ANTIMICROBIAL ACTIVITY OF TRIGONELLA FOENUM GRAECUM EXTRACTS

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ABSTRACT
The antimicrobial activity of methanol extracts of various plant parts of Trigonella foenum graecum was tested against bacterial (E.coli and P.aeruginosa) and fungal (A. niger and R. stonifer) pathogens. The methanol extract of leaf and fruit had effective inhibitory activity to all the test pathogens, while that of stem showed no antimicrobial activity against all tested pathogens.

Key Words: Trigonella, Antimicrobial activity, Escherichia, Pseudomonas, Aspergillus, Rhizopus

INTRODUCTION
Plants are sources of drugs, which have made important contribution to the welfare and quality of life of urban as well as rural communities especially in tropics and sub-tropics (Sofowora 1993). Trigonella foenum graecum commonly known as methi/fenugreek has been used for a variety of health conditions such menopausal symptoms, digestive problems, inducing childbirth and to rebuild and strengthen the hair shaft. It reduces hair fall and promotes hair growth. Antimicrobial activities of methanolic extracts of plant parts were screened on 2 species each of bacteria (Escherichia coli, Pseudomonas aeruginosa) and fungi (Aspergillus niger and Rhizopus stonifer) and important findings are reported in this communication.

MATERIALS AND METHODS
Methanolic extracts (3%) of dried and powdered plant materials of stem, leaf and fruit of Trigonella foenum graecum were prepared. Pure cultures of Escherichia coli, Pseudomonas aeruginosa, Aspergillus niger and Rhizopus stonifer were used for screening antimicrobial activities.

Bacteria were grown on sterilized nutrient agar medium while fungal species on Sabouraud’s dextrose agar. These were incubated at 37°C for 48h. Each bacterial culture was maintained on the same medium after every 48 h of transferring. A fresh suspension of test organism was prepared in 1% saline solution from a freshly grown culture for transferring. A fresh suspension of test organism was prepared in 1% saline solution from a freshly grown culture for

RESULTS AND DISCUSSION
In the case of E. coli maximum IZ was observed in leaf extract (20.00mm) and minimum in fruit extract (17.00mm). Extracts of all plant part and minimum in leaf extract (15.20mm). In the case of R. stonifer maximum IZ was observed only in the fruit extract (19.11mm) and minimum in leaf extract (09.20mm). Aspergillus niger also had maximum IZ in the fruit extract (11.11mm) and minimum in leaf extract (09.20mm). The leaves of Trigonella foenum-graecum are rich in a wide variety of secondary metabolites such as glycosides, alkaloids, phytosterols, proteins, saponins and phytosterols which have been found in vitro to have antimicrobial properties.

REFERENCES