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NOTE

Antibacterial Activity of Leaf Extracts from *Azadirachta indica* A. juss and *Solanum trilobatum* Linn

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In this study, the antimicrobial activity of *Azadirachta indica* A. juss and *Solanum trilobatum* Linn plants leaves were taken for the study. The green leaves of the *Azadirachta indica* A. juss and *Solanum trilobatum* Linn plants, was extracted by aqueous method in aspetical manner. Whatman filter paper No.1, discs were used impregnation in the aqueous solution *Azadirachta indica* A. juss and *Solanum trilobatum* Linn extract and dried at 37 ºC and sterilized in air oven at 80 ºC for 2 h. The medicinal efficacy was examined against *Escherichia coli* and *Klebsiella pneumoniae* by observing the sensitive zone to the herbal extract discs.

Key Words: Antimicrobial activity, Medicinal plants, *Azardirachta indica* A. juss, *Solanum trilobatum* Linn.

Many plants and their constituents have been investigated for their antimicrobial activity[1,2]. In recent years, plant products have gained prominence as fungicide and bactericide in view of their biological activity[3-5]. In present studies, the antibacterial activity of *Azardirachta indica* A. juss and *Solanum trilobatum* Linn plants leaves are reported.

Collection of plant material: The plants were taxonomically identified at the Department of Chemistry, Government Arts College (Auto) Kumbakonam and the specimen has been deposited at the Department of Biochemistry, Government Arts College (Auto), Kumbakonam, India.

Preparation of plant extract: The extracts of leaves were prepared as per the procedure of Muller Hintor Agar medium. The extracts of leaves were involved for microbiological investigation.

Preparation of antimicrobial disc: 5.6 mm diameter filter paper disc (Whatman No. 1) were punched out. Theses discs were placed in petri dishes allowing a distance of a 2-4 mm between each discs air oven at 160 ºC for 1 h. After allowing the disc to cool, they were impregnated with the plant extract placing the petridishes in a

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desicator with lids slightly raised dried the discs. These prepared discs were labelled and stored in a closed air tight container. These discs were then placed in the agar layer. Each disc was labelled for its concentration. Thus the plate of the agar medium was inoculated with the test organism and the flavonoid solution. These plate were placed in a sterile environment. Following incubation, the plates were observed for a zone of inhibition around the drug.

Azadirachta indica A. juss and *Solanum trilobatum* Linn are popular for its antimicrobial properties. Many gram positive organisms are quite susceptible towards the compounds of *Azadirachta indica* A. juss and *Solanum trilobatum* Linn. Because the aqueous extract was chosen for the investigation it may be assumed that many of the glycosides of the primary and secondary metabolites might have been available in the aqueous extract. The membranes of the gram positive organisms are so soft, the drug is able to penetrate through the membranes to annihilate the organisms. Comparing the gram negative organisms with those of gram positive organisms it may be noted that former is composed of hard cell walls, so that the drugs used for antibacterial studies were unable to enter through the cell walls.

Zone of inhibition by *Azadirachta indica* A. juss is 13 mm for *E. coli* and 10 mm for *K. pneumniae*. Zone of inhibition by *Solanum trilobatum* Linn is 7 mm for *E. coli* and 9 mm for *K. pneumniae*. Compared to *Azadirachta indica* A. juss and *Solanum tribatum* Linn is highly active against both the bacteria.

The antimicrobial potential was studied for alcoholic extract of *Azadirachta indica* A. juss and *Solanum trilobatum* Linn against the two bacterial strains namely *Escherichia coli*, *Klebsiella pneumoniae* were tested by gram staining method. Both the plants are active against *E. coli* and also *K. pneumoniae* of the two plants *Azadirachta indica* A. juss highly active against both organisms.

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