

ANTIFUNGAL ACTIVITY OF OCIMUM SANCTUM LINN. (TULSI) PLANT IN ARID REGION OF SHEKHAWATI

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Abstract:

Fungal infections are one of the major health problems in tropical countries, and tinea is one of the most common fungal infections. Tulsi is widespread as a cultivated plant and a weed and native throughout the world tropics. The plant extract has been proved to possess various properties including antioxidant, anti-diabetic, and antimicrobial as well as wound healing properties.

Key words: - Antifungal, antioxidant activity.

Introduction:-

Fungal infections are one of the major health problems in tropical countries, and tinea is one of the most common fungal infections. Climate of the region, hygiene and socio-economic status, living conditions like nutrition, genetic susceptibilities and other such conditions play an important role in the prevalence of dermatophytic infection in a particular region (Ahmed et al, 2002, Amrani et al, 2006, Banjee et al, 1996 and Bansod et al 2008). These types of infections are increasingly becoming common today. *Ocimum sanctum Linn.* (Tulsi) has long been known as a medicinal & aromatic plant and now, its effects have also gives anti-fungal properties. *Ocimum sanctum Linn.* (Tulsi) is an erect, branched sub-shrub about 30-60 cm tall, with simple opposite green or purple leaves. It has hairy stems and strongly scented leaves. Leaves have petioles and are ovate, up to 5 cm long, usually somewhat toothed. Flowers are purplish in elongate racemes in closed whorls. Tulsi is widespread as a cultivated plant and a weed and native throughout the world tropics. It is cultivated for religious and medicinal purposes and for its essential oil. A plant with a long and drawn out history, the Tulsi has fascinated Indian researchers for many decades, partly due to its significant role in Indian 'Ayurveda' and its links to the traditional Indian household. The plant extract has been proved to possess various properties including antioxidant, anti-diabetic, and antimicrobial as well as wound healing properties. New research in the medical field only indicates that Tulsi extract is a viable alternative to other fungicides and can be used as a drug to combat infection (Bhargava et al 1981).

MATERIAL AND METHODS: -

Mature and healthy leaves of *Ocimum sanctum Linn.* (Tulsi) were collected from Jhunjhunu. For the experiments, fresh plant leaves of were collected from field in polybages with ice

packs. These fresh leaves were with tap water and than double distilled water for thrice. The leaves were dried and then grinded into powder form and mixed with distilled water (05 gm of extract in 50 ml of distilled water). The *Ocimum sanctum* Linn. (Tulsi) extract was used for testing anti microbial assay and some bacterial strains were used, these were also: *Candida albicans*, *Candida tropicanis*, *Aspergillusniger*, *Aspergillusflavus*.

ANTIFUNGAL ASSAY

Antifungal activity was examined by agar well diffusion method, against plant extract (Qureshi and Chahar, 2014). All test organisms were inoculated PDA medium for 12 hours at 28⁰C. Fugal isolates were spread on PDA medium with the help of cotton swabs (sterilize). Wells were prepared with help of sterilized gel on agar surface (6 mm diameter). 100 µl of sterilized distilled water (negative control) and 100 µl of the test extract were poured in to separate wells. For the test of positive control, various antibiotics (slandered) were placed with plant extract on the agar surface. These cultured Petri plates were put for Two to three days (76 hours) into incubator at 28⁰C. All these antibiotics tests were performed in triplicates.

Result:

Antifungal activity of aqueous extract of *Ocimum sanctum* Linn. (Tulsi)

Test Organism	Zone of inhibition (mm)		
	<i>Ocimum sanctum</i> Linn. (Tulsi)	PC	NC
<i>Candida albicans</i>	4.2±3.32	13.3±1.62	0±0
<i>Candida tropicanis</i>	13.05±0.63	22.3±1.17	0±0
<i>Aspergillusniger</i>	0.1±0.02	16.2±0.4	0±0
<i>Aspergillusflavus</i>	12.03±1.48	18.0±0.05	0±0

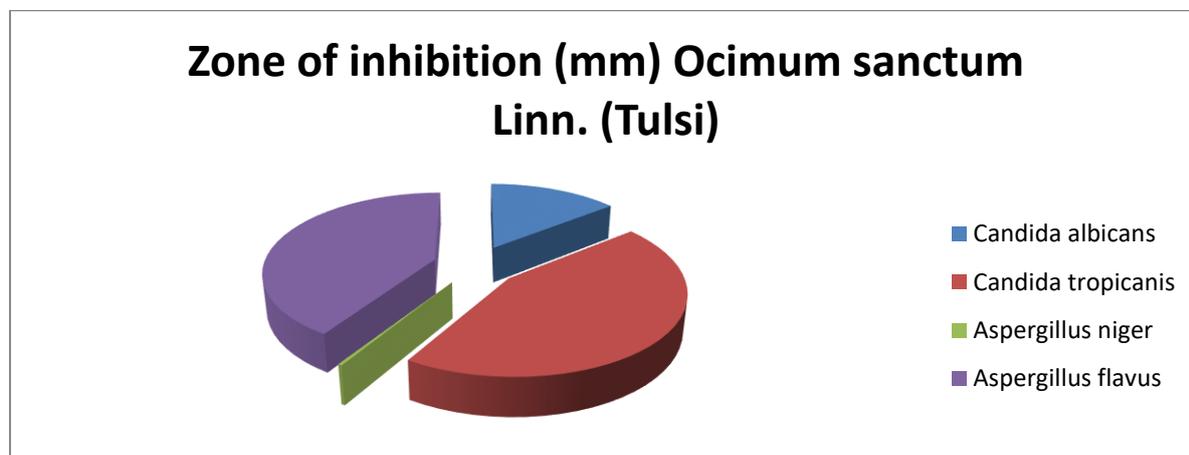


Fig.:- Antifungal activity of aqueous extract of *Ocimum sanctum* Linn. (Tulsi)

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