



## Evaluation of anti bacterial activity of Amirthathi Kuligai among Maantha suram and Vidaa suram.

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### Abstract

Siddha system of medicine is one among the oldest and traditional medicines of india which is well known for the effectiveness of treating the diseases. Anti microbial sensitivity testing of “Amirthathikuligai” a poly herbal formula which is indicated for Maanthasuram and vidaasuram. This preparation is a reference quoted in siddha text” Siddha vaithiyathirattu”.The preliminary anti microbial testing were carried out by Agar diffusion method. The organisms tested were *Staphylococcus aureus*, *Streptococcus mutans*, *Bacillus subtilis*, *Proteus vulgaris*, *E.coli*, *Klebsiella pneumoniae* and the zone of inhibition was recorded by disc diffusion method. The results of Anti- microbial sensitivity testing of the drugs are being discussed.

**Keywords:** Amirthathi kuligai, anti microbial, maanthasuram, vidaasuram

### Introduction

Bacterial illnesses causing fever can affect almost any organ system in the body. They can be treated with antibiotics. Gastro intestinal system (digestive system) infections are indicated by diarrhea, vomiting, stomach upset and sometimes blood in the stool. Blood in the stool can indicate a bacterial infection or other type of serious illness. Hence the authors of this paper has done the preliminary work and scientifically explored the Anti microbial sensitivity testing of Amirthathikuligai which is indicated for Maanthasuram and Vidaasuram.

### Materials and Methods

#### Antibacterial Activity Procedure:

#### Test Organism:

The test microorganisms used for antimicrobial analysis *Staphylococcus aureus* MTCC737, *Bacillus subtilis* MTCC 441, *Streptococcus mutans* MTCC 890, *Proteus vulgaris* MTCC 426, *Klebsiella pneumonia* MTCC 530, *Escherichia coli* MTCC 443, were purchased from Microbial Type Culture Collection and Gene Bank (MTCC) Chandigarh. The bacterial strains were maintained on Nutrient Agar (NA) and fungi on Sabouraud Dextrose Agar (SDA).

### Nutrient Broth Preparation

Pure culture from the plate were inoculated into Nutrient Agar plate and sub cultured at 37°C for 24 h. Inoculum was prepared by aseptically adding the fresh culture into 2 ml of sterile 0.145 mol/L saline tube and the cell density was adjusted to 0.5 McFarland turbidity standard to yield a bacterial suspension of  $1.5 \times 10^8$  cfu/ml. Standardized inoculum Used for Antimicrobial test.

### Antimicrobial Test:

The medium was prepared by dissolving 33.9 g of Muller Hinton Agar Medium (Hi Media) in 1000 ml of distilled water. The dissolved medium was autoclaved at 15 Lbs pressure at 121°C for 15 min (pH 7.3). The autoclaved medium was cooled, mixed well and

poured onto 100 mm petriplates (25 ml/plate) the plates were swabbed with Pathogenic Bacteria culture viz. *S.aureus*, *B. subtilis*, *S. mutans*, *P. vulgaris*, *K. pneumoniae*, *E. coli*. Finally, The Sample or Sample loaded Disc was then placed on the surface of Mullar-Hinton medium and the plates were kept for incubation at 37°C for 24 hours. At the end of incubation, inhibition zones were examined around the disc and measured with transparent ruler in millimeters. The size of the zone of inhibition (including disc) was measured in millimeters. The absence of zone inhibition was interpreted as the absence of activity (Kohner *et al.*, 1994; Mathabeet *al.*, 2006). The activities are expressed as resistant, if the zone of inhibition was less than 7 mm, intermediate (8-10 mm) and sensitive if more than 11 mm (Assam *et al.*, 2010)

### Results

#### Anti-microbial screening report:

S.No	Organisms	Extract(mm)	Positive control Streptomycin(mm)
1	<i>E.coli</i>	8	20
2	<i>Bacillus subtilis</i>	8	15
3	<i>Proteus vulgaris</i>	-	20
4	<i>Klebsiella pneumoniae</i>	-	20
5	<i>Streptococcus mutans</i>	-	22
6	<i>Staphylococcus aurues</i>	-	20

#### Agar-diffusion method



*E.coli*



*Bacillus subtilis*

## Conclusion

Hence from the in-vitro study results it is concluded, that the test drug “Amirathatikuligai “shows moderate effectiveness against the anti microbes *E.coli*, *Bacillus subtilis*. which is specifically indicated for Maanthasuram and vidaasuram as per siddha text, siddha vaithiyathirattu. This is only the preliminary work done by the authors of this study. Further more work has to be done regarding to the literature.

## References

1. Dr.K.M.Nadkarani,IndianMateriaMedica vol:1  
Publisher: popular prakash,Mumbai,india.
2. Dr.Murugesu Muthaliyar, siddha Materia Medica(vegetable section), volume1, fourth edition 1988, publisher; Tamilnadu siddha medical council, Chennai.
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