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Antifungal Potential of *Leptadenia Hastata* Against Some Pathogenic Fungi

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Abstract: The objective of this study was to evaluate if the plant extract could provide antifungal potential against some pathogenic fungi. Extract of Dichloromethane solvents was used for disc diffusion assay. The inhibitory concentration of the extract was performed by broth dilution method and zone of inhibition was studied by disc diffusion method at the concentration of 25, 50, 100, 250, 500 and 1000ppm in DMSO. Fluconazole was used as the reference control for antifungal study. The extract showed maximum inhibition potential of zone of inhibition against most of the pathogen (*Aspergillus niger*, *Aspergillus flavus*, *Candida tropicalis* and *Fusarium oxysporium*) used at concentration 25ppm to 250ppm with zone of inhibition (3.45±0, 3.33±0.12, 3.07±0.05 and 2.97±0.10mm respectively). The extract showed minimum inhibition potential against *Fusarium oxysporium* in all the concentration when compared with the control as well as to the other pathogens. *Aspergillus niger* and *Aspergillus flavus* was found to be more sensitive to Dichloromethane leaf extract followed by Candida tropical and lastly fusarium oxyspurium. The Present study indicates the potential usefulness of Dichloromethane leaf extract of *Leptadenia hastata* as antifungal agent.

Keywords: *Aspergillus Niger*, *Aspergillus Flavus*, *Candida Tropicalis, Fusarium Oxysporium, Leptadenia Hastata,* Fluconazole

Introduction

Leptadenia hastata (pers.) Decne belonging to family Asclepiadaceae is one of such medicinal plants, locally known as yadiya in Nigeria and Niger, *hagalhadjar* (Arabic) in Chad, *hayla* (Kusume) Ethiopia, *ekamongo* (Turkana) in Kenya, *lolongo* (Moore) in Burkina Faso, *tarhat* or *darhat* (Wolof), *busumba amata* (Jola) in Senegal and *nzongnè* (Bambara) in Mali. (Freiberger *et al*., 1998; Aberkane *et al*., 2002; Sena *et al*., 1998). It is an erect, ascending, shrub up to 1.5-3m high with green stem and pale green alternating branches with watery sap. The plant is commonly used in traditional system of medicine for relieving pain and inflammation, as well as in a number of metabolic disorders such as diabetes and obesity.

The plant represents a rich source of antimicrobial agents. It is used medicinally in different countries and it is a source of many potent and powerful drugs. A wide range of medicinal plant parts extract are used as raw drugs and are said to possess varied medicinal properties. The different parts used include root, stem-bark and leaves. Some of these raw drugs are collected in small quantities by the local communities and folk healers for local use, many other raw drugs are collected in larger quantities and traded in the market as the raw material for many herbal industries (Ambikapathy *et al*., 2011).

Considering the vast potentiality of this plant *Leptadenia hastata* as sources for antimicrobial drugs with reference to antifungal agents. The present study was designed to evaluate the invitro anti-fungal potential of leave extract against four different fungal species, A*spergillus niger, Aspergillus flavin, Candida tropicalis and Fusarium oxysporium.*

Materials and Method

Plants were collected from Michika Local Government Adamawa state Nigeria. Identification of plants was done through herbarium available in the Ahmadu bello University Zaria