

In vitro antimicrobial activity of ethanol and water extracts of *Cassia alata*

ABSTRACT

Crude ethanol and water extract of leaves and barks from *Cassia alata* were tested in vitro against fungi, (*Aspergillus fumigatus* and *Microsporum canis*), yeast (*Candida albicans*) and bacteria (*Staphylococcus aureus* and *Escherichia coli*). *C. albicans* showed concentration-dependent susceptibility towards both the ethanol and water extracts from the barks, but resistant towards the extracts of leaves. The degree of susceptibility varied, the water extract from barks showed bigger inhibition zone than the ethanol extracts (12.616 and 10.614 mm, diameter respectively). The growth of *Aspergillus fumigatus* and *Microsporum canis* were not affected by all types of the plant extracts. Results were comparable to standard antifungal drug Tioconazole (18 mm diameter) at equivalent concentration. The anti-bacterial activity of *C. alata* extracts on *S. aureus* was detected with only the leaves extracts using water and ethanol. The water extract exhibited higher antibacterial activity than the ethanol extract from leaves (inhibition zones of 11.614 and 9.611 mm, respectively). *E. coli* showed resistance to all types of extracts. Based on the current findings, it can be concluded that this plant has antimicrobial activity, which is as potent as standard antimicrobial drugs against certain microorganisms.

Keyword: *Cassia alata*; Antifungal; Antibacterial; In vitro