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IN-VITRO CARMINATIVE ACTIVITY OF A POLYHERBAL SIDDHA MEDICINE "PODUTHALAI 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 the corminative effect Poduthalai Kudineer documented in classic Siddha text Balavagadam indicated for Kattu mantham in children. The main ingredients of the Poduthlai kudineer are Poduthlai eerkku, Vembu eerkku, Ma eerkku, Puli eerkku, Nunna eerkku, Nochi eerkku, Veliparruthi eerkku, Omam, Ulli, Thippilli which helps in indigestion, bloating, constipation. The study was aimed to evaluate the in-vitro carminative properties of Poduthalai kudineer a polyherbal drug. The ingredients of Poduthalai kudineer was purified and prepared into a coarse powder and in-vitro carminative activity of the Poduthalai kudineer was evaluated by modified method of Swapnil Sharma et al. The Poduthalai kudineer extract showed significant results of Carminative properties at different doses.

KEYWORDS: Poduthalai kudineer, Polyherbal, Carminative.

INTRODUCTION

Constipation is a functional disease in which the gastrointestinal organ, primarily the oesophagus, stomach, small intestine & colon function abnormally. The primary symptom of constipation are upper abdominal pain, few bowel movements, hard (or) small stools and vomiting. The incidence of constipation in children above one year is 85% in pediatric

population.[1] Carminatives are the agents which induces the expulsion of gas from the stomach (or) intestines. Carminatives are often mixtures of essential oil and herbal spices with a tradition in folk medicine for this use. In Balavagadam, there is a Sastric Siddha formulation Poduthalai kudineer for Kattu mantham (constipation) which is also mentioned in Gunapadam mooligai vaguppu. The main ingredients of the Poduthalai kudineer are Poduthlai eerkku, Vembu eerkku, Ma eerkku, Puli eerkku, Nunna eerkku, Nochi eerkku, Veliparruthi eerkku, Omam, Ulli, Thippill which are known for their stomachic, carminative, laxative action. Exhaustive literature survey reveals that the potential of Poduthalai 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 Poduthalai kudineer by modified method of Swapnil Sharma et al.

Primary Aim and Objectives

To evaluate the carminative activity of Poduthalai kudineer–polyherbal formulation by modified method of Swapnil Sharma et al.

MATERIALS AND METHODS

Collection of raw drugs

Raw drugs were collected from sirumoor village of Arni thaluk in Thiruvannamalai District.

Authentication

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

Ingredients of the Poduthalai Kudineer

Poduthalai eerkku - *Phyla nodiflora*
Vembu eerkku - *Azadirachta indica*
Ma eerkku - *Mangifera indica*
Puli eerkku - *Tamarindus indica*
Nunna eerkku - *Morinda tinctoria*
Nochi eerkku - *Vitex negundo*
Veliparruthi eerkku - *Pergularia daemia*
Omam *Carum copticum*
Ulli - *Allium sativum*

Thippilli - *Piper longum*

Ref: Balavagadam (pg 91).[2]

In-vitro Carminative Activity

Project ID : NRS/AS/0365/04/2019

Institute : National Institute of Siddha

Sample Name : PoduthalaiKudineer (PK)

Sample ID : PK

In-vitro Carminative activity acid-base titration Method

In-vitro carminative activity of the sample Poduthalai Kudineer (PK) was evaluated by modified method of Swapnil Sharma et al. About 10,20 and 40 ml of the PK 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 PK. 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 milliliters between the first & second endpoints was used to calculate the carbon dioxide content per gram of sample.[3,4]

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 0.09184 M

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
10	4.2	16.97
20	7.1	28.69
40	11.6	46.88

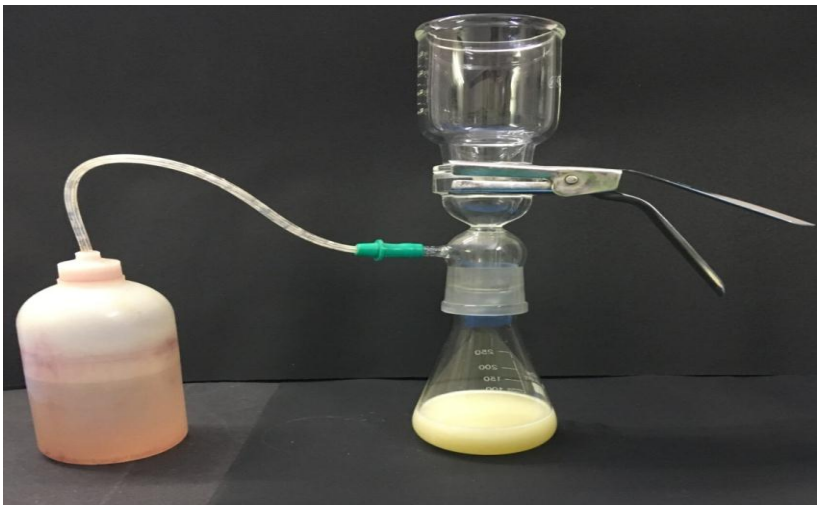
Triplicate 2.

Volume of Test Sample	Difference in Titration value (ml)	Mass of CO2 in gm
10	4.6	18.59
20	7.3	29.50
40	11.2	45.26

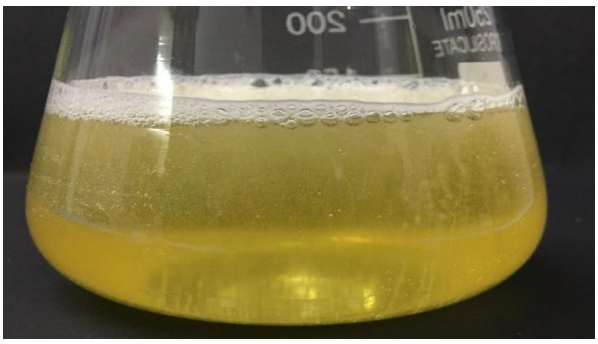
Triplicate 3.

Volume of Test Sample	Difference in Titration value (ml)	Mass of CO2 in gm
10	5.1	20.61
20	6.8	27.48
40	14.2	57.39

Reaction Setup- Sample PK



Evolvement of Carbon dioxide from the reaction mixture



RESULT

The carminative profiling of the test sample Poduthalai Kudineer (PK) was evaluated on basis of the amount of cabondioxide evolved from the reaction mixture with varying volume of PK. The amount of carbon dioxide {g} produced by the 10 ml of the sample PK was found to be (18.73 ±1.82), for 20 ml of sample it was (28.56 ± 1.01) and for 40 ml of sample it was (49.85 ± 6.584).

Volume of Test Sample	Mass of CO2 in gm
10	18.73 ± 1.823
20	28.56 ± 1.017
40	49.85 ± 6.584

Each value represents the mean ± SD. N=3

In vitro carminative activity of Poduthalai Kudineer

In-vitro carminative activity of the Poduthalai Kudineer was evaluated by modified method of Swapnil Sharma et al clearly indicates the test drug Poduthalai Kudineer (PK). The carminative profiling of the test sample Poduthalai Kudineer was evaluated on basis of the amount of carbon dioxide evolved from the reaction mixture with varying volume of PK. The maximum amount of carbon dioxide {g} produced by the 20 ml of the sample PK was found to be (28.56 ± 1.017) and 40 ml of sample it was (49.85 ± 6.584).

CONCLUSION

A carminative herb is a nutritional supplement that is utilized to improve digestion and regulates the bowel movements. Results of present study suggested that the drug extract of Poduthalai kudineer has carminative property even at lower dose. The drug extract of Poduthalai kudineer proved to have potent carminative effect as well as it expulse a large amount of flatus from intestine. The result of in-vitro carminative activity of Poduthalai kudineer possess promising Carminative property.

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