

**EVALUATION ANTIBACTERIAL ACTIVITY OF
PALSUGANDI LEHYAM, (A Siddha formulation)**

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Summary

The methanolic extract of Palsugandi Lehyam was evaluated for antibacterial activity against *Bacillus subtilis*, *Escherichia coli*, *Streptococcus aureus* and *staphylococcus*. The study was carried out by cup-plate method. Erythromycin was used as standard antibacterial agent. The results of the study revealed that, the Palsugandi Lehyam exhibited significant antibacterial activity.

Keywords: Palsugandi Lehyam, Antibacterial, Erythromycin.

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Introduction

Palsugandi Lehyam consisting of Palasugandi (*Hemidesmus Indicus*), Aswagnadha (*Withania somniferum*), Yalakulu (*Caesalpinia bonduc*), Jajikaya (*Myristica fragrans*), Vayuvidangalu (*Embeli ribes*), and Zeelakara (*Cuminum cyminum*). Palsugandi Lehyam claimed to be used for skin and urinal diseases (1-5).

Experimental

Preparation of extract;

Palsugandi Lehyam (Godavari Ayurvedic Pharmacy Regd. Tadepalligudem, Andhra Pradesh) was extracted with methanol by maceration process. The different concentrations (1, 2, 4, 6, 8 and 10 mg/100 µl) were prepared with DMSO.

Test Microorganisms

Bacterial strains were obtained from Microbial type culture collection (MTCC) *Staphylococcus aureus* MTCC 3160, *Escherichia coli* MTCC 40, *Streptococcus* MTCC 389 and *Bacillus Subtilis* MTCC 121, procured from Department of Biotechnology, Nagarjuna College of Engineering and Technology, Bangalore.

Antibacterial study

The antibacterial activity was evaluated by employing 24 hrs cultures of *B. subtilis*, *E. coli*, *S. aureus* and *Staphylococcus*, using nutrient agar medium. The bacterial strains were transferred to sterile plates aseptically.

The plates were left at room temperature and allowed for solidification. In each plate one well of 6 mm diameter were made using a sterile borer. Accurately 100 μ l different dilutions of methanolic extract of Palsugandi Lehyam (1, 2, 4, 6, 8, 10 mg) and single concentration of erythromycin (10 mg/ml) solutions were transferred to wells aseptically and labeled accordingly. The plates were incubated at $37 \pm 1^\circ\text{C}$ for 24 hrs. The diameter of zone of inhibition surrounding each of wells was recorded (4).

Results and Discussion

Results of antimicrobial activity of different dilutions methanol extract Palsugandi Lehyam were measured in terms of zone of inhibition. It revealed that Palsugandi Lehyam was possess antibacterial activity against bacterial strains like *Escherichia coli*, *staphylococcus*, *Bacillus subtilis*, and *Streptococcus aureus* in comparison with standards erythromycin.

Palasugandi, Aswagnadha, Vayuvidangalu, Yalakulu, and Zeelakara claimed to possess antiseptic in wounds, leucoderma, leprosy, itching, urinary and skin diseases etc (3-5). So Palsugandi Lehyam showed significant antibacterial activity. Jajikaya used to treat jaundice, inflammation, and as aphrodisiac (2).

Table 1: Antibacterial activity of methanol extract of Palsugandi Lehyam

Microorganisms	Zone of Inhibition of methanol extract in mm					
	1 mg	2 mg	4 mg	6 mg	8 mg	Erythromycin 5 µg/100 µl
<i>E. coli</i>	5	6	5	10	11	14
<i>Staphylococcus</i>	5	5	4	6	6	16
<i>B. subtilis</i>	3	7	5	10	12	12
<i>S. aureus</i>	3	5	5	15	16	14

Acknowledgment

Authors are thankful to K.V. Naveen Kiran, Chairman, Sri K.V.College of Pharmacy, Chickballapur, Karnataka State (India) for providing facilities.

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