

**A REVIEW ON: TULSI (OCIMUM SANCTUM)- MOTHER OF  
MEDICINAL HERBS****Payal A. Kadus\*, Sushama Vidhate, Neha Pharate and Monika Ovul**

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Pharmacy, Ahmadnagar,  
MH, India.**ABSTRACT**

Ocimum sanctum described as scared and medicinal plant in ancient literature. Commonly known as Tulsi. The leaves, seeds and roots of this plant have been used in Ayurvedic medicine. It has great medicine importance. It have been recommended for the treatment of sore throat, fever and common cold, respiratory disorders, kidney stones, heart disorders, insect bites, tooth problems, headache, eye disease. Phytochemicals present in Tulsi like eugenol, thymol, beta caryophyllene, rosmarinic acid, carvacrol. Qualitative phytochemicals screening of methanol extract, aqueous extract, ethanol extract of Tulsi

leaf. Ocimum sanctum has Pharmacological actions like anticancer, antidiabetic, antilipidemic, antibacterial, antifertility, Mosquitocidal actions. In Indian market.

**KEYWORDS:** Ocimum sanctum (Tulsi), Medicinal properties, Pharmacological Activity.**INTRODUCTION****Basic information of Tulsi**

In India world's oldest and largest tradition system of medicinal plants. It is well known fact that traditional system of medicine always play important role in meeting the global health care needs. Tulsi also known as Indian Basil's or the holy basil, it is often referred to in India as the "Queen of Herb's". Tulsi is cultivated for religious and traditional medicinal purposes. Tulsi is considered as a holy herb, it is grown in almost every hindu household. Apart from being considered holy, Tulsi is also revered as great healer. It's leaves and roots are used in various medical decoction, believe to soothe and heal the mind and body.

This aromatic plants, different from the pesto variety of basil, is native to India. It is an erect plant with branched sub-shrubs. The leaves of Tulsi are green coloured with sharp aroma and

flavor. Tulsi leaves are oval shaped with a slightly sharp tip, and the edges are slightly toothed. Tulsi is an aromatic shrub in the basil family Lamiaceae (tribe ocimeae) that is thought to have originated in north central India and now grows native throughout the eastern world tropics. Holy basil is native to the Indian subcontinent and grows throughout Southeast Asia.

In Hindu mythology, Tulsi is regarded as a living gateway between heaven and earth, and believed to be a manifestation of the divine within the plant kingdom. As Tulsi traveled west along the early trade routes from Asia to Europe, it became known to Christians as “sacred” or “holy” basil and was used in rituals. Since the dawn of time Holy basil has been referred to as the Mother of all medicinal plants. Believed by the Hindus to be embodiment of the goddess Lakshmi it plays a quintessential part in their every day life. They pray to her, make religious beads from stem and regards her as most healing of plants in Ayurvedic Medicine.

Tulsi is considered as one of the most important source of medicine and drugs. The plant is distributed and cultivated throughout India. It is commonly used in Ayurveda and across the wide region of southeast Asia is widely known as medicinal plant as well as herbal tea. Tulsi leaves contain 0.7% of volatile oil components, about 70% of eugenol, 20% of methyl eugenol.

The scientific name of Tulsi is *Ocimum tenuiflorum*, also known as *Ocimum sanctum*, or Holy Basil from the family Lamiaceae has been described as the “Queen of plants” and the “mother medicine of nature” due to its perceived medicinal qualities. *Ocimum sanctum* has two varieties i.e. black (Krishna Tulsi) and green (Rama Tulsi), their chemical constituents are similar. Both the varieties.

### **Taxonomy**

Kingdom: Plantae

Division: Magnoliophyta.

Class: Magnoliopsida

Order: Lamiales

Genus: *Ocimum*

Species: *O. tenuiflorum*

Binomial name :*Ocimum tenuiflorum*/*Ocimum sanctum*

General name: Tulsi

**Medicinal uses of Tulsi**

**Fever and common cold:** Tender leaves of Tulsi plant, boiled with tea, prevent cold during the rainy season, and malaria and dengue fever. Leaves boiled with powdered cardamom in half a litre of water and mixed with sugar and milk help to bring down the temperature during a fever.

**Sore throat:** Water boiled with Tulsi leaves can be consumed to help cure a sore throat. This water can also be used to gargle.

**Respiratory disorders:** A decoction of the leaves along with honey and ginger is an effective remedy for bronchitis, asthma, influenza, cough and cold. A decoction of leaves, cloves and common salt should be boiled in half a litre of water until only half the water is left. Drinking this can give immediate relief in case of influenza.

**Kidney stones:** The juice of tulsi leaves and honey, if taken regularly for six months, will break down, dislodge and expels the stones via the urinary tract.

**Heart disorders:** Chewing 10 - 12 leaves of tulsi daily reduces the level of blood cholesterol.

**Mouth infections:** The leaves are quite effective in treating ulcers and infections in the mouth. A few leaves chewed regularly will cure those conditions.

**Insect bites:** A teaspoonful of the juice of the leaves can be taken every few hours in case of an insect bite. Fresh tulsi leaf juice must also be applied to the affected part of you. The fresh roots of the plant is also effective in case of leeches.

**Tooth Problems:** Leaves dried in the sun and powdered can be used for brushing the teeth. Leaves dried and mixed with mustard oil are used as toothpaste. This paste is very good for maintaining the overall dental health, countering bad breath and massaging the gums. The paste is also useful in treating pyorrhoea and other tooth disorders.

**Headache:** Dried and powdered leaves are mixed with sandalwood paste and applied on the forehead to get relief from the heat and headache.

## Health Benefits of Tulasi [Holy Basil] for Kids



01. Great for Healing skin problems
02. Boosts the immunity
03. Good dental health
04. Digestive health
05. Good source of Vitamin K
06. Promotes respiratory health
07. Promotes eye health
08. Helps cure fever naturally



### Phytochemicals present in Tulsi

Phytochemicals	Property or uses
Eugenol	Antiseptic and anaesthetic property flavouring antidiabetic essential oils etc.
Thymol	Strong antimicrobial attributes
Beta caryophyllene	Relief of anxiety and depression
Rosmarinic acid	Anti-oxidant
Carvacrol	Protective effect for the liver antioxidant, actively against harmful organism

**Table 2: Qualitative phytochemical screening methanol extract of Tulsi leaf.**

Phytochemicals.	Aqueous extract	Methanol extract	Ethanol extract
Protein	-	-	-
Carbohydrates	-	+	+
Phenol	+	+	-
Tannin	-	+	+
Flavonoid	+	+	+
Saponin	-	+	+
Glycosides	+	+	+
Steroid	-	-	-
Terpenoid	-	+	+
Alkaloid	+	+	+

Anthraquinone	-	-	-
Fixed oil and fatty acid	-	+	-
Test for lactones	-	-	-

"+"Present, "-"absent

### Pharmacological Action

**Anticancer activity:** In ayurveda, various plants are used as a potential source of anticancer and antitumor properties. It has been found that ethanolic extract of *Ocimum sanctum* mediated a significant reduction in tumor cell size and an increase in lifespan of mice having Sarcoma-180 solid tumors. Similar results were also obtained by others where leaf extract administered orally (200 mg/kg, p.o.) resulted in significant reduction in tumor volume, increase in average body weight, and survival rate of mice. *Ocimum* has the ability to protect the DNA of the body from dangerous radiations.

**Antidiabetic activity:** *O. sanctum* has been reported to possess very good anti diabetic properties. The anti-diabetic activity of hydroalcoholic extract of *O. tenuiflorum* against streptozotocin and nicotimanide induced diabetes in rats was found to be significant at the dose levels of 250 and 500 mg/kg body weight and this effect was comparable with glibenclamide. Hyperglycaemia was shown to be reduced in alloxan diabetic rats when administered ethanol extract of *O. sanctum* in both acute and long-term feeding studies. In another study by J M A Hannan et al. prominent insulin-secretory effects were noted in the rat pancreas perfused with the ethanol extract and three partition (ethylacetate, butanol and aqueous) fractions of *O. sanctum*. Similar effects were found in acute insulin-release studies using isolated rat islets.

**Antilipidemic Activity:** Hyperlipidaemia, atherosclerosis and related diseases are becoming a major health problem now days. Aqueous extract of *O. basilicum* reduces the level of total cholesterol, triglycerides and LDL cholesterol levels in acute hyperlipidaemia induced by triton WR-1339 in rats]. In a study conducted on rabbits a diet supplemented with 1-2 % fresh leaves of Tulsi for 28 days lowered the total lipid.

**Antibacterial activity:** Antibacterial activity of the aqueous, alcoholic, chloroform extract and oil obtained from the leaves of *Ocimum sanctum* were studied against *E.coli*, *P. aeruginosa*, *S. typhimurium* and *S. aureus*. Extract obtained from *O. sanctum* were observed equally effective against pathogenic gram-positive and gram- negative bacteria. Fresh leaves

essential oil had shown more antibacterial properties compared to dried leaves essential oil of Tulsi and in case of fungus the property is just the reverse.

**Eye Disease:** The leaf juice of *Ocimum sanctum* along with triphala is used in ayurvedic eye drop preparations recommended for glaucoma, chronic conjunctivitis and other painful eye disease. In daily routine one may use about three drops of tulsi oil along with honey and it is supposed to improve eye sight.

**Anti fertility activity:** The benzene and petroleum ether extracts of leaves of Tulsi have been reported to produce 80% and 60% antifertility activity respectively in female rats. In Kerala the local women as well as the Ayurvedic physicians have been reported to use the leaves of Tulsi for antifertility effect. One of the major constituents of the Tulsi leaves is ursolic acid and it has been reported that it possess antifertility effect. This effect has been attributed to its anti-estrogenic activity which may be responsible for arrest of spermatogenesis in males and due to inhibitory effect on implantation of ovum in females. This constituent may prove to be a promising anti-fertility agent devoid of side effects. In males, Tulsi leaves reduce spermatogenesis by retarding sertoli cells activity.

**Mosquitocidal Activity:** Mosquitocidal activity of Tulsi was investigated using its eugenol and triglyceride (isolated from Tulsi's hexane extract) on fourth instars *Aedes aegypti* larvae. When seeds of Tulsi was placed in water, it exude within one hour, a mucilaginous substance (polysaccharides) and larvae which came in contact with seeds became firmly attached to it and died due to drowning of larvae.

## Product of Tulsi in Market

### 1) Refresh Tulsi Powder





Refresh Tulsi or Basil powder has a very high regard in India for its innumerable benefits. It works like magic on skin problems. It has several medicinal properties. It removes dirt, impurities and excess oil from the skin. Its antibacterial and anti-inflammatory properties fight toxins. It has anti-ageing properties that fight free radicals and prevent ageing symptoms. A natural cure for problems like hair loss and hair thinning. Prevents premature greying of hair.

## 2) Dabur - Tulsi Drops



Dabur Tulsi Drops has many health benefits. It has antioxidant properties which help boost immunity. It helps provide relief from cough & cold and in relieving mucus. It contains the extracts of 5 types of Tulsi leaves which have therapeutic properties. Tulsi has antimicrobial properties. As per Ayurveda, Tulsi is good for digestive and skin health. It also helps in stress management. It is also good for joints and liver health.

## 3) Herbal Hills - 100% Organic Tulsi Powder



Organic Tulsi Powder is also very beneficial in getting relief from cold and cough especially one predominated by Kapha. Organic tulsi powder exerts anti-bacterial and anti-parasitic properties, therefore it is widely used for skin infections. It may help eliminate infections and provide you clear skin. Furthermore, organic tulsi powder may also act on the nervous system providing strength, relieving stress and also helps in relieving pain, as it is vatta suppressant. Moreover, it works as an appetizer and promotes digestion by helping in the secretion of digestive enzymes. It helps in preventing flatulence and avoids constipated stool.

#### 4) Himalaya Wellness Tulsi Syrup



Himalaya Tulasi Syrup is formulated from all-natural ingredients and helps to treat cold and cough. It helps to provide relief from chest congestion by assisting in calming and dilating the lung's airways. The constituents in Tulasi herbs help in alleviating airway inflammation caused due to allergies or infections.

#### 5) Organic India - Tulsi Green Tea





ORGANIC INDIA Tulsi Green Tea contains natural herbs good for health. Clinical studies show that both Tulsi & Green Tea promote healthy metabolism which is vital to weight management. Both offer a vast array of remarkable health benefits including an abundance of antioxidants which eliminate damaging free radicals in the body. Our amazing combination refreshes and tastes wonderful. Drink up and enjoy.

## CONCLUSION

Tulsi is widely used for curing various disease due to its great therapeutic potential. In the developing countries increased cost of medicine as well as their side effects has become burning public health concern.

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