

## **Ocimum Tenuiflorum: Review**

**Prof. Premanada Mohapatra<sup>1</sup>, Prof. Rabindra Nath Raj<sup>2</sup>, Ms. Kajal Srichandan<sup>3</sup>**

<sup>1,2,3</sup>Department of Agriculture, Siksha 'O' Anusandhan (Deemed to be University),  
Bhubaneswar, Odisha  
premanandamahapatra@soa.ac.in<sup>1</sup>

### **Abstract**

Ayurveda, with a focus on healthy lifestyles and the regular consumption of adaptogenous herbs, is the predominant reason for global morbidity and death from chronic lifestyle diseases. Tulsi (*Ocimum sanctum* Linn) is preeminent in all the herbs used in Ayurveda, and scientific research is confirmed now. There is growing evidence that a combination of pharmacological activities enables tulsi to deal with physical, chemical, metabolism and psychological stress. Tulsi has been found to protect organs and tissues from chemical stress and prolonged physical strain from industrial pollutants and heavy metals. Tulsi has demonstrated its detrimental influence on the memory plus cognitive function including its anxiolytic and antidepressant properties to combat metabolic stress by normalizing blood glucose, blood pressure, and lipid levels and psychological stress. The wide range of antimicrobial activity of Tulsi, which includes activities against a variety of pathogens in human and animal life, suggests that Tulsi can be used as a sanitizer for hands, mouthwash and water purifier as well as for animal breeding, wound-healing, food preservation and herbal raw material and for the health of traveller. Tulsi growing has spiritual and practical importance which connects the producer to nature's creative power, and bio-growing offers food security, rural poverty, hunger, environment degradation and climate change solutions. Tulsi is an indication of AYURVEDIC wisdom in daily rituals, and is an example of ancient knowledge that provides solutions to modern problems. This paper describes the therapeutic and medicinal uses of Tulsi in traditional medicine.

**Key words:** Adaptogen, Ayurveda, Holy basil, Lifestyle, *Ocimum sanctum*, Stress

### **Introduction**

Modern life is full of tension given the many wonders of science and industry. Mobile devices have greatly enhanced the pace of life, so many people feel now drowned in an ever-expanding ocean of data while the sensitivity to harmful processed as well as packaged food and a wealth of pesticides, food packaging products and other toxic industrial chemicals in industrial agriculture has burdened us with. Increasing wealth inequality, social isolation, excessive noise, air, water and soil contamination and the separation from nature are confronting urban residents [1] [2].

While industrialization has resulted in longer life and vast increases in humans, the world's greatest causes of death and disease are now recognized for preventive, lifestyle-based chronic illnesses.

Everyone are in the middle of a global pandemic involving obesity, diabetes, cancer, dementia, depression and other chronic illnesses caused by and linked to modern lifestyles.

There is thus a greater chance of finding solutions in individual homes and compartments than in medical clinics, hospitals, to this current health problem. In Hindu belief, plants have great spiritual, medicinal and treat mental value. Hindus regard this as an earthly manifestation of Tulsi, deity; it is considered a great adorer of Vishnu god [3].

In all hymen and ritualistic adoration of Vishnu and his Incarnation Lord Krishna, usually plant leaves and dal are given. Tulsi are traditionally planted in India in the centre of Hindu homes ' Central Courtyard. Many Hindus grow tulsi plants before or near their homes, usually in pots or in a special masonry structure referred to as the Tulsi VRINDAVANA.

### **Tulsi: A Potent Adaptogen**

Tulsi is an aromatic shrub in the LAMIACEAE (TRIBE OCIMEAE) basil family, which is believed to have originated in central Northern India and is now native to all tropical regions of the eastern world. Despite equal medicinal and spiritual properties, Tulsi is called the "incomparable One," the "mother medicine of nature" and the "King of Herbs" within Ayurveda (figure 1). In India, tulsi have been incorporated into the rituals and lifestyles of spiritual practices, offering a wide range of health benefits which modern science has just verified [4].



**Fig.1: Tulsi (*Ocimum tenuiflorum*) Plant**

This newly emerging Tulsi science, strengthening old AYURVEDIC knowledge, reveals that Tulsi is a tonic for the body, mind, and spirit, offering solutions to many problems in modern health. Tulsi is perhaps one of Ayurveda's best examples of holistic health treatment. Tulsi tastes bitter and hot and is said to permeate deep tissue and the segment of dry tissue. KAPHA and VATA are diluted. Regular intake of tulsi is stated to prevent disease, promote general health, well-being and longevity and to help with daily stress. Tulsi is also credited with making the teeth lustre, the voice sweet and encouraging beauty, intelligence and endurance [5].

Tulsi is also prescribed for various treatments, including nausea, cough, asthma, DIARRHEA, fevers, dysentery, arthritis, hypertension, otalgia, indigestion, hiccups, vomiting, stroke, heart and sexual problems, pain in the back, skin disease, ringworms, mosquitoes, snake and scorpion bites and PALUDISM. The term ADAPTOGEN is not commonly used in Western medicine while it helps with stress adjustment and the promotion of homeostasis.

### **Uses Of Tulsi**

Holy Tulsi is a very essential plant and a multitude of medicinal uses. In treatment of different diseases, tulsi is used. In insect bites, fevers, cardiac diseases, gynaecology, respiratory problems, skin disorders, etc. basil plants and their different parts are employed. Since ancient times Basil has been used for various diseases. Holy basil acts like a germicide and bactericide and serves as a voice enhancers. Malaria and an effective pain reliever are good prevention. It is also regarded in certain texts as a cure of all diseases. Basil is very effective in breast formation during lactation in homeopathy [6].

Tulsi is an aromatic shrub in the Lamiaceae (tribe ocimeae) basil family that is thought to have originated in the North Central India and is now growing native in the eastern tropics. Inside Ayurveda, tulsi is known as "The Incomparable One," "Mother Natural Medicine" and "The Queen of Herbs," and is regarded as a "elixir of life" unmatched for its medicinal and spiritual properties. Tulsi is perhaps one of Ayurveda's best examples of a holistic approach to health lifestyle. Tulsi tastes hot and salty, entering deep tissues, drying tissue secretions, and normalizing kapha and vata. Tulsi daily intake is said to prevent disease, promote general health, well-being and longevity, and help cope with the stresses of everyday life.

Tea from Tulsi is an extremely important part of herbal teas and organic teas that enhance a sense of well-being. Tulsi tea is a high stress buster and improve anxiety, tension and stress tolerance. It has many antioxidants which help fight free radicals. It is one of coffee and tea's essential alternatives. Tulsi Tea good for vision, breathing system, immune system boost, stamina and blood sugar. There are no Green Tea side effects.

However, for health and medicine aspects, all sections of basil are essential, so the seed portion. Seed decoction is useful for urinary diseases. In an original study, basil seeds were found to be useful in blood sugar control and diabetes management. It is also possible to see a weight decrease if one drinks basil regularly. Basil seeds have vitamins, minerals, fat and carbohydrates in their nutrition [7].

Basil is used in many dishes, for example tomato, pizza, cookies, desserts, cocktails, Thai curry, Pesto, etc. In all types of dishes, basil can be used for more or less. One has to use the smaller basil leaves or cut it into small pieces to make recipes with Basil. Seed grinding or other parts with salads may also be used. Tulsi leaves should be used in different types preferably.

Basil is known as an herbal king and rich in herbal nutrients. Basil is one of the world's most common herbs. The nutritional advantages of basil are many. There are many antioxidants. Minerals such as vitamin A, beta-carotene, potassium, iron, copper, manganese, and magnesium can be contained in Tulsi. Anti-oxidants are bio-chemical compounds such as ORIENTIN and VICENIN. Basil contains eugenol, citronellal and limonene used in anti-inflammatory treatments. Basil herbs, especially women who spend their time in kitchen, are very important plants for health. A medium height basil plant has good oxygen sources. The source of oxygen is one of the best [8].

The use of medicinal plants in traditional medicine was mentioned in literature which dates back several thousand years. Books on Ayurvedic medicine written in the Vedic era describe practices that formed the basis of all other medical sciences developed on the Indian subcontinent, including the use of medicinal plants. In modern complementary and alternative medicine practice, plants are the primary source of therapy and each part of the plant, including the seeds, root, stem, leaves and fruit, contains potentially bioactive components. The principal bioactive components in medicinal plants are called secondary metabolite combinations. The use of medicinal plants has many advantages and disadvantages, with the main ones being their cost-effectiveness and global availability. Many obvious advantages are their health relative to other pharmaceutical products and the lack of serious side effects.

### **Tulsi-Ginger**

The Tulsi-Ginger combination is excellent in wellness (figure 2). When combined with Tulsi, Ginger and other herbs, they are helpful for many problems. It is advisable to take basil, ginger and dark pepper with sweet honey three times a day, if someone experiences cough and cool. For dry cough, the combination of holy basil flour, onion juice and ginger juice is used. When you take a mixture of basil leaves, neem leaves, ginger powder and long pepper powder, you can greatly reduce the symptoms of high fevers. Take Basil leaves juice (10 ml) + Lime (20 ml) + and ginger juice, and take stomach-ache [9].



**Fig.2: Tusli-Ginger Paste**

### **1. Stress Management:**

Holy basil blades are an elevator and tension buster. The fresh leaves of tulsi are combating stress and aid in pain and anxiety control. Tulsi tea also leads to stress reduction. Chewing Tulsi 10-12 leaves can help in stress management.

### **2. Fever:**

Basil leaves, neem leaves, ginger powder and long pepper powder decoction can greatly reduce fever and its symptoms. Tea from basil leaves is very effective, particularly in the rainy season, against malaria and dengue fever. When the legs get cold during fever, it is beneficial to use tulsi's paste.

### **3. Heart Disease:**

Basil leaves have a positive effect on cholesterol decreases in the body and are thus effective in cardiac prevention. The leaves of Tulsi also serve as a heart tonic. As fresh leaves are spread locally, blood circulation flow improves [10].

### **4. Cough:**

In the treatment of cough and cold Tulsi leaves are used as a home remedy. You should take basil flowers, ginger, black powder and long pepper together with honey at least 3 to 4 times daily to cure cough and cold fever. Holy basil is useful also for cold and persistent cough. Take basil leaves mixture + mint + Black pepper at 30 ml 2 times a day for this reason. The symptoms of toxicity and cold are good to reduce. Take Basil leaves juice and sugar for people who suffer from expectorant. Dry cough is treated and regulated with the mixture of Tulsi leaves, onion and ginger juice.

### **5. Kidney Stone:**

Tulsi juice and honey are used to expel the stone from the kidney (calcium oxalate) via urinary tract for a period of six months. As a detoxifier, Tulsi reduces the uric acid level in the body. The accumulation of calcium oxalate in the kidney is prevented. The development of kidney stone is caused by calcium oxalate and uric acid compounds. As holy basil has painkiller effects, pain caused by stone in the kidney is also reduced. Holy Basil can also be used as a home remedy to expel kidney stone but the desired effect takes time.

### **6. Stomach Problem:**

In case of stomach problems like acidity, flatulence, constipation, etc. basil shows good results. Hyperacidity sometimes leads to weakness; the problem is solved by the use of Tulsi seeds cooked in water. During two weeks, basil, ginger, sweet and salt are decocted for acute stomach problems. Recently, a scientific study has shown that basil protects against stomach ulcers. Basil, lime and ginger juice is good for stomach pain. It also promotes gaseous stomach distension [11].

## **7. Dental use:**

Tulsi dry leaves Powder is used as a teeth bubbling, which helps protect teeth. It is also used with mustard oil as toothpaste. Washing mouth by basil leaves means avoiding many diseases in the mouth including gum diseases, pyorrhea and other dentures. Apply the mix of basil leaves juice and camphor to get relief from toothache. Tulsi leaves are good for ulcer in the mouth. This protects you from the principal cause of mouth disease bacteria and germs.

## **8. Effect on Skin:**

For many diseases and ailments, Tulsi is known as healing. In the treatment of ringworm and skin disturbances, juice of tulsi leaves is used. Tulsi and aloe Vera are beneficial for skin problems. Several doctors have also used this helpful herb for cases of leukoderma. They are used as skin salts.

Figure 3 represents tusli paste which are used for the treatment of various diseases.



**Fig.3: Tulsi Paste**

## **9. Asthma Problem:**

The blades of tulsi are used to treat respiratory conditions including toxins, cold, and infection with pneumonia, mild asthma, and bronchitis at home. The decoction of Basilica leaves + honey and ginger is recommended for these disorders. In the treatment of influenza, the mixture of tulsi leaves, salt and cloves are also used. A wide range of Ayurveda cough and basil syrups have been used as a single ingredient. In the case of cold and flu also, the chewing of Tulsi leaves is beneficial. The patient with asthma should take a combination of black and Tulsi tea [12]

## **Conclusion**

Modern science work on tulsi shows the various psychological and physiological advantages of using tulsi, testifies to the wisdom of Hinduism and Ayurveda, which praises tulsi as a plant that is adored, taken, made to tea and used for medicinal and spiritual purposes in everyday use. In concentrating and providing livelihoods for thousands of farmers in legal,

sustainable and ecological agricultural practices, tulsi cultivation goes beyond the benefits of individuals and households and starts to tackle broader social, economic and environmental problems..

## References

1. A. K. Upadhyay and R. Sowdhamini, "Genome-wide analysis of domain-swap predicted products in the genome of anti-stress medicinal plant: *Ocimum tenuiflorum*," *Bioinform. Biol. Insights*, vol. 13, 2019.
2. A. K. Upadhyay et al., "Genome sequencing of herb Tulsi (*Ocimum tenuiflorum*) unravels key genes behind its strong medicinal properties," *BMC Plant Biol.*, vol. 15, no. 1, Aug. 2015.
3. L. Braun and M. Cohen, *Herbs & natural supplements : an evidence-based guide*. volume 2. .
4. P. K. Warriar, V. P. K. Nambiar, C. Ramankutty, and I. Arya Vaidya Sala (Kottakkal, Indian medicinal plants : a compendium of 500 species. Sangam.
5. B. Patwardhan, "Bridging Ayurveda with evidence-based scientific approaches in medicine," *EPMA Journal*, vol. 5, no. 1. BioMed Central Ltd., 01-Nov-2014.
6. R. Shanmuga Sundaram, M. Ramanathan, R. Rajesh, B. Satheesh, and D. Saravanan, "LC-MS quantification of rosmarinic acid and ursolic acid in the *Ocimum sanctum* Linn. leaf extract (Holy Basil, Tulsi)," *J. Liq. Chromatogr. Relat. Technol.*, vol. 35, no. 5, pp. 634–650, Mar. 2012.
7. R. C. Padalia and R. S. Verma, "Comparative volatile oil composition of four *Ocimum* species from northern India," *Nat. Prod. Res.*, vol. 25, no. 6, pp. 569–575, Mar. 2011.
8. "Market Survey • FActS FOr YOU 27 MEDICINAL USES OF TULSI," 2012.
9. "(PDF) Tulsi: A holy plant with high medicinal and therapeutic value." [Online]. Available: [https://www.researchgate.net/publication/315119094\\_Tulsi\\_A\\_holy\\_plant\\_with\\_high\\_medicinal\\_and\\_therapeutic\\_value](https://www.researchgate.net/publication/315119094_Tulsi_A_holy_plant_with_high_medicinal_and_therapeutic_value). [Accessed: 21-Jan-2020].
10. "Benefits of Tulsi - Natural, herbal and the best cure that you need - Maharishi Ayurveda." [Online]. Available: <https://maharishiayurvedaindia.com/blogs/ayurveda-knowledge-center/benefits-of-tulsi>. [Accessed: 21-Jan-2020].
11. "5 miracle foods that will help you get through winters without falling sick - Food & Drink News." [Online]. Available: <https://www.indiatoday.in/food-drink/food/story/winter-food-season-change-sick-til-ka-ladoo-tulsi-holy-basil-ginger-ghee-lifefd-1070927-2017-10-27>. [Accessed: 21-Jan-2020].
12. D. Gupta, S. Sivadas, K. Vikram, and V. Suneetha, "To assess the role of natural pesticides made from Tulsi *Ocimum tenuiflorum*, turmeric *curcuma longa* and Neem *Azadirachta indica* on culinary crops and its maturing soil," *Int. J. Appl. Pharm.*, vol. 8, no. 2, pp. 13–15, 2016.