

IN-VITRO CARMINATIVE ACTIVITY OF A POLYHERBAL SIDDHA FORMULATION “DHASADEEPAKINI CHOORANAM” IN THE TREATMENT OF MAANTHASURAM.

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ABSTRACT

The Siddha system of medicine is one of the earliest traditional medicine systems in the world which treats not only the body but also the mind and the soul. It is very safe and has no side effects. Siddha medicine offers a wide range of carminative drugs in polyherbal form. This paper deals with **Dhasadeepakini chooranam** documented in classical siddha literature, the reference book of Chikicharathnadeepam ennum vaithyanool indicated for **Maanthasuram** in children. The main ingredients of Dhasadeepakini chooranam are chirakam, thippili, vasambu and omam which helps in fever, indigestion, loss of appetite, diarrhoea, stomach bloating, constipation and shivering. *Treatment is aimed at eliminating or rectifying the root cause than the symptoms.* So, this study was aimed to evaluate the in-vitro carminative activity of the Dhasadeepakini chooranam, a polyherbal drug. Dhasadeepakini chooranam was purified and prepared into fine powder and in-vitro carminative activity of dhasadeepakini Chooranam was

evaluated by modified method of Swapnil Sharma et al. the sample DDC showed significant results for carminative activity at different doses.

KEYWORDS: Siddha, Carminative, Maanthasuram, Chooranam

INTRODUCTION:

The Siddha system of medicine is one of the earliest traditional medicine systems in the world which treats not only the body but also the mind and the soul. According to siddha system of medicine total number of diseases is 4448 in number. Of these, 108 diseases are said to occur during childhood. In paediatric age group, Siddha system classifies fever (suram) into 20 types based on the cause, the affected biological humour (kuttram), altered physical constituents (udal thathukal) and presenting clinical features. Each type of suram mentioned in siddha literature is considered as single disease, of which abdominal dyspepsia can be correlated to Maanthasuram which is mentioned in siddha text "PILLAIPINI MARUTHUVAM PART 2". The major clinical features are fever, loss of appetite, diarrhoea, stomach bloating, constipation and shivering.

The treatment in siddha medicine is aimed at keeping the three humors in equilibrium and maintenance of seven physical constituents (Udal Thathukkal) elements. Choice of drug is chooranam [Dhasadeepaini Chooranam (DDC)] for treating maanthasuram which is one of the type of 32 internal medications. The main ingredients of Dhasadeepakini chooranam are chirakam, thippili, vasambu and omam which are known for their stomachic and carminative action. Complete literary study reveals that the potential for the carminative action of Dhasadeepaini chooranam has not been proven and the *treatment is aimed at eliminating or rectifying the root cause than the symptoms*, So I had chosen to evaluate scientifically the in-vitro carminative activity of dhasadeepakini chooranam by modified method of Swapnil Sharma et al.

PRIMARY AIM AND OBJECTIVES:

To evaluate the in-vitro carminative activity of dhasadeepakini chooranam -polyherbal siddha formulation by modified method of Swapnil Sharma et al.

MATERIALS AND METHODS:

The siddha drug dhasadeepakini chooranam(DDC) was selected from a classical siddha literature, Chikicharathnadeepam ennum vaithyanool (C.Kannusamy Pillai) pg.no (112)

Collection of raw drugs

The required drugs were purchased from a reputed raw drug shop at ASN, Melapalayam, Tirunelveli, Tamilnadu, India.

Authentication

Raw drugs were identified and authenticated by the HOD & Professor Dr. Kingsly MD(s), Department of PG Gunapadam, Government siddha medical college, Palayamkottai-627002, Tirunelveli, Tamilnadu, India.

The sample of each raw drug were stored in the PG Department of Gunapadam for the future reference.

Ingredients of Dhasadeepakini Chooranam

S.NO	NAME	BOTANICAL NAME/SCIENTIFIC NAME	QUANTITY
1.	Perungayam	<i>Ferula asafoetida</i>	35gram
2.	Vasambu	<i>Acorus calamus</i>	70gram
3.	Vaivilangam	<i>Embeliaribes</i>	105gram
4.	Induppu(rocksalt)	<i>Sodium chloride impura</i>	140gram
5.	Omam	<i>Carumcopticum</i>	175gram
6.	Kadukkaithol	<i>Terminalia chebula</i>	210gram
7.	Sithiramoolaverpattai	<i>Plumbago zeylanica</i>	245gram
8.	Kostam	<i>Costusspeciosus</i>	280gram
9.	Thippili	<i>Piper longum</i>	315gram
10.	Chirakam	<i>Cuminumcuminum</i>	350gram

Purification process (suddhi)

Purification of raw drugs were done as per classical Siddha literature. This process helps raw material/crude drugs (moolaporutkal) to lose their undesirable or toxic effect and thereby giving better efficacy.

Preparation of the trial compound drug DDC:

The above mentioned drugs were fried until golden brown separately and grinded into fine powder and sieved (*Vasthrakaayam*). Then the finely powdered drugs were mixed well and kept separately in a neat dry air tight container.



IN-VITRO CARMINATIVE ACTIVITY

In-vitro Carminative activity by acid-base titration Method

In-vitro carminative activity of the siddha formulation Dhasadeepakini Chooranam was evaluated by modified method of Swapnil Sharma et al. About 10, 20 and 40 ml of the DDC in water were placed in conical flask fitted with air-tight nozzle, to this 100 ml of distill water was added. About 100 ml of NaOH {1M, previously standardized to oxalic acid} was poured into a plastic container fitted with aeration tubing system that was connected directly to the reaction vessel containing varying volume of DDC. The flask was agitated manually for the next 45 mins and vigorously for another 30 mins and was allowed to stand for overnight. The carbon dioxide gas evolved from the reaction vessel was allowed to pass into a plastic container containing excess sodium hydroxide where it was absorbed and converted into equivalent amount of sodium carbonate. The resulting mixture consisting of excess sodium hydroxide and sodium carbonate was titrated with standard HCl using phenolphthalein as indicator to get first endpoint and in continuation to this the second endpoint was enumerated using methyl orange

as indicator. The difference in millilitres between the first & second endpoints was used to calculate the carbon dioxide content per gram of sample.

Vol. of titrant x molarity of std. acid x mol. Wt. of CO₂ = mass of CO₂ in gm

Molarity of the Acid is 0.09184 M

Mol. Wt. of CO₂ is 44.01 g/mol.

Triplicate 1

Volume of Test Sample	Difference in Titration value (ml)	Mass of CO ₂ in gm
10	2.4	9.70
20	4.1	16.57
40	5.2	21.01

Triplicate 2

Volume of Test Sample	Difference in Titration value (ml)	Mass of CO ₂ in gm
10	2.2	8.89
20	4.6	18.59
40	5.9	23.84

Triplicate 3

Volume of Test Sample	Difference in Titration value (ml)	Mass of CO ₂ in gm
10	1.9	7.67
20	5.2	21.01
40	6.4	25.86

Statistical Representation

Volume of Test Sample	Mass of CO₂ in gm
10	8.757 ± 1.017
20	18.73 ± 2.226
40	23.58 ± 2.436

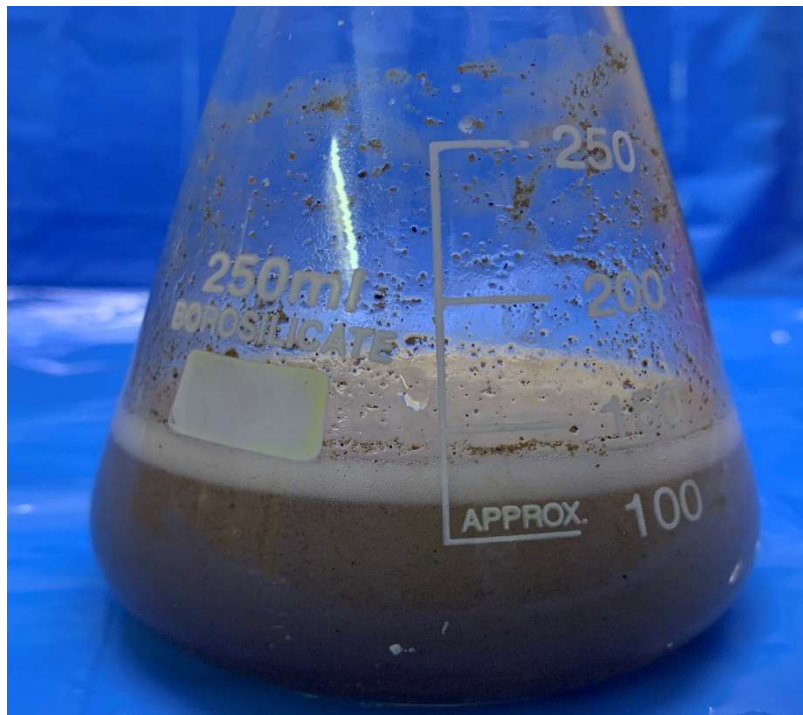
Each value represents the mean ± SD. N=3

RESULT ANALYSIS:

The carminative profiling of the test sample DDC was evaluated on basis of the amount of carbon-dioxide evolved from the reaction mixture with varying volume of DDC. The amount of carbon dioxide {g} produced by the 10 ml of the sample DDC was found to be (8.757 ± 1.017) , for 20 ml of sample it was (18.73 ± 2.226) and for 40 ml of sample it was (23.58 ± 2.436) .



Evolution of Carbon dioxide from the reaction mixture



DISCUSSION:

According to siddha principles of diseases, Maanthasuram occurs due to the accumulation of kabam humour in the intestine. kabam humour is increased much more than its normal state due to factors like food habits & lifestyle and favours indigestion and infection to occur. *The treatment is aimed at eliminating or rectifying the root cause than the symptoms.*

Carminatives are the agents used to relieve flatulence by preventing gas formation in the gastrointestinal tract and facilitating its expulsion. So, the medicine DDC decreases the symptoms of Maanthasuram like bloating abdomen, indigestion and loss of appetite. The present article revealed that all herbs and spices of DDC being discussed possess carminative activity. These herbal products are not only carminative agents but also provide other health benefits. This paper may be useful for further clinical studies.

CONCLUSION:

Dhasadeepakini Chooranam (DDC) is a polyherbal formulation and used to treat many diseases such as suram, asceranam, paandu, Irumal, Bedhi and Arosigam. This paper was concluded from the results of the present investigation that the sample DDC possesses promising carminative activity in the tested medium which was measured as an index of mass of CO₂ released from the medium for treating the disease manthasuram.

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ACKNOWLEDGEMENT:

Authors are highly thankful to the technical staffs of the noble research solutions and HOD & faculties of Postgraduate Kuzhanthai maruthuvam department, Government siddha medical college and hospital, palayamkottai, Tirunelveli for their valuable support and guidance.