respiratory disorder
- Kidney stone
- Heart disorder
- Mouth infection
- Insect bite
- Skin disorder ^[11]

VII. PHYTOCHEMICAL CONSTITUENTS

The chemical composition of *O. sanctum* is very complicated and represents a giant quantity of phytochemicals. The presence of phytochemicals in this plant might also differ due to the fact of differential growing, harvesting, processing, and storage conditions. The attribute scent of *O. sanctum* is due to the fact of the presence of risky oil, predominantly targeted in the leaf. The risky oil consists of about 70% eugenol and 20% methyl eugenol.[9]. OS carries unstable oil, eugenol, urosolic acid, carvacrol, linalool, limatrol, methyl eugenol, sesquiterpine, caryophyllene, estragol. The sugars are composed of xylose and polysaccharides. Phytochemical investigation of OS stem and leaves have proven materials like saponins, flavonoids, triterpenoids and tannins.^[10]

VIII. ANTIBACTERIALACTIVITYOF TULSI

Antibacterial pastime of *Ocimum sanctum* Being the most many times used medicinal plant in Indian residence maintain its antibacterial things to do have been studied towards common pathogens viz., *E. coli* and *Staph. Aureus*^[13]; *Escherichia coli*, *Bacillus anthracis*, *Bacillus subtilis*, *Salmonella newport*, *Salmonella pullorum*, *Staphylococcus aureus*, *P. vulgaris* and *Pseudomonas aeruginosa* ^[14] *Mycobacterium tuberculosis*, *Arthobacterglobiformis*, *B. megatherium*, *E. coli* and *Pseudomonas*, *E. coli*, *Klebsiella*aerogens, *Proteus mirabilis*, *Salmonella typhimurium*, *Shigelladysenteriae*, *Pseudomonas aeruginosa*, *Vibrio cholerae* and *Staphylococcus aures* *E. coli*, *Bacillus subtilis* and *Staphlococcus aureus* *Salmonella typhi*, *Salmonella paratyphi A* and *Salmonella typhimurium* and *E. coli*, *Klebsiella* spp., *Bacillus cerus*, *Bacillus subtilis*, *Staphylococcus aureus*^[15]

Antiallergic Activity

Essential oil of Tulsi was once determined to have anti-allergic properties. When administered to laboratory animals, the compound used to be determined to inhibit mast mobile degranulation and histamine launch in the presence of allergen. research expose the viable position of *Ocimum sanctum* extracts in the administration of immunological problems along with hypersensitive reactions and asthma

Antioxidant Activity:

Antioxidants may additionally be described as compounds thatinhibit or prolong the oxidation of different molecules by way ofinhibiting the initiation or propagation of oxidizingchain reactions. 10 It has been investigated for itsantioxidant exercise and discovered to provide massiveprotection in opposition to free radical triggered injury in rat liver microsomes. More research printed thatocimum sanctum diminished lipid peroxidation andincreased the undertaking of superoxide dismutase. Theantioxidantresidences of flavonoids and theirrelation to membrane safety have beenobserved. Antioxidant undertaking of the flavonoids(orientin and vicenin) in vivo was once expressed in asignificant capability to scavenge relatively reactive free radicals. The phenolic compounds, viz., cirsilineol, cirsimaritin, isothymusin, apigenin and rosmarinicacid, and considerable portions of eugenol (a essentialcomponent of the risky oil) from OS extract offresh leaves and stems possessed right antioxidant. activity ^{[16][17]}

Anti-Stress Activity

Stress is a very frequent disorder, the place most of theindividuals are struggling frequently^[18.] It is described aspsychological, physiological, and behavioral responses throughindividuals when they get hold of a deficiency in equilibriumbetween their inadequacies and their capacity^[19]. Stress reacts due to the lack ofamount of neurotransmitters such as dopamine,norepinephrine, and serotonin^[20] The preceding research saythat*Ocimum sanctum* leaves produce shielding action against the stress exercise by using improving the serotonin degreen in the brain. Tulsi is an high quality herb and offers acalming effect, specifically when it takes twice a day.

Both acute and continual noise stress, which is encouraged throughthe plasma degree of stress hormone cortisone averted by usingthe extraction of Tulsi leaves^[21]

Alzheimer Activity

Alzheimer's disorder is a neurodegenerative disease, whichmainly reasons behavioral changes, cognitive impairment,and temper swings⁵⁰. Usually, dementia is worried in AD,

around 70% of industrialized nations struggling from dementia and about 17 to 25 million humans are affected globally^{[22],[23]}

IX. RADIO-PROTECTIVE EFFECT

The use of compounds which can selectively shield everyday tissues in opposition to radiation damage is of tremendous use due to the fact in addition to it defending the regular tissue, will additionally let in use of greater doses of radiation to achieve higher most cancers manage and feasible cure. However, most of the radio shielding compounds investigated possess insufficient scientific software mainly due to their inherent systemic toxicity at their ultimate shielding concentrations. Plants many times used as medicinal and dietary retailers have these days been the focal point of interest and research have proven that *Ocimum sanctum* Linn^[25]

Anti-Diabetic Activity

Oral administration of *Ocimum sanctum* L. extract led to marked decreasing of blood sugar in glucose-fed hyperglycemic and streptozotocin-induced diabetic rats. The parts of *Ocimum sanctum* L. leaf extracts have stimulatory results on physiological pathways of insulin secretion which can also underlie stated antidiabetic action VanaTulsi (*Ocimum Gratissimum*) Oral administration of *Ocimum sanctum* L. extract led to marked decreasing of blood sugar in glucose-fed hyperglycemic and streptozotocin-induced diabetic rats.

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Rama or Light Tulsi (*Ocimum Sanctum*)

Wound Healing Activity

Several research confirmed wound restoration property of *Ocimum sanctum* L. Wound recuperation paste of bloodless aqueous extract of *Ocimum sanctum* L. leaves alongside with its impact on tumor necrosis factor-Alpha (TNF-Alpha) used to be assessed the usage of excision mannequin of wound restore in Wistar albino rats. After utility of the *Ocimum sanctum* L. extract, charge of epithelization with an enlarge in wound contraction used to be discovered.^[27]

Anti-Fertility Effect

Ocimum sanctum L. has antifertility effect. The leaves of *Ocimum sanctum* L. are stated to have abortifacient impact in women. In Kerala the nearby girls as nicely as the Ayurvedic medical practitioner have been stated to use the leaves of Tulsi for antifertility things to do^[28]

Antidote Activity

OS (tulsi) showed antidote activity to many poisons. OS can be used antidote for dogbite, scorpion bite, snake bite and insect bites^[29]

Shyama or Dark Tulsi (*Ocimum Sanctum*)

X. TULSI AND MEDICINAL FORMULATIONS PREPARATION

Tulsi Tea: Wash 10 to 20 fresh leaves of Tulsi, and pound them to a pulp. Mix this pulp with a cupful of water. Spice the mixture with proper amounts of powdered dry ginger, cardamom seeds and roots of piper (piper longum). Add a spoonful of sugar, and boil. Drink this decoction while it is still hot. Do not strain the decoction. Chew and swallow the cooked pulp of Tulsi leaves after drinking the decoction. Take this decoction every morning. This decoction is believed to be capable of curing various diseases, stimulating appetite, and imparting a feeling of freshness and vigour. Alternatively, 10 grams of Tulsi leaves are boiled in 250 grams of water till only half or one-fourth of the water remains. An equal amount of milk is added, and 20 to 25 grams of crystal sugar dissolved in it, the amount being adjusted as needed. Tulsi tea prepared thus. is not only a palatable drink, but also an effective cure for a number of disorders such as colds, fevers, lack of appetite, lassitude, burning sensation in the stomach, excess of vata and pitta, etc.

VanaTulsi (*Ocimum Gratissimum*)

Tulsi Formulations^[24]

Product name and company	Composition	Dose/day	Total consumption of crude tulasi per day* (mg)
Amylcure DS capsule	Each capsule contains 30 ingredients out of which tulasi is 20 mg	2 caps b.d./t.d.s	11538.46 (max dose)
Dekofcyn cough syrup, alarsin	Each 5 ml contains 16 ingredients with Aqueous ext. derived from tulasi is 200 mg	1-2 tsf, 3 times a day for 1-4 weeks	9230.76
Feverex syrup, Dhanwantri	Each 5 ml contains 13 ingredients with extract of tulasi is 100 mg	Adults: 2-3 tsf, t.i.d,	6923.07
B.cough, Badariya	Total number of ingredients is 9 out of which tulasi is 10 g	2 tsf. t.i.d	2720
Koflet syrup, Himalaya	Total number of ingredients is 21 out of which tulasi is 25 mg	Adults: 1 to 2 teaspoonfuls three to four times daily	1538.46
M-cof syrup, Mukthi	Total number of ingredients is 15 out of which tulasi is 6 g	1 tsp thrice daily	900
Kurex light syrup, Megha	Total number of ingredients is 9 out of which tulasi is 100 mg	Adults-2 tsf 3 times a day	300
Respicare tablet, Bacfo	Total number of ingredients is 12 out of which tulasi is 25 mg	1 to 2 tabs b.d	100
Tussnil syrup, KAPL	Total number of ingredients is 8 out of which tulasi is 20 mg	1-2 tsp b.i.d	26.67
Dnnumonorm	Total number of ingredients is 15 out of	1/2 tsp thrice daily	11.52 (min dose)

REPORTED THERAPEUTIC USES OF OCIMUM SANCTUM

- Analgesic
- Anti-oxidant
- Anti-ulcer
- Anti-arthritis
- Anti-pyretic activity
- Antitussive
- Hepatoprotective
- Anti-stress
- Anti-plasmodial
- Memory Enhance
- Anti-helminthic

MODERN VIEW ON TULSI

The use of Herbal drug treatments is in practice seeing that historical times. People opt herbal drugs over allopathic drug treatment due to their fewer side effects and are considered as most secure drug in contrast to allopathic drug treatment. To meet the demand of people, adulteration rises in the herbal drug enterprise which finally affects the fitness of people. The essential drawback of allopathic drug treatments is that it generally works on suppressing the symptoms of the disorder whilst Ayurvedic medicines work on holistic approach.

XI. CONCLUSION

Modern day scientific research into tulsi demonstrates the many psychological and physiological benefits from consuming tulsi and provides a testament to the wisdom inherent in Hinduism and Ayurveda, which celebrates tulsi as a plant that can be worshipped, ingested, made into tea and used for medicinal and spiritual purposes within daily life.

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