

EVALUATION OF ANTIMICROBIAL ACTIVITY OF COMBINED EXTRACTS OF *CASSIA ALATA* *TECHOLOSPERMUM* *JASMINOIDES* *TECOMARIA* *CAPENSIS*

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ABSTRACT

Chemotherapeutic agent are use for the treatment of the microbes but increasing resistance towards this drugs so require a new agent have antimicrobial activity. So we have studied antimicrobial activity of combined extracts of *C.alata* *T.jasminoides* *T.capensis* The Combined methanolic extracts of *C.alata* *T.jasminoides* *T. capensis* were found to be posses significant antimicrobial activity against the selected test organisms.

INTRODUCTION

Due to indiscriminate use of antimicrobial drugs, microorganisms have developed resistance to many antibiotics drugs. They reduced the susceptibility to antibiotics and made it difficult to give treatment against the infectious diseases. The cost of production of synthetic drugs is also high and they produce adverse effect compared to plants derived drugs. Hence much attention has been paid recently, to the biologically active compounds derived from plants use in herbal medicine. Traditional medicines hold a great promise as source of easily available effective therapy for infectious diseases to the people, particularly in tropical developing countries, including India. It is in this context that the people use several plants derived preparation to cure infectious diseases. They provide a myriad of natural product, which are used in extensive applications in combating the diseases. In many parts of India, herbal medicine is used for treating various diseases. India possesses a vast number of medicinal plants possessing antimicrobial activity. An attempt was made to study the antimicrobial

activity of *C.alata* *T.jasminoides* *T.capensis* methanolic extracts.

EXPERIMENTAL SECTION

Plant collection

The Plants *C.alata* *T.jasminoides* *T. capensis* were obtained from different parts of Andhra Pradesh and plants were authenticated and preserved for the further studies.

Plant extraction

Extraction was carried out at room temperature under normal conditions. Combined crude powder of *C.alata* *T.jasminoides* *T. capensis* and passed through sieve 60#. 100gms of the sieved powder was weighed accurately and subjected to extraction in a Soxhlet apparatus at room temperature using petroleum ether (60-80°), chloroform and methanol successively. Before extraction with the next solvent the powder was air dried to remove the adhering solvent. The extract obtained was filtered, concentrated in rotary flash evaporator and dried in a vacuum oven, percentage yield of each extract was calculated and dried extract

was stored in air tight container for further studies. Phytochemical test of chloroform and methanolic extract reveals the presence of glycoside, flavonoids and phenolic constituents.

Preparation of test solution

Dry extraction were dissolved in sterile Dimethyl sulphoxide (DMSO AR Grade) and prepared final concentration of 5gm/ml for disc diffusion assay for broth micro dilution technique. All extracts were sterilized by passing through a 0.45mcm membrane filter.

Micro-Organisms

Bacteria causing infectious diseases both in animals and humans were used in the present

study. They were both gram-positive and gram-negative. The bacteria strains used in the study were Escherichia coli NCIM 2109, proteus mirabilis, proteusaureus, Klebsiella pneumonia and Staphylococcus epidermidis. All the bacterial Strains were grown and maintained on nutrient agar slants.

Screening of Anti microbial activity of *C. alata T.jasminoides T.capensis*

Disc diffusion method was carried out to evaluate the antimicrobial activity by using Muller Hinton agar. Sterile filter paper disc Whatmam (No.1 6mm) was impregnated with 100mcl of each extract (10mg/ml and 20mg/ml) to give a final concentration.

Table 1: Antimicrobial activity of combined methanolic extracts of *C.alata T.jasminoides T.capensis* against selected micro organisms

MICRO ORGANISM	Zone of inhibition(mm)					
	0.630mg/ml	1mg/ml	2mg/ml	5mg/ml	10mg/ml	Standard*
Bacteria						
E.coli	8	9	9	12	15	18
p.mirabilis	6	7	8	11	12	15
P.aureus	7	8	11	13	15	16
K.pneumoniae	8	8	11	13	17	16
s.epidermidis	7	8	10	13	18	17

Disc and 2.0mg/disc. The discs are properly placed on already seeded as negative control and standard. Were used as a standard to compare antibacterial and antifungal potential of extracts respectively. All the plants were incubated for 24hrs at $37 \pm 0.5^\circ$. The antibacterial activity of the combined methanolic extracts were tested

RESULTS AND DISCUSSION

Table 1: Antimicrobial activity of combined extracts of *C.alata T.jasminoides T. capensis* as diameter of the zone of growth inhibition.

The presence of either of glycosides, flavonoids or phenolic compounds of is responsible for antimicrobial activity. Hence it can be concluded combined methanolic extracts of *C.alata T.jasminoides T.capensis* possess a powerful antimicrobial action against all the microbes were tested against standard. This also stands as a scientific support for the usage of this plant for treating fever and in traditional medicine.

CONCLUSION

Microbes of increasing resistance towards this drugs so require a new agent have antimicrobial

activity. So it was concluded that the antimicrobial activity of combined extracts of *C.alata T.jasminoides T. capensis* extracts tested. The Combined methanolic extracts of *C.alata T.jasminoides T. capensis* were found to be possess powerful antimicrobial activity against the selected test organisms with standard.

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