International Journal of Reverse Pharmacology and Health Research (IJRPHR)

Research article

Preliminary Chemical analysis of Kirumi ennai - Polyherbal mineral formulae in Siddha

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ABSTRACT

Siddha system is one of the oldest systems of medicine in India. The term 'Siddha' means achievements and 'Siddhars' were saintly persons who achieved results in medicine. The knowledge of plants and minerals were of very high order and they were fully acquainted with almost all the branches of science. The active phytochemical constituents of individual plants are inadequate and do not give desirable therapeutic effects ,when polyherbal and herbo-mineral formulations combining the multiple herbs in peticulous ratio, it will give an enhanced therapeutic effect and decrease the toxicity. *Kirumi ennai* is a polyherbo-mineral formula in siddha is used to treat *Kudal kirumikal (*Worm infestation) in children. This paper describes the qualitative analysis of *Kirumi ennai* .The phytochemical analysis of *Kirumi ennai* indicates the presence of calcium, sulphate, chloride, starch, tannic acid, unsaturated compound, reducing sugar and amino acid revealed the enhancement of therapeutic action in *Kudal kirumikal* (Worm infestation).

Keywords:

Kirumi ennai, Kudal kirumikal (Worm infestation), Phytochemical analysis, Siddha system.

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CODEN : IJRPHR

To access this article online

Website : http://www.ijrphr.com/

DOI : 10.121/ijrphr/03.0104.382

Quick response code

How to cite this article:

Esaki Muthu et al, *Preliminary chemical analysis of Kirumi ennai-polyherbal mineral formulae in Siddha,* International Journal of Reverse Pharmacology and Health Research, 2020, 3(1), 33-36.

Received: Feb 2019.

Accepted: Mar, 2020.

INTRODUCTION

Siddhars were spiritual masters who possessed the ashta (eight) siddhis or unique powers. Agastyar or Agasthya ,is believed to be the founding father of Siddha medicine.The Siddha system is largely therapeutic in nature. In siddha, the Paediatrics is called as, *Kuzhanthai Maruthuvam* and *Pillaipini Maruthuvam*. "The healthy children are the backbone of a healthy society". But they were suffered from lot of viral and bacterial infection. *Kudal kirumikal (worm infestation)*one of them which is causedby contact with an infected surface such as soil containing eggs or germs at a playground or touching pets infected with worms.Consuming infected food with worms,Improper hygieneand Improper hand washing .Some common symptoms of *Kudal kirumikal* (worm infestation) are irritability,weight loss,stomach ache,bed wetting,blood in stools.

Tape worm infection-Jaundice, nausea,vomiting,loss of appetite,eating too frequentlyand sometimes even malnutrition.

Round worm infection-Diarrhoea,passing worms with stools,dry cough,fever.

Pinworm infection- Itching around the anus,trouble sleeping due to itching,painful urination.

Hookworm infection-Wheezing, coughing, fatigue, anaemia.

Worm infestations and related infections are common in children and are also easily treated. So I decide to choosen *kirumi ennai*-polyherbo mineral formula is taken from the-Siddha text literature*Pillai Pini Maruthuvam* Part -I to treat *Kudal kirumikal*(worm infestation) in children.

MATERIALS AND METHODS

Collection, Identification and Authentication of the drug:

The required raw drugs were purchased from a well reputed country shop. The plants are collected in our native place. They were authenticated by Botanist,Department of Medicinal Botany and mineral authenticated by Department of Gunapadam,Government Siddha Medical College, Palayamkottai

Purification of the Drug:

All the ingredients of this herbal formulation were purified according to the properproduce methods described in Siddha Classical Literature.

Preparation of the drug:

Juices are extracted from the leaves of raw materials 1 to 5. Raw material 6 to 15 are pulverized and seieved separately.This powder is then made into a pasteby missing with small quantity of the extracted juices. This is then mixed with castor oil in a vessel and is heated.

Table.1 (Ingredients of *Kirumi ennai)*

DRUG NAME	BOTANICAL NAME
VELIPARUTHTHY	Pergularia daemia
PERUNTHUMBAI	Anisomeles malabarica
PODUTHALAI	Phyla nodiflora
MURUKKILAI	Erythrina indica
THAIVELAI	Cleome gynandra
CHUKKU	Zingiber officinale
MANJAL	Curcuma longa
THIPPILI	Piper longum
MILAGU	Piper nigrum
VELLULLI	Allium sativum
VASAMBU	Acorus calamus
GAAYAM	Ferula asafoetida
VENTHAYAM	Trigonella foenum graecum
INTHUPPU	Sodium chloride, rock salt
KADUKKAAI THOOL	Terminalia chebula
AAMANAKKU ENNAI	Ricinus communis

Once the *karkam* of oil attains *"MEZHUGU*" consistency, the heating should be stopped and oil is filtered and stored in glass container.

Phytochemical analysis:

Screening the drug *Kirumi ennai* to to identify the Phytochemical properties present in the ingredients

Chemicals and drugs:

All the chemicals used in this study were of analytical grade obtain from Department of Biochemistry, Government Siddha Medical College, Palayamkottai.

Methodology:

5 grams of the drug was weighed accurately and placed in a 250ml clean beaker. Then 50ml of distilled water added to it and dissolved well. Then it was boiled well for about 10 minutes. It was cooled and filtered in a 100ml volumetric flask and then it is made upto 100ml with distilled water. This fluid was taken for analysis.

RESULTS AND DISCUSSION

The Phytochemical analysis of the trial drug Kirumi ennai was tabulated above in table 2.

Table .2 QUALITATIVE ANALYSIS OF KIRUMI ENNAI

S.NO	EXPERIMENT	OBSERVATION	INFERENCE
1.	**TEST FOR CALCIUM** 2ml of the above prepared extract is taken in a clean test tube. To this add 2ml of 4% Ammonium oxalate solution	A white precipitate is formed	Indicates the presence of calcium
2.	**TEST FOR SULPHATE** 2ml of the extract is added to 5% Barium chloride solution.	A white precipitate is formed	Indicates the presence of sulphate
3.	**TEST FOR CHLORIDE** The extract is treated with Silver nitrate solution.	A white precipitate is formed	Indicates the presence of chloride
4.	**TEST FOR CARBONATE** The substance is treated with concentrated Hcl.	No brisk effervessence is formed	Absence of carbonate
5.	**TEST FOR STARCH** The extract is added with weak iodine solution.	Blue colour is formed	Indicates the presence of starch
6.	**TEST FOR FERRIC IRON** The extract is acidified with Glacial acetic acid and Potassium ferrocyanide.	No Blue colour is formed	Absence of ferric iron
7.	**TEST FOR FERROUS IRON** The extract is treated with Concentrated Nitric acid and Ammonium thiocyanate solution.	No blood red colour is formed	Absence of ferrous iron
8.	**TEST FOR PHOSPHATE** The extract is treated with Ammonium molybdate and concentrated nitric acid.	No yellow precipitate is formed	Absence of phosphate
9.	**TEST FOR ALBUMIN** The extract is treated with Esbach reagent.	No yellow precipitate is formed	Absence of albumin
10.	**TEST FOR TANNIC ACID** The extract is treated with Ferric chloride.	Blue black precipitate is formed	Indicates the presence of tannic acid
11.	**TEST FOR UNSATURATION** Baeyer's Test- Potassium permanganate solution is added to the extract.	It gets decolourised	Indicates the presence of unsaturated compound
12.	**TEST FOR THE REDUCING SUGAR** 5ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2 minutes and add 8-10 drops of the extract and again boil it for 2 minutes.	Colour change occurs	Indicates the presence of reducing sugars
13.	**TEST FOR AMINO ACID** One or two drops of the extract is placed on a filter paper and dried well. After drying, 1% Ninhydrin is sprayed over the filter paper and again dried.	Violet colour is formed	Indicates the presence of amino acid
14.	**TEST FOR ZINC** The extract is treated with Potassium Ferrocyanide.	No white precipitate is formed	Absence of zinc

The trial drug Kirumi ennai contains.

1. Calcium
2. Sulphate
3. Chloride
4. Starch
5. Tannic acid
6. Unsaturated compound
7. Reducing sugar
8. Amino acid

The mode of action of the trial drug kirumi ennai is bringing about change in hypopigmented patches on face and pruritus,which may be due to the presence of sulphate,starch,tannic acid in it.

SOURCE OF FUNDING : Nil

CONFLICT OF INTEREST : None declared

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