



PRELIMINARY PHYTOCHEMICAL AND PHYSICO-CHEMICAL ANALYSIS OF A HERBOMINERAL SIDDHA FORMULATION – VIDATHAARI CHOORANAM

Kirubhakaran S M^{1*} Vadivelan S² Sarojini T³ MathukumarS⁴

^{1*} Reader, Department of Sattam Sarntha Maruthuvamum Nanju Maruthuvamum, Sri Sairam Siddha Medical College and Research Centre.Chennai.TamilNadu.

² Lecturer, Department of Maruthuvam, Sri Sairam Siddha Medical College and Research Centre.Chennai.TamilNadu.

³Lecturer, Department of udal thathuvam, Sri Sairam Siddha Medical College and Research Centre.Chennai.TamilNadu.

⁴Principal, Sri Sairam Siddha Medical College and Research Centre. Chennai. TamilNadu.

Abstract:

Vidathaari Chooranam is a Herbomineral preparation used to treat Kaanaakadi. Symptoms include itchy, raised, red or skin- colored welts on the skin surface. The aim of the present study is investigating physico-chemical and phytochemical properties of Vidathaari Chooranam. Physico-chemical parameters such as Total ash value, Acid insoluble ash, Water soluble ash, PH and Loss of dry was evaluated through standard protocol. Phytochemical analysis revealed the presence of Alkaloids, Steroids, Terpenoids, Anthraquinone and sugar(carbohydrate).

Keywords: Vidathaari Chooranam, Kaanaakadi, Physico-chemical parameters, phytochemical properties.

INTRODUCTION:

Siddha is one of the earliest traditional medicine system in the world which connects physical, psychological, social and spiritual well-being of an individual (1). Siddhars contributed not only to medicine but also to eternity, alchemy and yogic living. In the current world Standardization of siddha drugs is necessary for updating the safety and efficacy of the medicine. In this article preliminary phytochemical and physico-chemical properties were identified. Vidathaari Chooranam (2) is a classical siddha Herbo mineral compound drug used in the treatment of Kaanaakadi (urticaria).

MATERIALS AND METHODS:**INGREDIENTS:**

Table I.

S.No	Tamil name	Botanical name	Quantity (in gms)
1	Kukkil	Commiphora mukul	30
2	Manjitti	Rubia cordifolia	20
3	Vasambu	Acorus calamus	10
4	Vaengaipatta	Pterocarpus marsupium	10
5	Moongiluppu	Bambusa arundinacea	10
6	Gomuthra silasathu	Asphalt	10
7	Maramanjai	Coscinium fenestratum	5

Preparation of the drug Vidathaari Chooranam*Purification of Kukkil*

Kukkil - 1Part
 Seenthil - 1Part
 Triphala - 1Part
 Water - Qs

Procedure:

Triphala and seenthil are coarsely powdered. This powder is boiled with 8 times of water till it is reduced to 1/4th. Kukkil is coarsely powdered and is tied as a bundle in a cloth. This bundle is hanged to a rod in such a position that the bundle tie immersed into the decoction. The decoction is heated till all the Kukkil in the bundle is collected into the decoction after getting melt due to boiling of decoction. The decoction with Kukkil is taken in a separate vessel and is heated over moderate flame till all the moisture is evaporated and only Kukkil in the form on black paste is left alone. [3]

Purification of Vasambu:

The rhizome of vasambu is burnt over a flame and charred particles are collected. [4]

Purification of Gomutra silasathu:

Gomuthra Silasathu was placed in the Kalvam and grinded with Triphala Kashayam for the full day (24hrs) continuously, then collected it and dried. [5]

Purification of Manjitti, Maramanjil, Vaengaipattai:

Above drugs are Roasted separately in light flames (ilavaruppagaVaruthuEduthal) [4]

Method:

The above drugs are mixed and made into powder using Kal-Ural (stone matter).The Powder is once again subjected to Vasthirakayam for making it fine (Chooranam Form).

Route of Administration: Oral

Dosage : 5-10 Nel Alavu (325-650mg)

Adjuvant : Water

Analytical methods:

It includes determination of organoleptic characters, Preliminary Phytochemical analysis, physico-chemical analysis and Biochemical analysis.

Organoleptic characters:

The colour, odor, taste and texture of Vidathaari Chooranam is noted.

Physico-chemical parameters:

The physico-chemical analysis includes loss of drying, determination of total ash, acid insoluble ash, water soluble ash, pH of the drug Vidathaari Chooranam. All the parameters were determined by standard methods. [6-7]

Preliminary phytochemical analysis:

Phytochemical chemicals such as Alkaloids, Flavonoids, Saponins, Phenols, Glycosides, Tannins, Terpenoids, Anthraquinones, Steroids, Fixed oils, Sugar and proteins were carried out by standard procedures. [8]

Biochemical analysis:

Preparation of the extract:

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

Test for calcium:

2ml of the above prepared extract is taken in a clean test tube. To this add 2ml of 4% Ammoniumoxalatesolution

Test for Sulphate:

2ml of the extract is added to 5% barium chloride solution.

Test for chloride:

The extract is treated with silver nitrate solution.

Test for Carbonate:

The extract is treated with concentrated HCL.

Test for Starch:

The extract is added with weak iodine solution

Test for iron ferric:

The extract is added with Glacial acetic acid and potassium Ferro cyanide

Test for iron ferrous:

The extract is treated with concentrated Nitric acid and Ammonium thiocyanide solution.

Test for Phosphate:

The extract is treated with Ammonium Molybdate and Concentrated Nitric acid.

Test for Albumin:

The extract is treated with Esbach's Reagent.

Test for Tannic acid:

The extract is treated with ferric chloride.

Test for Unsaturation:

Potassium permanganate solution is added to the extract.

Test for the Reducing Sugar:

5ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2mts and added 8-10 drops of the extract and again boil for 2mts.

Test for Amino acids:

One or two drops of the extract is placed on a filter paper and dried it well. After drying 1% Ninhydrin is sprayed over the same and dried it well

Test for Zinc:

The extract is treated with potassium Ferro cyanide.

Results:

Table II – Physico-chemical properties

S.No	Parameters	Values Obtained (% w/w)mg
1	Total ash value	11.7
2	Acid insoluble ash	20.25
3	Water soluble ash	25.32
4	Loss of drying at 105°C	4.11
5	PH 6.8	

Table III – Phytochemical properties

S.No	Phytoconstituents	Inference
1	Alkaloids	+ve
2	Flavonoids	-
3	Saponins	-
4	Phenols	-
5	Glycosides	-
6	Tannins	-
7	Terpenoids	++ve
8	Anthraquinone	++ve
9	Steroids	++ve
10	Fixed oils	-
11	Sugar	++ve
12	Proteins	-

TableIV–Biochemical analysis

S.No	Parameters	Inference
1	Calcium	+ve
2	Sulphate	+ve
3	Chloride	-
4	Carbonate	-
5	Starch	+ve
6	Iron Ferric	-
7	Iron Ferrous	-
8	Phosphate	-
9	Albumin	-
10	Tannic acid	-
11	Unsaturated Compounds	+ve
12	Reducing Sugar	-
13	Amino acids	+ve
14	Zinc	-

Discussion:

Vidathaari Chooranam was prepared using the standard procedure. In the physico-chemical screening total ash value was found to be 11.7% indicates the amount of Minerals and earthy Materials. The acid insoluble ash found to be 20.25%. Phytochemical analysis shows the drug has high polar Secondary Metabolites like Alkaloids, Terpenoids, Anthraquinones, Steroids, and Sugar. Biochemical analysis of Vidathaari Chooranam revealed the presence of Calcium, Sulphate, Starch, Unsaturated Compounds and Amino acids.

Conclusion:

The present study is a preliminary standardization of Siddha drug Vidathaari Chooranam which leads to future research in further pharmacological and standardization of the medicine.

Acknowledgement:

My Sincere thanks to SAIF-IIT Madras for Lab work and I express my sincere thanks to principal, Sri Sairam Siddha Medical College and Research Centre for his encouragement and support.

Reference:

1. <https://www.nhp.gov.in/siddha.mty.may07>, 2015
2. Dr.R.Thiyagarajan. LIM.*SiddhaMaruthuvamSirappu*, 1st edition 1985, pp.265-266.
3. Dr.K.nishteshwar's selected ayurvedic formulations.2007.
4. Dr.I.Sworna mariyammal. MD(S), Siddha Marunthakkiyal Vidhigalum Seimuraigalum. DIM Publications, January 2010, pp.77-82.
5. Akila et al, chemical analysis Gomutra silasathu parpam, International journal of drug delivery 6(1)88-93;[2014].
6. India Pharmacopeia Volume I, Government of India, Ministry of Health and family welfare, Indian Pharmacopeia Commission, 2014.
7. Pharmacopeia Laboratory for Indian Medicine Guideline for Standardization and evaluation of Indian Medicine which include drugs of Ayurveda, Unani and Siddha Systems. Department AYUSH. Ministry of Health and family welfare, Govt.of India.
8. Harborne JB; Phytochemical Methods: A Guide to Modern Technique of plant Analysis. 3rded. London, England: Chapman and Hall;1998:114-118

