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Evaluation and Determination of Antifungal Potentials of Sap of *Azadirachta Indica*

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ABSTRACT

The present research was conducted to determine in vitro Antifungal activity of Sap of *Azadirachta indica*. The Fungal strain like *C. Albicans* and *A. Niger* cause wide range of health complications to most people worldwide. From various studies we found the different parts of plant of *Azadirachta indica* exhibiting significant Antifungal activity. We conducted research to determine Antifungal activity of Sap of *Azadirachta indica* in four different volumes (0.25, 0.5, 1, 1.5 ml) and zone of inhibition of 10 to 22mm of the fungal strain were determined after 36hrs. By this research we found the Sap of *Azadirachta indica* exhibited significant Antifungal activity.

Keywords: *Azadirachta Indica*; Antifungal Activity; Zone of Inhibition.

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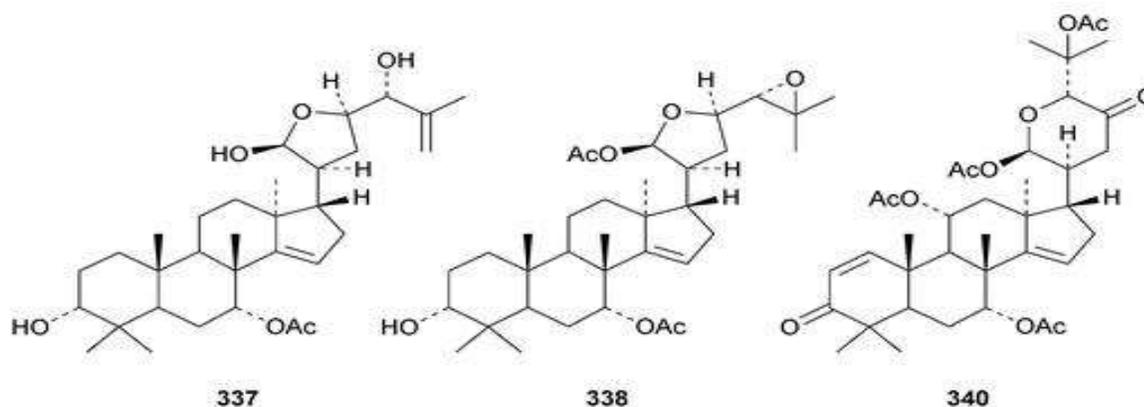
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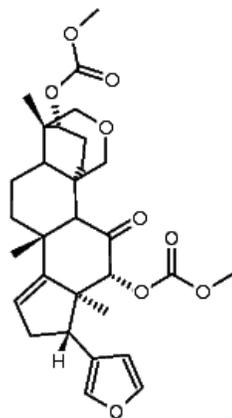
INTRODUCTION

Many Plants are used for therapeutic activity since olden days because they exhibit certain medicinal property, and such medication continues to be practiced worldwide these days. Plant parts like leaves, seeds, bark, berries, sap, roots, or flowers are widely used for medicinal property. Herbal medication acknowledges herbalism as a form of medication. The world Health Organization^{9,15} estimates that eightieth of the populations of some Asian and African countries presently use herbal medication for a few facet of primary health care. Some synthetic medicines also are used for Antifungal activity.

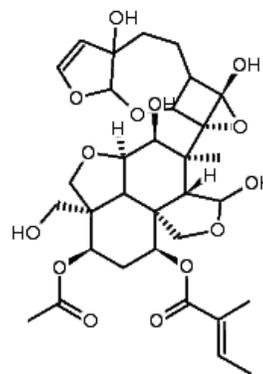
Marketed drugs are effective in dominant the infection however some medicines are valuable and show side effects. About 70-80% population worldwide of many countries depends on plants for primary health care. Many Indian's still use these natural systems of medicines, it is free from toxicity and provide value effective treatment. Some fungal strain like *C. Albicans* and *A. Niger* causes health complications to various people throughout the world, these infections are related to low standard of hygiene, mostly lacks of people are calculable to be infected annually worldwide. The Sap of *Azadirachta indica* is indigenous or naturalized compound through worldwide. It is particularly found in India, Pakistan, Bangladesh, Nepal, Myanmar and Cambodia, where it is easily planted. It can grow and develops in all types of soils with light to heavy texture and even on the poorest nutrients supply. It prefers in various type of soils. It was secreted from stem of old *azadirachta indica* trees. It also has water logging capacity. The Sap of *Azadirachta indica* has been reported to have chemical constituents such as tetranortriterpenoids, azadirone, epoxyazadiradione, nimbin, gedunin, azadiradione, azadirachtinA, azadiradione, azadirachtol, deacetylnimbin, and 17-hydroxyazadiradione. The Sap of *Azadirachta indica* has been reported to have antimicrobial^{7,8,13} antioxidant³, anti tubercular⁷, anti ulcer¹¹, anti malarial, anthelmintic^{8,10,17} anti diabetic activity^{9,10} and antiseptic activity¹¹



Tetranortriterpenoids



AzadirachtinA



Azadirachtol

MATERIALS AND METHOD

Sap of *Azadirachta indica* was found and collected from old tree of *Azadirachta indica* in the month of April- May 2016, from Fattepur Village, Purushottampur Post, Chunar Taluka, Mirzapur District, Uttar Pradesh, with proper care and instructions to protect any adulteration. Sap of was taken with different volumes (0.25, 0.5, 1, 1.5 ml). Griseofulvin is used as standard drug, against fungal strain such as *C. Albicans* and *A. Niger*¹.

Procedure:

Antifungal activity:

Antifungal activity on *C. Albicans* and *A. Niger* was determined and zone of inhibition is calculated at specific volumes (0.25, 0.5, 1, 1.5 ml). The significant Antifungal activity was conspicuously shown by Sap of *Azadirachta indica* using cup plate method and nutrient agar media².

RESULTS AND DISCUSSION:

The Antifungal activity of Sap of *Azadirachta indica* is studied with four different volumes (0.25, 0.5, 1, 1.5 ml) against *C. Albicans* and *A. Niger* was determined by cup plate method and nutrient agar media and compared with standard drug Griseofulvin at the concentration 50µg /ml against fungal strain in this studies. Data in Table No.1 clearly showed that Sap of *Azadirachta indica* exhibit Antifungal activity. The zone of inhibition of the Sap of *Azadirachta indica* was between 10 to 22 mm at (0.25, 0.5, 1, 1.5 ml) respectively.

Table 1: Antifungal activity of Sap of *Azadirachta indica* with Standard Drug

Name		C. Albicans	A. Niger
<i>Sap of Azadirachta indica (T) ml</i>	0.25ml	10	11
	0.5ml	15	15

	1ml	18	19
	1.5ml	22	21
<i>Griseofulvin (S) µg/ml</i>	50µg	28	30

CONCLUSION

The recent study on Antifungal activity of Sap of *Azadirachta indica* was determined and various components present in the Sap of *Azadirachta indica* are responsible for Antifungal activity. Sap of *Azadirachta indica* was found to have good Antifungal activity as compared to standard drug used for the study.

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