

**Antimicrobial Activity Of Poly Herbal Siddha Formulation *Chundai Vatral Choornam***Karthi S<sup>1\*</sup> Sivakkumar S<sup>2</sup> Visweswaran S<sup>2</sup><sup>1\*</sup> PG scholar, Department of Gunapadam, National Institute of Siddha, Chennai.<sup>2</sup> Faculty, Department of Gunapadam, National Institute of Siddha, Chennai .

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**Abstract**

Siddha system of medicine is a holistic system of traditional medicine emphasizing curative and preventive measures. The medicines used in Siddha are plant origin, metals, minerals and animal products. *Chundai Vatral Choornam* is one of the poly herbal Siddha formulation which is used for Kalichal, Porumal, Mantham, Athisaram and Kirani. This study is aimed to evaluate the antimicrobial activity against the selected human pathogens. The antimicrobial activity was performed against the following microorganisms *Escherichia coli*, *Klebsiella pneumoniae*, *Bacillus cereus*, *Staphylococcus aureus* and *Salmonella typhimurium* by the Cup plate method. Norfloxacin 10mcg was employed as standard drug. It was observed that *Chundai Vatral Choornam* shows significant antibacterial activity against almost about the organisms tested, when compared to the standard drug which was evident from the zone of inhibition. This study motivates us to evaluate the potent antimicrobial Siddha medicines from plant sources. This study conformed the traditional use of *Chundai Vatral Choornam* as an antimicrobial agent.

**Key words: Antimicrobial, *Chundai Vatral Choornam*, Siddha Medicine****Introduction**

Siddhars were considered as the pioneer of Siddha system, this system of medicine mainly encompasses for a healthy life for human beings. Among the broad spectrum of treatment aspects in Siddha system Siddhars classify the forms of internal medicines into 32 types which are all unique by its preparations. Siddhars handled many procedures for preparation of medicines among which Mooligai prayogam is one of the methods which involves treating the ailments by using herbal preparations<sup>1</sup>. Chooranam is one of the forms of internal medicine which can be used as single as well as poly herbal formulations. Microbes are everywhere in our world from high peaks to deep oceans and some of them are harmful to humans. Screening of antimicrobial activity on medicinal herbs is important to develop herbal based drugs against pathogenic organisms. *Chundai Vatral Choornam* is one of the poly herbal Siddha formulation which is used for various gastro intestinal disorders<sup>2</sup>. In this way, Anti-microbial action of a poly herbal Siddha formulation, *Chundai Vatral Choornam* against five bacterial (G. positive and

G.negative) species namely, Escherichia coli, Staphylococcus aureus, klebsiella pneumoniae , salmonella typhidium, bacillus cereus and one fungal species candida albicans was evaluated.

## Materials And Methods

### Test Drug

The drug *Chundai vatrал chooranam* was selected from Siddha Vaithiya Thirattu which is an approved text to take this medicine for research. The test sample *Chundaivatrалchooranam* was purchased from IMCOPS (Tradition medicine manufacturing pharma company)Chennai.

The ingredient of this formulation.

**Table 1: Composition of the herbal formulation[2]**

S.No.	Tamilname	Botanicalname	Used part	Previously done pharmacological activity results
1.	<i>Chundaivatrал</i>	<i>Solanumtorvum</i>	Dried fruit	Antimicrobial <sup>3</sup> Anti fungal <sup>3</sup>
2.	<i>Karuveppilai</i>	<i>Murayakoenigii</i>	Leaves	Antiinflammatory <sup>[4]</sup> Antimicrobial <sup>3</sup>
3.	<i>Maamparupu</i>	<i>Manginiferaindica</i>	Seeds	Antimicrobial <sup>[6]</sup>
4.	<i>Omam</i>	<i>Trachyspermumammi</i>	Seeds	Anti oxidant <sup>[7]</sup>
5.	<i>Nellivatrал</i>	<i>Emblicaofficinalis</i>	Seeds	Antimicrobial <sup>[8]</sup>
6.	<i>Maadhulai odu</i>	<i>Punicagranatum</i>	Skin(Ectoderm)	Antibacterial <sup>[9]</sup>
7.	<i>Vendhayam</i>	<i>Trigonella foenumgraecum</i>	Seeds	Antimicrobial <sup>[10]</sup>

### Indications

- 1.Agnimantham (Indigestion)
- 2.Kazhichal(Diarrhoea)
- 3.Moolam(Piles)
- 4.Porumal(Flatulence)
- 5.Easily digest the oil food

The in-vitro antibacterial activity of *Chundaivatrалchoornam* was performed by using the Cup-plate method. Norfloxacin was used as standard

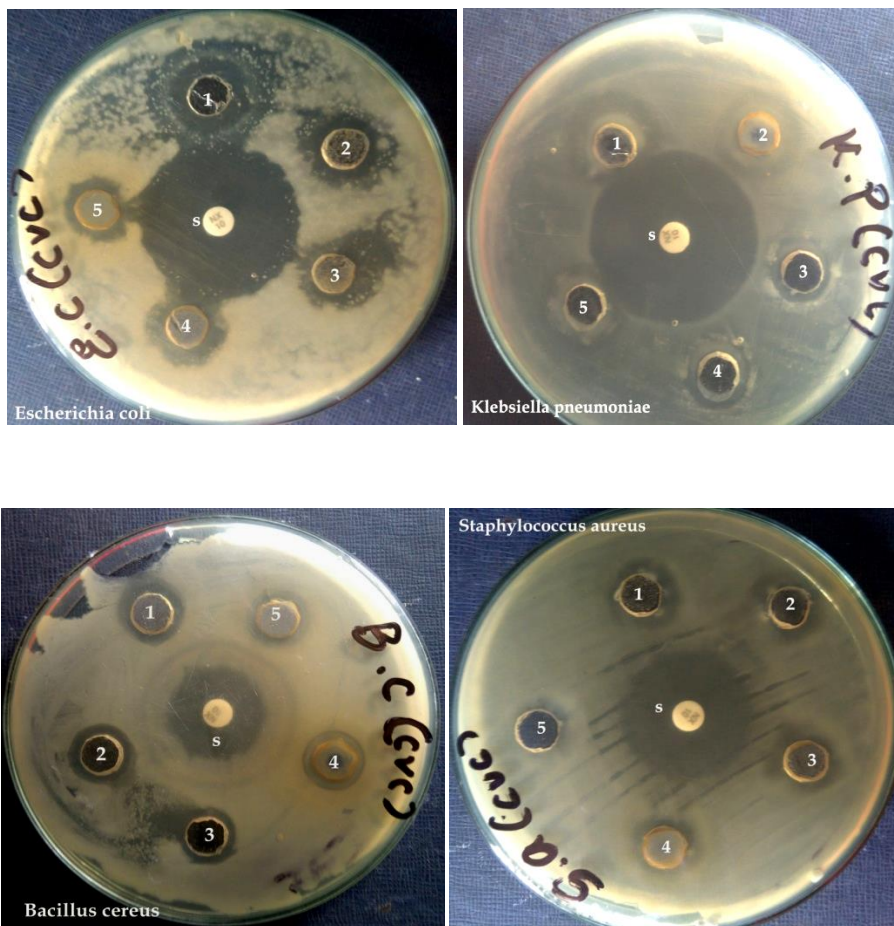
### Test Performed

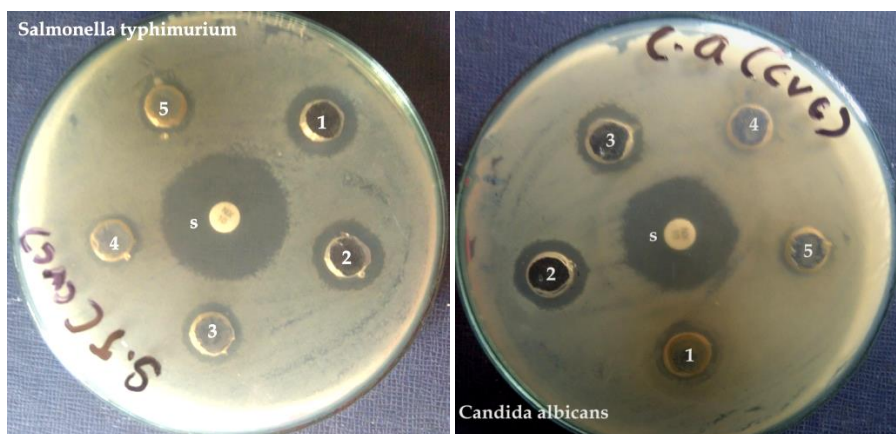
#### Antimicrobial Activity

The procedures performed using cup plate method :

Each Petridish was filled to a depth of 4-5 mm with a nutrient agar medium that was previously inoculated with suitable inoculums of suitable test organism, and then allowed to solidify. The petridish were specially selected with flat bottom and were placed on level surface so as to ensure that the layer of medium is in uniform thickness. The petridishes were sterilized at 160-170°C in hot air oven for 30 mins before use. Small sterile borer of uniform size was placed approximately at 10 cm height, having an internal diameter of approximately 6-8 mm and made of aluminium (or) stainless steel. Each plate was divided in to four equal portions along the diameter. To each portion one cylindrical cavity was made in medium with the help of sterile borer. Three cavities for test compounds and one cavity for the standard. The petridishes were incubated at 37°C for 18 hours. Diameter of the zone of inhibition was measured and the average diameter for each sample was calculated. The diameter obtained by the test sample was compared with that produced by standard Norfloxacin<sup>11</sup>.

### Results





		Zone of inhibition in mm							
S.NO	Organism	1	2	3	4	5	6	7	Amp (s)
1.	<i>Escherichia coli</i>	29	20	18	15	12	10	9	38
2.	<i>Klebsiella pneumoniae</i>	20	19	12	11	-	-	-	-
3.	<i>Bacillus cereus</i>	20	19	15	12	8	-	-	+
4.	<i>Staphylococcus aureus</i>	19	13	12	10	-	-	-	+
5.	<i>Salmonella typhimurium</i>	23	21	12	9	8	-	-	-
6.	<i>Candida albicans</i>	22	21	16	7	-	-	-	+
Std: Norfloxacin 10mcg									

### Discussion

The *Chundai vatral Chooranam* is one of the traditional herbal formulations in the Siddha system of medicine which is very effective for all kinds of gastrointestinal disorders. *Chundai vatralchooranam* were tested against bacterial and fungal strains. The highest zone of inhibition against *Staphylococcus aureus* is 19mm, *Bacillus cereus* is 20mm, *Escherichia coli* is 29mm, *Salmonella Typhi* is 23mm, *Klebsiella pneumoniae* is 20mm, and *Candida albicans* is 22mm. This effect was concentration dependent. The present study showed that the polyherbal formulation *Chundai vatralchooranam* has got antibacterial and antifungal activity.

### Conclusion

It is concluded that the polyherbal formulation *Chundai vatralchooranam* is active against the tested microorganisms.

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