



Short Communication

Study of some Essential Oil to show Antifungal activity with Special Reference to *Abutilon Indicum* and *Lantana Camara*

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Abstract

In the recent decades, antimicrobial plants gained a great importance because of increase resistance towards antibiotics acquired by various microorganisms by the use of essential oils in both food and medicinal industries. Essential oils are the volatile substance which is normally formed as groups of cells which is found on any part of plant body. The function of essential oils is exactly not well recognized but it was believed that in this a variety of multiplex interactions has occurred enabling plants to utilize essential oils in the form of essence, flavoring agent or in medicines. Hence in our study we have been reported The essential oils of the leaves of *Abutilon Indicum* and *Lantana camera* for their antifungal activities and it was found that they will show positive response towards antifungal activity.

Keywords: Essential oil, antifungal, *abutilon Indicum*, *Lantana Camara*.

Introduction

Essential oil are highly volatile substance which are present in plants in any glands and they may be available anywhere on plant body either in the form of leaves, bark, flowers, stems, roots or wood. When these glands are cracked by some actions either by rubbing or by force, a smell comes out. The function of the essential oil in a plant is not well understood but most commonly they were used as a essence, perfumes, soaps, detergents, aroma, and for miscellaneous industrial products like insecticides to paints and as a flavoring agent for food products like bakery goods, confections, candies, pickles, soft drinks etc and most importantly they were also used in pharmaceuticals as well as in the field of medical science¹. Because of their numerous properties, several essential oils shows medicinal importance and they will show anti microbial, antibacterial² and antifungal activity³, anti analgesic⁴, hence in our present study we used two plant species *Lantana Camera* and *Abutilon Indicum* for their antifungal activity against *Aspergillus Niger*, *Aspergillus Nidulans*, *Rhizopusnigricans*, *Cladosporium Herbarium*, *Penicillum Digitatum*.

Lantana camara is an member of Verbenaceae Family, commonly known as wild sage, which is composed of near about 650 plant species. The *Lantana Camera* oil and extracts are used in herbal medicine for the treatment of several diseases such as high blood pressure, chickenpox, skin itches, leprosy, ulcer, asthma etc. The extract of leaves is used as antibacterial, antifungal, insecticidal activity.

Abutilon Indicum is an member of Malvaceae Family also known as “Country Mallow” or, “Kanghi and it is allocated everywhere in India From remote time, this plant species shows

great importance in ancient time as in Ayurveda with greater benefits. In recent time *Abutilon* species are traditionally believed for their wide range of medicinal and pharmacological importance and this species also shows antibacterial, antifungal, anti malarial activity against several microorganisms.

Material and Methods

The essential oil of each plant was obtained by steam distillation of plant species *Lantana Camera* and *Abutilon Indicum*.

Grounded and semi powdered state of plants are undergoes distillation process with the help of Clevenger apparatus near about 5-6 hr with correspondence to British Parma cowpea. The yield of essential oil⁵ was extracted with chloroform from the aqueous phase and purified by distillation under reduced pressure the oil where stored in a sealed glasvial in a refrigerator at 4⁰C until required. Their antifungal activity the oil so obtained was tested for its antifungal activity against fungi by filter paper disc diffusion method.

To check the antifungal activity of both plant speciec the oils were screened against. *Aspergillus Niger*, *Aspergillus Nidulans*⁶, *Rhizopusnigricans*, *Cladosporium Herbarium*, *Penicillum Digitatum* by disc diffusion method and at different concentration of each oil were used for assay fungal culture were grown on czapexclox broth (diffico) on Whatsmann no 42. Filter paper disc. Of 6mm diameter was placed in oil sample, drained and was placed on the spore seeded plates made out of P.D.A. as a Medium. The test is conducted in triplicated thee dishes and it is incubated for 2-5 days at 28⁰ C and after 2-5 days the Zone of inhibition is determined in mm.

A control taste was also run out simultaneously. The zones of both the oils are measured the data of all parameters were statistically analyzed and tabulated in table.

Table-1
Anti fungal activity of essential oil against various fungi

S. No	Fungi	Diameter of zone of inhibition in mm	
		Abutilon indicum	Lantana camara
1	<i>Aspergillus Niger,</i>	14	9.5
2	<i>ASPERGILLUS Nidulans,</i>	9.0	9.0
3	<i>Rhizopusnigricans,</i>	7.0	11
4	<i>Cladosporium Herbarium,</i>	6.5	7.0
5	<i>Penicillum Digitatum.</i>	6.0	6.5

Results and Discussion

From last few decades it was observe that several essential oil have received great importance due to their wide spectrum of biological activities against various micro organisms and they were also used as flavoring agent , perfumes etc. because of its numerous quality it will show great importance towards in the field of medical science. Hence in our study we reported antifungal activity of *Lantana Camera*⁷ and *Abutilon Indicum* by disc diffusion method which is shown in the table.

Both the oils were tested, exhibited and shows different degree of antifungal activity⁸ against *Aspergillus Niger*, *Aspergillus Nidulans*, *Rhizopusnigricans*, *Cladosporium Herbarium*, *Penicillum Digitatum*. In the present investigation it was observe that essential oil of *Lantana Camera* and *Abutilon Indicum* Shows good effective antifungal efficiency. Hence from the above our study shows that many essential oils will posse's antifungal activity.

Conclusion

Majority of essential oil showed that antifungal activity out of which *Abutilon Indicum* and *Lantana Camara* shows good antifungal activity against *Aspergillus Niger*, *Aspergillus Nidulans*, *Rhizopusnigricans*, *Cladosporium Herbarium*, *Penicillum Digitatum*.

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