World Journal of Pharmaceutical and Life Sciences
WJPLS
www.wjpls.org
SJIF Impact Factor: 6.129

MEDICINAL ASPECTS OF *OCIMUM BASILICUM* (L.) FOR HUMAN HEALTH

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Article Received on 06/04/2023 **Article Revised on 26/04/2023** **Article Accepted on 16/05/2023**

ABSTRACT

Ocimum basilicum (L.) is popularly known as sweet basil & a member of the Lamiaceae (mints) family. India may be the native home of basil. In addition to being used as a culinary herb, *Ocimum basilicum* (L.) contains a range of pharmacological properties that can be used to prevent or cure cancer, diabetes, menstrual cramps, digestive problems, and neurological diseases. Additionally, its antioxidant, antimicrobial, and larvicidal properties have been reported. The main chemical components responsible for the aforementioned actions include anthocyanins, methyl eugenol, 1, 8-cineone, linalool, and eugenol. Basil tea is beneficial for relieving nausea, gas, and diarrhoea and is used in traditional medicine as a tonic and vermifuge. It has been discovered that the plant's oil is useful for treating wasp stings and snake bites as well as mental weariness, colds, spasms, and rhinitis. However, there have been very few studies done based on its traditional use. This review aims to provide readers a medical viewpoint on *Ocimum basilicum* (L.).

KEYWORDS : *Ocimum basilicum* (L.), Medicinal uses, Bioactive compounds, Basil oil.

INTRODUCTION

In ayurveda, medicinal plants play a crucial role. A number of disorders are treated using it. Since many thousands of years ago, plant extracts have been employed for a variety of reasons. Drug development can be aided by antibacterial plant screening. Due to the fact that pathogenic microorganisms become resistant to antibiotics employed in contemporary medicine, medicinal plants are receiving more attention as a potential source of novel antimicrobial medication discoveries (Ali *et al.*, 2017; Rathnayaka, 2013).

According to fossil records, human usage of natural plant compounds for treating various diseases dates back to the middle of the Palaeolithic era, or around 60,000 years ago. The richest supply of medications for ancient systems of medicine, contemporary drugs, nutraceuticals, dietary supplements, folk remedies, pharmaceutical intermediates, and chemical entities for synthetic drugs may be found in medicinal plants, often known as herbs or herbal medicine (Fabricant & Farnsworth, 2001; Tiwari *etal.*, 2011).

According to the World Health Organisation, between 70 and 95 percent of people in underdeveloped nations rely on plants as their major source of healthcare. There is a need for study into plant medicine because only 15% of the estimated 300,000 plant species in the world have had their pharmacological potential examined. Antimicrobial, antioxidant, and anti-inflammatory properties of several plants have been discovered (Luca *etal.*, 2012; Koparde *etal.*, 2019; Acheampong *etal.*, 2016).

The Lamiaceae family includes the genus *Ocimum*. There are over 150 different Ocimum species. Many species of the genus *Ocimum*, particularly the species *Ocimum basilicum* (L.), have been used for medicinal purposes since ancient times. It goes by the name of sweet basil. It is an extensively cultivated perennial herbaceous plant. It is a well-known herb that is utilised in Southeast Asian cuisines such as Thai and Vietnamese. Because of the metabolites it contains, it has several powerful functions. It is utilised in traditional medicine and as a decorative plant because it produces virulent metabolites(Simon *etal.*, 1999; Siddiqui *etal.*,2012; Bantis *etal.*, 2014; Snoussi etal., 2016; Bora etal., 2011; Loughrin etal., 2001; Javanmardi etal., 2003).

Taxonomic description: *Ocimum basilicum* (L.) is referred to by a variety of names in several languages around the world, including the Indian subcontinent. While it is referred to as Babui Tulsi in Bengali and Hindi, it is known as Basil, Common Basil, or Sweet Basil in English. The plant is also known as Jangli Tulsi in Urdu, Nasabo or Sabje in Gujrati, and Badrooj, Hebak, or Rihan in Arabic. The plant's assigned names in

Persian and Unani are Tohrakhurasani and Okimon (Dymock etal., 2005; Kirtikar etal., 2003; Khare, 2007; Jayaweera, 1981; Nadkarni, 2005).

Systematic Position

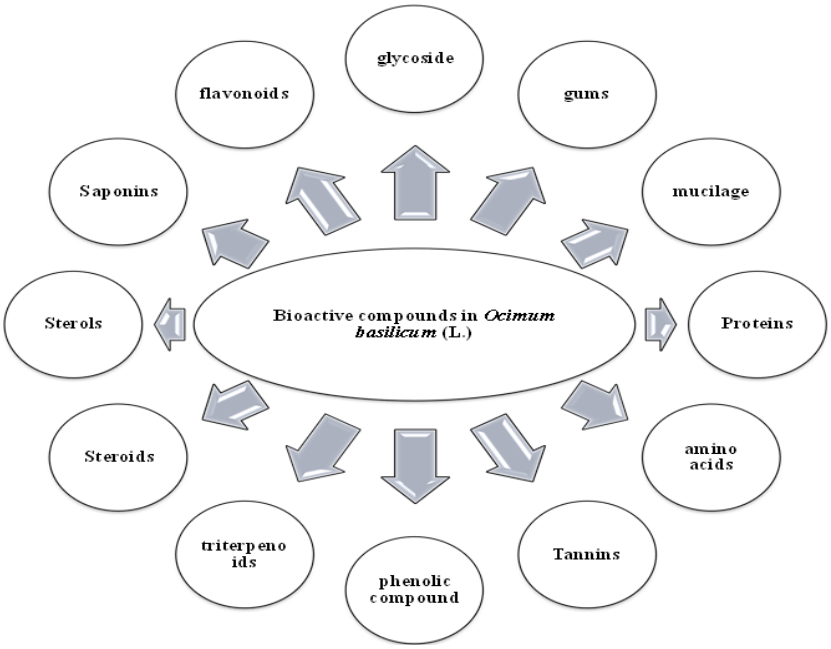
Group – Dicotyledons
Division – Gamopetalae
Series – Bicarpellatae
Order – Lamiales
Family – Lamiaceae
Genus – *Ocimum*
Species – *basillicum*

Fig: *Ocimum basilicum* (L.)

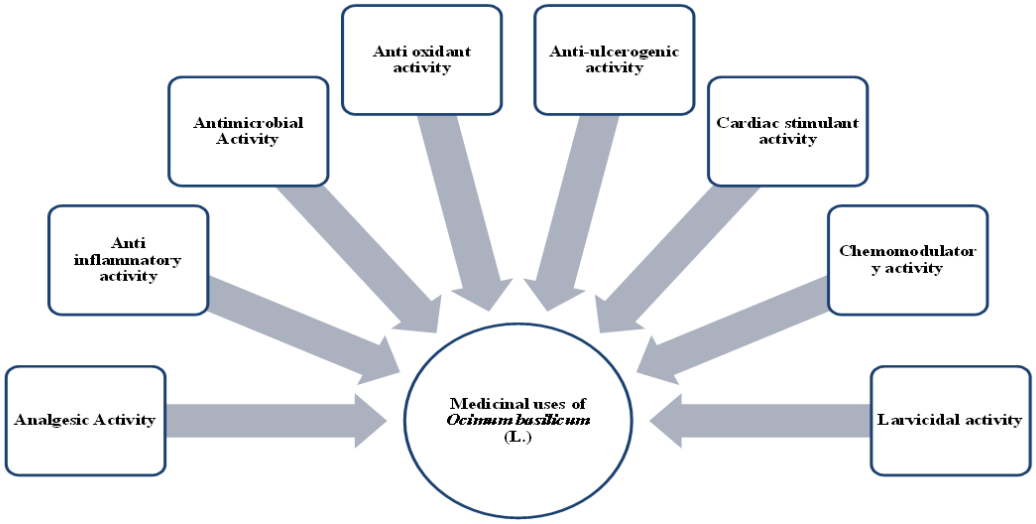
It is an erect herb, almost globerous herb, 30-90cm high, leaves ovate – lanceolate, acuminate, toothed or entire, glabrous on both surfaces, glandular, flowers white or pale purple, in simple or much – branched racemes, often thysoid; nucleus ellipsoid, black, pitted (Jayaweera, 1981).

Phytochemical compounds: The *Ocimum basilicum* (L.) herb has antipyretic, alexipharmic, and stomachic properties. Additionally, it has emmenagogue and diuretic properties. An infusion of the plant is thought to have antihelminthic, diaphoretic, anti-emetic, and anti-diarrhoeal properties in Annam. The seeds of this plant have also been linked to diuretic, aphrodisiac, and anti dysenteric effects. The plant's juice has carminative, stimulating, and antibacterial properties, while its essential oil has antibacterial, antifungal, and insecticidal properties. This plant's blossoms have stimulant, diuretic, and demulcent properties. The blossoms are also thought to be digestive stimulant, anti-spasmodic, and carminative (Nadkarni, 2005; Ismail, 2006).

Ocimum basilicum (L.) contains the monoterpenes camphor, limonene, thymol, citral, -linalool, -linalool, and estragole. The active component of *Ocimum basilicum* (L.) is methyl eugenol. The fresh basil leaves contained chichoric acid. *Ocimum's* diverse morphological components provide rich phenolic crude extracts. Anthocyanins are what give flowers their striking purple colour. The main chemicals in *Ocimum basilicum* (L.) that can be separated using the HPLC technique are linalool (52.42%), methyl eugenol (18.74%), and 1,8-cineol (5.61%). (Radulovic *etal*., 2013; Lee *etal*., 2008) The following figures shows the presence of various bioactive compounds occurs in *Ocimum basilicum* (L.) (Bilal *etal*., 2012).



Medicinal uses of *Ocimum basilicum* (L.): *Ocimum basilicum* (L.) has been used to cure ailments like pyrexia, infections, infections from insects, stomach pains, coughs, migraines, and constipation. It also has antispasmodic and anti-diabetic effects and helps regulate and lower blood sugar. Previous studies have also demonstrated anti-bacterial, anti-fungal, and anti-oxidant activities. Eugenol's anti-fungal, nematocidal, and anti-bacterial activities against pathogenic microorganisms that are found in food are its most significant therapeutic properties.Basil leaf ethanol extract can lower advanced glycation end products and blood sugar levels in diabetic rats. In traditional medicine, basil leaves are used as an antispasmodic, carminative, and stomachic. Alkaloids, tannins, flavonoids, and saponins are some of the components found in basil leaves' essential oil composition. Antioxidative, anti-inflammatory, and anti-microbial properties are included in components of basil essential oils. Diuretic, astringent, antipyretic, and stomachic characteristics are all present in basil leaves (Shahrajabiana *etal*., 2020).



CONCLUSION

The traditional medical system has recently come into focus as a viable resource to address the rising incidence of chronic, degenerative, environmental, lifestyle, and stress-related disorders. *Ocimum basilicum* (L.) has long been used as a whole herb to cure a variety of illnesses. The broad range and diversity of its activity may be due to the synergistic impact of its phytochemical ingredients, which cannot be entirely recreated with single extracts or constituents. This page provides a synopsis of traditional knowledge, ethnomedicinal, pharmacological, and therapeutic uses of the herb *Ocimum basilicum* (L). This is an attempt to aggregate and document information on many elements of the plant in order to emphasise the need for study and improvement.

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