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RESEARCH ARTICLE

Studies on phytochemical screening and antibacterial activity of (*Physalis minima* L.)

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SUMMARY

Aqueous and ethanol extracts of *Physalis minima* on five test bacteria such as (*Bacillus cereus, Escherichia coli, Klebsiella pneumonia, Pseudomonas fluorescens and Staphylococcus aureus)* exhibited concentration dependent antibacterial activity. All fractions showed a promising activity towards *Bacillus cereus Klebsiella pneumonia, Pseudomonas fluorescens and Staphylococcus aureus*, however, less inhibition was observed in *Escherichia coli.* Similarly when compared to aqueous leaf extract, ethanol leaf extract showed maximum activity against all the tested organisms.

Key Words : *Physalis minima*, Phytochemical analysis, Antibacterial activity

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India is a land of rich biodiversity. Medicinal plants have been known for millennia and are highly esteemed all over the world as a rich source of therapeutic agents for the prevention of diseases and ailments. Antibacterial properties of various plant parts like the root, stem, leaves, flowers and fruits have been analysed for some of the medicinal plants for the past three decades. Medicinal plants could be used against the bacteria which are resistant to the present day antibiotics. So an analytical work in this line is necessary to analyse the phytochemical screening and antibacterial activities of an underexplored plant namely *Physalis minima* L.

MATERIALS AND METHODS

Plant materials were collected from the Revenue Village of Thoppupalayam, Erode district, Tamil Nadu. Plants were identified and confirmed with the authentic herbarium specimen available in the department of botany at Vellalar College for women, Thindal, Erode-12. Fresh leaves were collected and shade dried under room temperature. The dried leaves were grounded into a coarse powder and used for further investigations. The microorganisms used in the present study are *Bacillus cereus, Escherichia coli, Klebsiella pneumoniae, Pseudomonas fluorescens* and *Staphylococcus aureus.*

Two methods of extractions were carried out :

– Aqueous extraction
– Ethanol extraction

Extraction procedure :

A soxhlet apparatus was used for extracting antimicrobial active compounds from leaves. The collected plant leaves were shade dried and powered separately. 20g of dried powder was packed into thimble and then subjected to extraction with water and chloroform separately. The collected extracts were concentrated by evaporation under room temperature. The collected extracts were then chosen to test antibacterial activity.

Phytochemical analysis :

The powered leaf samples were analyzed for

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