

TULSI-A VISHGANA DRAVYA**Akshu Sharma^{1*}, Manisha Dikshit² and Ashwani K. Som³**

¹P.G. Scholar in Deptt. of Agad Tantra Evum vidhi Vaidyak, Uttarakhand Ayurved University, Rishikul Campus, Haridwar, Uttarakhand, India.

²Associate Professor, PG Deptt. of Agad Tantra Uttarakhand Ayurved University Rishikul Campus Haridwar Uttarakhand India.

³Assistant Professor in Deppt. of Rog Nidan Shri Dhanvantari College and Hospital Chandigarh, India.

Article Received on
10 January 2022,

Revised on 30 January 2022,
Accepted on 20 Feb. 2022

DOI: 10.20959/wjpr20223-23208

Corresponding Author*Dr. Akshu Sharma**

P.G. Scholar, Dept. of Agad
Tantra Evum Vidhi
Vaidyak, Uttarakhand
Ayurved University,
Rishikul Campus, Haridwar,
Uttarakhand, India.

ABSTRACT

Hindu people worship holy basil. It's considered the "Mother Medicine of Nature." It's been revered since ancient times as an herb that can promote a healthy body, mind, and spirit. The sacred plant is often planted around Hindu shrines. The name Tulsi means "the incomparable one. Ayurveda with its focus on healthy lifestyle practices and regular consumption of adaptogenic herbs. Of all the herbs used within Ayurveda, Tulsi (*Ocimum sanctum* Linn) is preeminent, and scientific research is now confirming its beneficial effects. Tulsi has been found to protect organs and tissues against chemical stress from industrial pollutants and heavy metals, and physical stress from prolonged physical exertion, ischemia, physical restraint and exposure to cold and excessive noise. Tulsi's broad-

spectrum antimicrobial activity, which includes activity against a range of human and animal pathogens. In traditional systems of medicine, different parts (leaves, stem, flower, root, seeds and even whole plant) of *Ocimum sanctum* Linn (known as Tulsi in Hindi), a small herb seen throughout India, have been recommended for the treatment of bronchitis, bronchial asthma, malaria, diarrhoea, dysentery, skin diseases, arthritis, painful eye diseases, chronic fever, insect bite etc. The *Ocimum sanctum* L. has also been suggested to possess antifertility, anticancer, antidiabetic, antifungal, antimicrobial, hepatoprotective, cardioprotective, antiemetic, antispasmodic, analgesic, adaptogenic and diaphoretic actions.

KEYWORDS: Anti-microbial, *Ocimum sanctum*, Adaptogenic herbs.

INTRODUCTION

Ocimum sanctum (Family Labiate) is a many branched, erect, stout and aromatic herb about 75 cms high. This small herb is found throughout India and is cultivated, worshiped in temples and houses of Hindus. This is commonly known as Vishnu-Priya, Tulsi in Sanskrit, and Kala-Tulsi in Hindi and India's Holy Basil in English. The leaves, seeds and roots of this plant have been used in indigenous Ayurvedic medicine.^[1] From literature, it is known that Tulsi has been utilized therapeutically since 400-500 BC. Earliest references of Tulsi were found in Rigveda (3500-1600 BC). Therapeutically it is used in anticancer, anti-oxidant,^[2] anti-diabetic,^[3] radiations,^[4] infertility and for many other major and minor diseases.^[5] Being adaptogenic, Tulsi is used to improve health. Extract of Tulsi is used in ayurvedic treatments for common cold, heart diseases, and stomach disorders, poisoning cases, convulsions, epilepsy, malaria, fever, bronchitis and certain inflammatory problems. Therefore, extract of Tulsi is also known as "Extract of Life" and considered to grant longevity.^[6]

Synonyms^[7]

Sanskrit: Bana tulasi, krishntulsi, Surasa

Assamese: Tulasi

Bengali: Tulasi

English: Holy Basil

Guajarati: Tulasi, Tulsi

Hindi: Tulasi

Kannada: Tulasi, Shree Tulasi, Vishnu Tulasi

Malayalam: Tulasi, Tulas

Marathi: Tulas

Punjabi: Tulasi

Tamil: Tulasi, Thulasi, Thiru Theezai

Telugu: Tulasi

Urdu: Raihan, Tulsi

Botanical description^[8]

Family: Lamiaceae

Subfamily: Angiosperm

Order: Lamiales

Division - Eukaryote

Kingdom: Plantae

Scientific name – *Ocimum sanctum*

Genus – *Ocimum*

Species – *Ocimum sanctum*

Class: Dicotyledonae

Phylum: Spermatophyte

Subphylum: Angiosperm

Classical discription

Samhita kala

In *Charka Samhita* it is described in *Shwasahara gana*^[9]

In *Susruta Samhita* it is described in *Surasadi gana*^[10]

In *Astanga Hridaya* it is described in *Surasadi gana and Kaphaghna gana*^[11]

In *Astanga Sangraha* it is described in *Shwasahara gana and Surasadi gana*^[12]

Nighantu kala

In different types of *nighantu* Acharaya has described Tulsi in different *varg* 's

- I. *Dhanwantari nighnatu- Karaviryadi varga*^[13]
- II. *Bhavaprakasha Nighantu- Pushpa varga*^[14]
- III. *Madanapaala nighantu- Karpuradi varga*^[15]
- IV. *Raja Nighantu- Karaviryadi varga*^[16]
- V. *Kaiyadeva Nighantu- Oushadi varga*^[17]
- VI. *Priya Nighantu- Shatapushpadi varga*^[18]

Distribution and Habitat

Plant originates in India and is marketed and grown nationwide. The plant grows from the Himalayas to the islands of Andaman and Nicobar In the tropical regions of Asia. There are almost 150 species of the genus *Ocimum*. It is grown up to 1800 meters above the sea level in tropical and warm regions.^[19]

Ayurvedic properties

Properties	P.v. Sharma ^[20]	A.p.i ^[21]
<i>Rasa</i>	<i>Katu, tikta</i>	<i>Katu, tikta, kashya</i>
<i>Guna</i>	<i>Laghu, ruksha</i>	<i>Tikshna, ruksha, laghu</i>
<i>Virya</i>	<i>Ushna</i>	<i>Ushna</i>
<i>Vipaka</i>	<i>Katu</i>	<i>Katu</i>

Karma

Jantughna, Vatahara, Shothghna, Krimighna, Anuloman, Raktshodhak, Kushthghna, Swedajannan, Vishamjwarghana, Balya.^[22]

Vatahara, Kaphahar, Pittavridhini, Hridya, Dipana, Ruchya, Durgandhhara.^[23]

Pharmacological activities

- 1. Antibacterial activity:-** Extract taken from *O. Sanctum* was found to be equally effective against gram-positive and gram negative pathogens.^[24] Essential oils extracted from the leaves of *Ocimum sanctum L.* has been found to inhibit growth of *E. coli*, *B.anthraxis* and *P. aeruginosa* in-vitro, showing its antibacterial activity. *Ocimum sanctum* also possesses antifungal activity against *Asperigillus niger* and aqueous extract of it was found to be effective in patients suffering from viral encephalitis.^[25]
- 2. Antifungal activity:-** Essential oil of *Ocimum sanctum*, Methyl chavicol and linalol have shown strong antifungal efficacy against *Candida*, including azole-resistant strains.^[26] Minimum inhibitory concentration (MIC) and minimum fungicidal concentration (MFC) of different extracts and fractions of OS leaves have also been evaluated against dermatophytic fungi used.^[27]
- 3. Larvicidal activity:-** Larvicidal activity of essential oils and various extracts of *Ocimum Sanctum*, *O. Basil* and *O. Gratissimum* were compared with *Culex quinquefasciatus* field collected and laboratory reared larvae. The *O. basilicum* and *O. sanctum* oil LD50 value were 39.31 and 40.02 on laboratory reared larvae and LD50 value 129.53 and 139.49 on field collected larvae. The larvae reared in Laboratory were more sensitive than the larvae collected in the field.^[28]
- 4. Mosquitocidal activity:** Tulsi's mosquitocidal activity was investigated using its eugenol and triglyceride (isolated from the hexane extract of Tulsi) on the fourth instar *Aedes aegypti* larvae. When Tulsi seeds were placed in water, they exude a mucilaginous substance (polysaccharides) within an hour and the larvae that came into contact with the seeds became firmly attached to it and died as a result of the drowning of the larvae.^[29]
- 5. Anti-helminthic activity:-** In the *Caenorhabditis elegans* model, the essential oil of *Ocimum sanctum* and eugenol, tested in vitro, showed potent anthelmintic activity.^[30]

- 6. Anticancer activity:-** In 2011, Monga et al. studied antimelanoma activity of 50 per cent alcoholic aqueous leaf extract from various species of *Ocimum*. The orally administered leaf extract (200mg / kg, p.o.) contributed to a significant reduction in tumor volume increased average body weight and survival rate for mice.^[31]
- 7. Antipyretic activity:-** Testing it against typhoid paratyphoid A/ B-induced pyrexia in rats evaluated the antipyretic activity of OS-fixed oil. The antipyretic activity of the oil was comparable to aspirin at a dose of 3 ml/kg.^[32]
- 8. Anti-inflammatory activity:-** fixed oil and linolenic acid of *Ocimum sanctum* have been shown to possess significant anti-inflammatory activity against PGE2, leukotriene and arachidonic acid-induced paw edema.^[33]

Formulation: *Tribhuvan kirti rasa, Muktapanchamritrasa, Muktadi Mahanjana, manasmrita vataka.*^[34]

Dose: *Swaras-* 10-20 ml^[35]

Mool kwath- 50-100ml

Beej churna- 3-6gms^[36]

Swaras- 1-3ml

Beej choorna- 1-2gms

CONCLUSION

Tulsi is traditionally taken in a variety of forms including cold, hot or dried leaf tea (herbal teas), powdered leaf, alcohol tinctures and oil (ghee) preparations, as well as seed, root, stem formulations, both systemically and topically. In addition to various extracts, isolated compound is also administered by injection in human clinical studies and animal experiments. Essential oils possess a broad spectrum of antimicrobial activities attributed to the high content of phenolic derivatives, but a few have been reported to have significant antifungal activity. Tulsi is a common herb grown in many households with a wide range of therapeutic properties. It would be a blessing in disguise if this herb becomes a medicine for the common man. The plant *Ocimum sanctum* has been found to possess adaptogenic properties when tested against a battery of experiments in mice and rats. Still more clinical trials need to be conducted to support its medicinal therapeutic uses.

REFERENCES

1. Miller R and Miller S. Tulsi green and Herbs. India's Holy Basil. <http://www.omorganic.com/tulsi23J03:1->
2. Sethi J, Sood S, Seth S, Talwar A Evaluation of hypoglycemic and antioxidant effect of *Ocimum sanctum*. Indian J Clin Biochem, 2004; 19: 152-155.
3. Gandhi R, Chauhan B, Jadeja G Effect of *Ocimum Sanctum* (Tulsi) Powder on Hyperglycemic Patient. Indian J Appl Res, 2016; 6.
4. Devi PU, Ganasoundari A Modulation of glutathione and antioxidant enzymes by *Ocimum sanctum* and its role in protection against radiation injury. Indian J Exp Biol, 1999; 37: 262-268.
5. Prakash P, Gupta N Therapeutic uses of *Ocimum sanctum* Linn (Tulsi) with a note on eugenol and its pharmacological actions: a short review. Indian J Physiol Pharmacol, 2005; 49: 125-131.
6. Vidhani SI, Vyas VG, Parmar HJ, Bhalani VM, Hassan MM, et al. Evaluation of Some Chemical Composition, Minerals Fatty Acid Profiles, antioxidant and Antimicrobial Activities of Tulsi (*Ocimum sanctum*) from India. Am J Food Sci Technol, 2016; 4: 52-57.
7. Nadkarani AK, Nadkarni KM. Indian Materia Medica (Published by Popular Prakashan Pvt. Ltd., Bombay), 1976; 293. www.wikipedia.com
8. Trikamji Yadvaji Acharya, Sushruta Samhita Nibandhadangarha commentary of Dalhanacharya, Sutrasthan, Chapter 38, Dravyasangrahaniya adhyaya, Verse, Chaukhambha orientalia, Varanasi, Reprint, 2009; 165: 18-19.
9. Professor K. R. Srikantha Murthy, Vagbhata's Astanga Hridaya, Shodhanadigana sangraha adhyaya, Chapter Varanasi, Krishnadas Academy, Second edition, 1994; 204, 15, 1: 30-31.
10. Professor K. R. Srikantha Murthy, Mahakasaya sangraha adhyaya, Chapter 15, Astanga Samgraha, Varanasi, Choukhambha orientalia, Second edition, 1994; 306: 1 – 34.
11. Professor K. R. Srikantha Murthy, Mahakasaya sangraha adhyaya, Chapter 15 Astanga Samgraha, Varanasi, Choukhambha orientalia, Second edition, 1994; 306: 1 – 34.
12. Professor K.C. Chuneekar, Bhavaprakasha nighantu, Varanasi, Chaukhambha Bharati Academy, Reprint, 2013; 62: 496.
13. JLN Shastry, Madanapaala Nighantu, First edition, Varanasi, Chaukhambha orientalia, 2010; 1: 462.
14. Narahari Pandit, Raja Nighantu, Karaveeradi varga, Varanasi, Choukhambha orientalia, First edition, 2012; 148: 528.

15. Priyavat Sharma, Kaiyadeva nighantu, First edition, Varanasi, Choukhambha orientalia, 1979; 633.
16. Dr S.D.Kamat, Dhanwantari Nighantu, Karaveera varga, Delhi, Chaukhambha Sanskrit Pratistan, 2002; 301.
17. Shodala with Gyanendra Pandey commentary, Shodala nighnatu, Karaveeradi varga, Varanasi, Choukhambha Krishnadas Academy, 2009; 96.
18. P. Shivsharma ji, Haritakyadi nighantu, Bombay, Khemraj sri Krishnadas Prakashana, 1900; 160-61.
19. Kumar PK. Pharmacological actions of *Ocimum sanctum*. Review article Int. J. Advnc. Pharm. Bio. Chem, 2012; 1(3): 406-414.
20. Dravyaguna-vijnana, P.V. Sharma, chaukhamba bharti academy, reprint, 2003; 710: 1, 1 – 242.
21. Mishra P. and Mishra S. Study of antibacterial activity of *Ocimum sanctum* extract against gram positive and gram negative bacteria. American J of Food Tech, 2011; 6: 336-341.
22. *Ocimum sanctum*. The Indian home remedy. In: Current Medical Scene, March-April (Edited and published by S. Rajeshwari, Cipla Ltd., Bombay Central, Bombay), 1992.
23. Balakumar S., Rajan S., Thirunalasundari T. and Jeeva S. Antifungal activity of *Ocimum sanctum* Linn. (Lamiaceae) on clinically isolated dermatophyticfungi. Asian Pac J Trop Med, 2011; 4: 654-657.
24. Khan A., Ahmad A., Akhtar F., Yousuf S., Xess I., Khan L.A. and Manzoor N. *Ocimum sanctum* essential oil and its active principles exert their antifungalactivity by disrupting ergosterol biosynthesis and membrane integrity. Res Microbiol, 2010; 161: 816-823.
25. Rajamma A.J., Dubey S., Sateesha S.B., Tiwari S.N. and Ghosh S.K. Comparative larvicidal activity of different species of *Ocimum* against *Culex Quinquefasciatus*. Nat Prod Res, 2011; 25: 1916-1922.
26. Hasan, S.B. Deo PG. *Ocimum sanctum* seeds for mosquito control. Int Pest Control, 1994; 20–21.
27. Asha M.K., Prashanth D., Murali B., Padmaja R. and Amit A. Anthelmintic activity of essential oil of *Ocimum sanctum* and eugenol Fitoterapia, 2001; 72: 669-670.
28. Monga J., Sharma M., Tailor N. and Ganesh N. Antimelanoma and radioprotective activity of alcoholic aqueous extract of different species of *Ocimum* in C (57) BL mice. Pharm Biol, 2011; 49: 428-436.

29. Pandey G. and Madhuri S. Pharmacological Activities of Ocimumsanctum (Tulsi): A Review. Int J of Pharmaceutical Sci Rev and Res., 2010; 5: 61-66.
30. Singh S. and Majumdar D.K. Evaluation of antiinflammatory activity of fatty acids of Ocimum sanctum fixed oil. Indian J Exp Biol, 1997; 35: 380-383.
31. Dravyaguna-vijnana, P. V. Sharma, chaukhamba bharti academy, reprint, 2003; 710: 1, 1 – 242.