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In-vitro carminative activity of a polyherbal Siddha Medicine “Seenthil Kudineer”

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Abstract

Siddha is one among the ancient systems of Indian medicine. It is very safe and devoid of any drastic side effects. Traditional Siddha medicine offer a wide range of carminative drugs which are polyherbal. This paper deals with Seenthil Chooranam documented in classic Siddha text Balavagadam indicated for Kattu mantham in Children. The main ingredients of the Seenthil Kudineer are seenthil, sukku, sivathai which helps in indigestion, bloating, constipation. The study was aimed to evaluate the *in-vitro* carminative properties of Seenthil Kudineer polyherbal drug. Seenthil Kudineer was purified and prepared into coarse powder and *in-vitro* carminative activity of the Seenthil Kudineer was evaluated by modified method of Swapnil Sharma et al. The Seenthil Kudineer extract showed significant results for carminative properties at different doses.

Keywords: Seenthil Kudineer, Polyherbal, Carminative.

Introduction

Digestion consists of two fundamental processes, assimilation and elimination, which generate energy for the physical body and provide the nutrients which maintain the body processes and system. 3 - 5% of patients in pediatric group are mostly affected by common digestive problem like indigestion. Carminatives are the agents which induce the expulsion of gas from the stomach or intestines. Carminatives are often mixtures of essential oils and herbal spices with a tradition in folk medicine for this use. In Balavagadam, there is a Sastric Siddha formulation seenthil kudineer for Kattu Mantham (dyspepsia) which is also mentioned in Gunapadam mooligai vaguppu. The main ingredients of the Seenthil kudineer are seenthil, sukku, sivathai which

are known for their stomachic, carminative, laxative action. Exhaustive literature survey reveals that the potential of Seenthil Kudineer as carminative has not been exploited. Following this as a guiding factor in present research endeavour we here tried to evaluate scientifically the carminative property of Seenthil Kudineer by modified method of Swapnil Sharma et al.

Primary Aim and Objectives:

To evaluate the carminative activity of Seenthil Kudineer - polyherbal formulation by modified method of Swapnil Sharma et al.

Materials and Methods

Collection of raw drugs

The required drugs were purchased from a reputed raw drug shop at Kandaswamy kovil street, Paris, Chennai, Tamil Nadu, India.

Authentication

Raw drugs were authenticated by the Medicinal Botanist in National Institute of Siddha, Chennai. The test drug Seenthil Kudineer was prepared at Gunapadam lab, National Institute of Siddha, Chennai-47.

Ingredients of the Seenthil Kudineer:

<i>Tinospora cordifolia</i>	-	Seenthil thandu
<i>Araca catechu</i>	-	Kali pakku

<i>Operculina terpeethum</i>	-	Sivathai
<i>Terminalia chebula</i>	-	Kadukkai
<i>Zingiber officinalis</i>	-	Sukku
<i>Picrorhiza scrophulariflora</i>	-	Kadukurokini
<i>Aloe barbadence</i>	-	Katralai sarugu

Ref: Balavagadam (pg 93)¹⁶

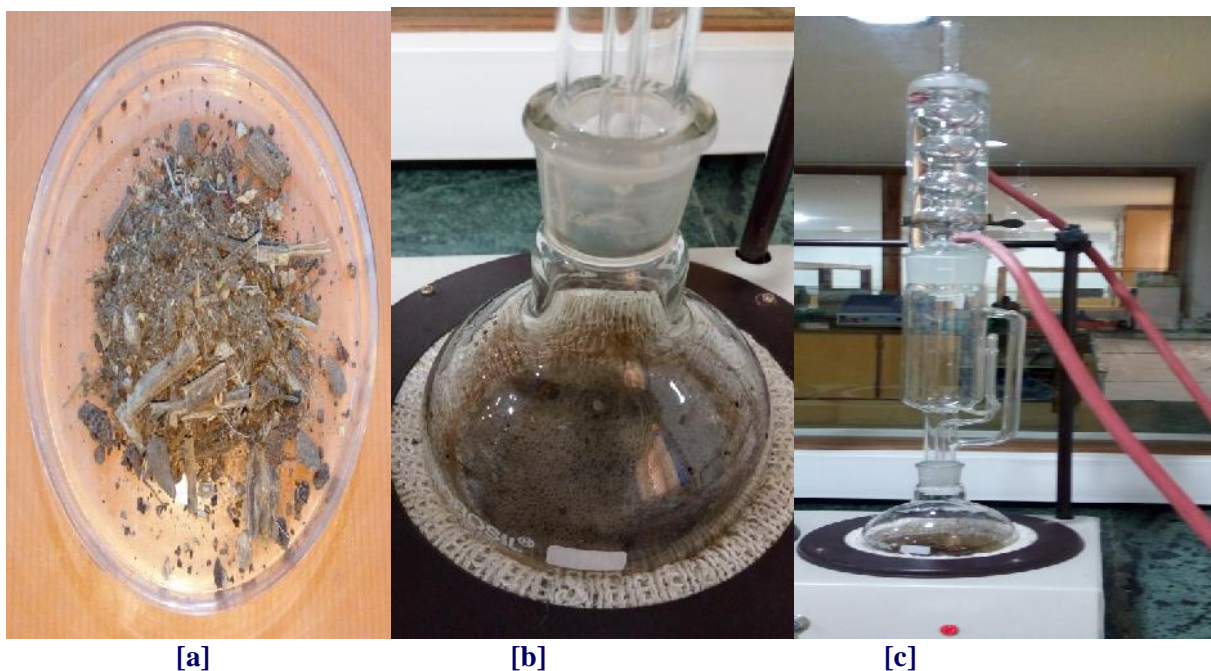
Carminative activity Studies

In-vitro Carminative Activity

Project ID	: PSA/30/16-17
Institute	: National Institute of Siddha, Chennai, Tamil Nadu, India
Sample Name	: Seenthil Kudineer
Sample ID	: SK

Preparation of Seenthil Kudineer Decoction

Decoction of the raw sample [a] was prepared by extracting the crude drug with distilled water by using soxhlet extraction setup [b,c]. The decoction thus collected will be used for the following estimation.



In-vitro Carminative activity acid-base titration technique

In-vitro carminative activity of the Seenthil Kudineer was evaluated by modified method of Swapnil Sharma et al. About 5, 10, 20 and 40 ml of the SK decoction 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 test sample (SK). The flask was agitated manually for the next 45 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 milliliters

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 CO_2 = mass of CO_2 in gm

Molarity of the Acid is 0.0829M

Mol. Wt. of CO_2 is 44.01 g/mol

Triplicate 1

Volume of Test Sample	Difference in Titration value (ml)	Mass of CO_2 in gm
5	1.8	6.56
10	2.4	8.75
20	3.6	13.13
40	4.6	16.78

Triplicate 2

Volume of Test Sample	Difference in Titration value (ml)	Mass of CO_2 in gm
5	2	7.29
10	2.2	8.02
20	3.3	12.03
40	4.5	16.41

Triplicate 3

Volume of Test Sample	Difference in Titration value (ml)	Mass of CO_2 in gm
5	1.7	6.20
10	2.4	8.75
20	3.4	12.40
40	4.2	15.32

Reaction Setup



[d]



[e]

Evolution of Carbon dioxide from the reaction mixture

Results

The carminative profiling of the test sample Seenthil Kudineer was evaluated on basis of the amount of carbon dioxide evolved from the reaction mixture with

varying volume of SK. The amount of carbon dioxide {g} produced by the 5ml of the sample SK was found to be (6.68 ± 0.55) , for 10 ml of sample it was (8.51 ± 0.42) , 20 ml of sample it was (12.53 ± 0.53) and 40 ml of sample it was (16.17 ± 0.75) .

Table: 1 Amount of carbon dioxide produced by different doses of Seenthil Kudineer

Volume of Test Sample	Difference in Titration value (ml)	Mass of CO ₂ in gm
5	1.8	6.689 ± 0.55
10	2.3	8.513 ± 0.42
20	3.4	12.53 ± 0.53
40	4.4	16.17 ± 0.75

Each value represents the Mean \pm SD. N=3

In vitro carminative activity of Seenthil Kudineer

In-vitro carminative activity of the Seenthil Kudineer was evaluated by modified method of Swapnil Sharma et al clearly indicates the test drug Seenthil Kudineer (SK) The carminative profiling of the test sample Seenthil Kudineer was evaluated on basis of the amount of carbon dioxide evolved from the reaction mixture with varying volume of SK. The maximum amount of carbon dioxide {g} produced by the 20ml of the sample SK was found to be (12.53 ± 0.53) and 40 ml of sample it was (16.17 ± 0.75) .

Conclusion

A carminative herb is an herb or nutritional supplement that is utilized to improve digestion. Results of present study suggested that the drug extract of Seenthil Kudineer has carminative property

even at its slowest dose. The drug extract of Seenthil Kudineer proved to have potent carminative effect as well as it produces a large amount of carbon dioxide. The result of *in-vitro* Carminative Activity of Seenthil Kudineer possess promising Carminative property.

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