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Research Article

INVITRO ANTI - MICROBIAL ACTIVITY OF HERBALFORMULATION (*SEETHABEDHI VADAGAM*)

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ABSTRACT

Siddha system of medicine is the most primitive medicinal system, a source for relief from illness. Medicinal plants represent a rich source of antimicrobial agents. The present study was taken to investigate the in vitro-anti microbial activity of herbal drug *Seethabedhi vadagam* indicated for all types of Dysentery, which is the traditional Siddha polyherbal formulation. In children dysentery is major risk factor for malnutrion and death. Disc diffusion method was used for invitro antibacterial screening, zones of inhibition were observed in disc diffusion for anti-microbial investigation against gram–positive and gram–negative pathogenic bacteria. Different concentrations of drugs were used to see the anti–microbial activity. The present study revealed that maximum growth of inhibition and effectiveness was remarkably observed in the extracts of *Seethabedhi Vadagam*. These results indicate that *Seethabedhi Vadagam* have potential antibacterial activity against E.coli and B.subtilis.

KEYWORDS: Herbal formulation, *Seethabedhi Vadagam*, Disc–Diffusion method, Anti- microbial activity.

INTRODUCTION

Among the death causing diseases in pediatric age group, Dysentery is the second leading cause. Every year 1million of child die.[1] Although the modern synthetic antidysentric drugs are effective, they also cause various side effects like abdominal discomfort, dry mouth, Nausea etc. Herbs are the vital source of drugs from ancient time holding the scenario of the Indian system of medicine. Adverse effect and the economical burden to patients associated with allopathic drugs have provoked the need for research in drugs which are, belonging to the traditional systems of medicine[2,3].

In view of above information the present study has been undertaken to assess the anti-microbial activity of polyherbal formulation *Seethabedhi Vadagam* indicated for Seethakazhichal (bacillary dysentery) in Siddha literature. (Dose-500mg, twice a day with curd. Indication- all types of dysentery) [4]

The herbal drug *Seethabedhi Vadagam* contains different herbs viz Punica granatum (*Mathulai*), Myristica Fragrans, (*Jathikai*), Quercus Infectoria (*Massikai*), Syzygium Aromaticum (*Ilavangam*) and Papaver Sominiferum (*Kasa kasa*).

MATERIALS AND METHODS

COLLECTION OF RAW DRUG

The raw drugs of *Seethabedhi Vadagam* were purchased from Tamcol pharmacy at Chennai.

PURIFIACTION OF INGREDIENTS

Tender fruit of Punica granatum was washed in water then the raw drugs Myristica Fragrans, Papever Somiferum, Syzygium Aromaticum, Quercus Infectoria were purified by gently frying.[5]

PREPARATION OF *SEETHABEDHI VADAGAM*

The evidence of this *Seethebedhi Vadagam* is in Noikalukku siddha parikaram.

Secure *Mathulam pinju* and put the *Churanam* of *Jathikai*, *Masikai*, *Ilavangam* into it, next the *Mathulam pinju* is covered with few layers of *Kavi* cloth, dried and subjected to *Lagupudam* on *Avipudam*. The *Pinju* should become well boiled then ground in a stone motor adding Kasakasa/tried *Churanam* and made into *Vadagams* about a *Chundaikai* size (500mg). For the study the aqueous extract of *Seethabedhi Vadagam* was used.

Table 1: Ingredients of *Seethabedhi Vadagam* [6,7]

S. No.	Drug name	Botanical Name	Part Used	Action	Proportion
1	Mathulai	Punica granatum	Tender fruit	Anti bacterial Anti diarrheal Anti emetic	1 no
2.	Massikai	Quercus infectoria	Gall	Anti bacterial Anti larvicidal Anti microbial	12 g
3.	Kasakasa	Papaver somniferum	Seed	Haemostatic Anti spasmodic	12g
4.	Ilavangam	Syzygium Aromaticum	Flower bud	Anti emetic Anti spasmodic Anti microbial	12g
5.	Jathikai	Myristica fragrans	Unriped fruit	Anti spasmodic Anti bacterial Anti emetic	12g

TEST OF MICROORGANISMS

The test organisms used for study were bacillus subtilis staphylococcus aureus, Ecoli and pseudomonas aerugenosa the bacterial strains were grown and maintained on Muller Hinton agar at 37ºC at CL Baid metha college of pharmacy thuraipakkam.

PREPARATION OF INOCULUM

The anti-microbial activity of test compound was carried out by disc diffusion method. The concentration of the aqueous extract of *Seethabedhi Vadagam* was used in the concentration of 50, 100, 200µg/ml diluted with DMSO. (Dimethyl sulfoxide).

The target microorganism staphylococcus aureus, Escherichia coli, Bacillus subtilis, pseudomonas aerugenosa were cultured in Muller-hinton broth (MHB). After 24hrs the suspensions were adjusted to standard subculture dilution of the petri dishes containing muller hinton agar (MHA) medium were culture with microorganisms diluted bacterial strain.

ANTI- MICROBIAL ACTIVITY

Each concentration was injected to the sterile disc papers (whatman No:1 diameter 6mm) then the prepared disc were placed on the culture medium, standard drug ciproflaxacin (10µg) was used as a positive reference standard to determine the sensitivity of each microbial species tested then the incubated plates were incubated at 37ºC for 24hr for the tested micro organisms. The diameter of the clear zone around the disc was measured and expressed in millimeters as its anti-microbial activity. Anti-microbial activity of test compound against the Eschericia coli, Bascilus subtilis, staphylococcus auceus, pseudomonas aeruginosa.

The Present Study Conducted in C.L.Baid Metha College of Pharmacy, Thorai pakkam, Chennai.

RESULT

Invitro antibacterial activity of polyherbal drug *Seethabedhi Vadagam*.

The antimicrobial activity of *Seethabedhi Vadagam* were investigated using disc diffusion method table: 2 against the pathogens such as E. coli, staphylococcus aureru spseudomonas aruginous, bacillus subtilius. Table showed excellent activity against E. Coli and B. subtilis.

Target Organisms	**Zone Of Inhibition (mm)**			
	Seethabedhi Vadagam			**Ciprofloxacin (10µg)**
	50µg	**100µg**	**200µg**	
E. coli	4	5	8	12
Staphylococus aurerus	3	4	6	15
Pseudomonas aruginous	3	5	6	22
Bacillus subtilius	4	6	6	11

CONCLUSION

The uniqueness and super specialty of the Siddha medicine is permanent curing of disease. Herbal drug have made large contribution to human health and well being, according to the Siddha literatures most of the drug present in *Seethabedhi Vadagam* having anti-diarrhoeal anti-bacterial and septic actions. The combinations of these herbs results in the combined effects of all the constituents and properties and makes the preparation more effective. Since this preparation does not contain any preservative so it is very safe to children.

In this present study preliminary screening for antimicrobial activity showed that the drug exhibits excellent activity against E.coli and B.subtilis.

It may conclude that *Seethabedhi Vadagam* is active against bacillary dysentery.

REFERENCE

1. O.P.Ghai Essential pediatrics 6th edition CBS publishers and distributors delhi.2005.P.269.
2. Chris A Alaor, cecilla, Igwilo, P.Azubulke evaluation of anti-bacterial activity of herbal ointments formulated with methanolic extract of cassia alata. Asian journal of biochemical and pharmaceutical science 2012.ISSN:2249-622x.
3. S.A.Hussin, M.S.Khalid, S.S.Ahmed, Anti-microbial activity of polyherbal formulations. Journal of pharmaceutical research and opinion 2011(94-95).
4. Noikalukku siddha maruthuva parikaram Vol-I, Department of Indian medicine and homeopathy.Page.No.508.
5. Sigicha ratnadeepa suthimuraikal Rathna nayagar & Sons. Page No:30,31.
6. Dr. Murugesa muthaliar, siddha materia medica(vegetable section) volume- I, Tamilnadu siddha medical council Chennai. Page No: 24, 111, 431, 746, 749.
7. N.S Zoreky Anti-microbial activity of Pomgranate. International journal of Food and microbiology.2009 vol-134(3) Page.No.244-248
8. Dayang fredalina and S H Ran.The potential of aqueous and acetone extracts of Quercus infectoria anti-bacterial agents. Department of Biochemical Science. University kebangrsaan.2005.vol-37.Page.No.26-29.

9. Nazia massod and Parween Tariq. Invitro anti-bacterial activity of poppy seed. Department of Microbiology University of karanchi.karanchi 2008.bot 40(1) .Page.No.461-467.
10. Debit Bhowmik, K.P Sampathkumar. Akhilesh yadav.Broad anti-microbial activities of clove oil, ISSN 2278-4136. Journal of Pharmacognasy and Phytochemistry.
11. Kadham.M and Ibrahim Rana K name and Amaal.S and Sahib Anti-microbial activity of Nut mug (Myristica fragrans) seeds extracts against pathogenic bacteria. Department of Biotechnology college of science .AC nahrain university .2013.vol-16.Page.No.188-192

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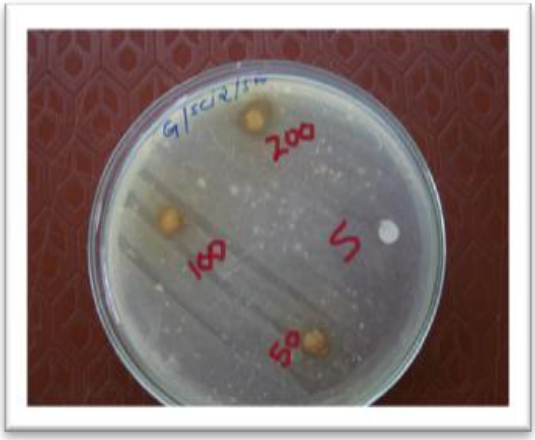
PHOTOGRAPHS

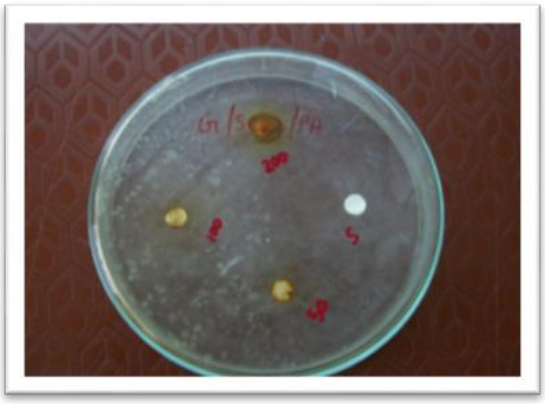
Seethabedhi Vadagam

Zone of Inhibition of Micro Organisms

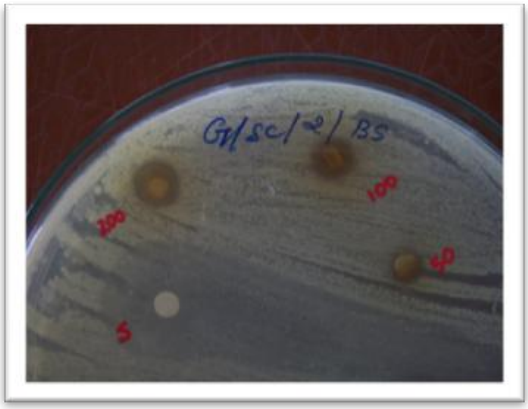
Escherichia Coli



Staphylococus Aureus



Pseudomonos Aeruginosa



Bacilus Subtilis