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## Antifungal Activity of Various Extracts of *Azadirachta indica* Leaf - an *In-Vitro* Study

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**Abstract : Introduction**: *Azadirachta indica* commonly called as Neem, known to be used in inflammation of gums, gingivitis, periodontitis, sores, boils, antiperiodic, malarial fever, antifertility, measles, smallpox, head scald and anthelmintic etc. The neem oil is useful as a female contraceptive also for the treatment of vaginal infections Neem oil is also used to eliminate the mosquitos in pest control management.

Aim and Objective: The aim of the study was to identify the extract which is having the maximum anti-fungal activity and also to identify the minimum dose required to inhibit the growth of the organism.

**Materials and Methods**: The antifungal activity of *Azadirachta indica* leaf was determined by using various sequential extracts like Hexane, benzene, ethylacetate, methanol, and aqueous against *Trichophyton rubrum*, *Microsporum gypseum*, *Epidermophyton floccosum*, and *Candida albicans*. The activity was evaluated by a disc-diffusion method and the minimum inhibitory concentration (MIC) by resazurinmicrotitre indicator method.

**Results**: The microbiological study was done for six times and the raw data was tabulated in excel spreadsheet and was subjected to statistics using IBM SPSS version 20 and the inhibition was found to be highly significant (P<0.05).

It was determined that the aqueous extract of *Azadirachta indica* leaves have the maximum anti-fungal activity in *Trichophyton rubrum*( $8.14\pm0.017$  at 500 µl), *Microsporum gypseum*( $10.69\pm0.021$  at 500 µl), *Epidermophyton floccosum*( $7.95\pm0.023$  at 500 µl), and Candida( $12.23\pm0.023$  at 500 µl) and it was found that at minimum dose of *Azadirachta indica* against *Trichophyton rubrum*(125 mcg/ml), *Microsporum gypseum*(125 mcg/ml), Epidermophyton(250 mcg/ml), and Candida(62.5 mcg/ml) showing as Minimum Inhibitory Concentration(MIC).

**Conclusion**: The sensitivity of extracts was concentration dependent, when the extract concentration increases, the zone of inhibition also increased.

Keywords: Antifungal, Azadirachta indica, Trichophyton rubrum, Microsporum gypseum, Epidermophyton, Candida albicans, Resazurin.

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