

Research Article

**IN VITRO ANTIBACTERIAL ACTIVITY OF ASHTA BAIRAVA MATHIRAI**

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**Abstract**

Siddha Medicine is an ancient Indian system of medicine that uses a wide range of treatments and techniques. Siddha medicine is considered pseudoscientific, since there is no enough proven scientific papers for the medicines that are effective in current practice. This study is conducted to explore the Anti microbial activity of Ashta Bairava Mathirai which is being used from ancient times for treating 64 types of fever and visha thodam with appropriate adjuvants.

**Keywords:** Siddha Medicine, Ashta Bairava Mathirai, Antibacterial Activity.

**Introduction**

Siddha is a system of medicine which aims at healing not only a bootha udal (physical body) but also sookkuma udal(subtle body). The medicines are prepared according to the prakruthi of a person and the therapeutic effects needed. Mostly the constituents which are used in medicinal preparations are obtained from the natural sources.

Ashta Bairava Mathirai is one among the preparations that is being used for various types of fever.

Standard operating procedure for Preparation of Ashta Bairava Mathirai:

**Ingredients**

1. Vaalam – ½ Balam
2. Rasakarpooram
3. Lingam
4. Kandhagam
5. Veeram
6. Naabi
7. Rasam
8. Thirikadugu
9. Sadhikkai
10. Sadhipathiri
11. Lavangam – all 1 varagan each

**Purification of raw drugs**

The raw drugs are purified as per the methods mentioned in the siddha literature.

### Preparation:

All the drugs are powdered and grinded with lemon juice and human milk for six hours and then grinded with the juice of poduthalai, kaiyan and navarpattai for nine hours and made into pepper sized pill.

### 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 pneumoniae* MTCC 530, *Escherichia coli* MTCC 443, *Aspergillus niger* MTCC 281, *Aspergillus. flavus* MTCC 535 and *Candida albicans* MTCC 277, 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; Mathabe et 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)

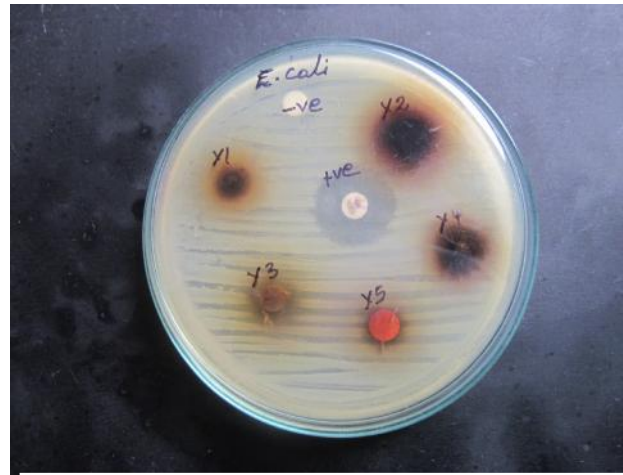
### Results

**Table 1 Antibacterial activity of Ashta Bairava Mathirai**

Bacterail name	Extract	Positive control
<i>Proteus vulgaris</i>	15mm	20mm
<i>Klebsiella pneumoniae</i>	8mm	20mm
<i>E. coli</i>	22mm	20mm
<i>Bacillus subtilis</i>	NZ	15mm
<i>Streptococcus mutans</i>	NZ	22mm
<i>Staphylococcus aureus</i>	24mm	20mm



**Figure 1** Antibacterial activity of Ashta Bairava Mathirai (*Klebsiella pneumoniae*)



**Figure 2** Antibacterial activity of Ashta Bairava Mathirai (*E. coli*)



**Figure 3** Antibacterial activity of Ashta Bairava Mathirai (*Streptococcus mutans*)



**Figure 4** Antibacterial activity of Ashta Bairava Mathirai (*Proteus vulgaris*)



**Figure 5** Antibacterial activity of Ashta Bairava Mathirai (*Staphylococcus aureus*)

## Conclusion

From the results, we conclude that Ashta Bairava Mathirai has potent action against the *Staphylococcus aureus* and *E. Coli*. Thus the antimicrobial activity of Ashta Bairava Mathirai is established.

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