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Standardization of Physico-Chemical and Bio-Chemical Analysis of Linga Chenduram

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Abstract

Standardization is mandatory to prove the quality and reliability of traditional medicines, as the use of traditional medicines rapidly increases all over the world. As, the usage of traditional medicine increases day by day. This study is planned to analyse the Physico-Chemical and Bio-Chemical Characters of Linga Chenduram.

Keywords: Linga Chenduram, Physico-Chemical and Bio-Chemial Analysis.

Introduction

Siddha system is one of the traditional system of medicine practiced in south india. Siddha formulations are mainly based on resources namely – Thathu (Metals & Minerals), Thavara (Plant products), Sangama (Living things) porutkal. In Siddha, diseases are diagnosed mainly with the help of signs and symptoms of diseases are touch, examination the pulse, tongue, colour, speech, eyes, faeces and urine. In Siddha medicine system, drugs were classified on the basis of five properties and it includes taste, character, potency, class, action. Based on the mode of application, the siddha medicine could be classified into two classes: Internal medicine & External medicine.Many chronic diseases can be treated successfully with siddha medicine.

Materials and Methods

Details regarding the sample:

Linga chenduram is a metal formulation which is indicated as a drug in siddha text Anupoga Vaithya Navaneetham Vol IV-Hakim Pa.Mu. Abdullah Saibu (Page no:51). The ingredients of linga chenduram are four in number. They are purified of lingam, Thirugukallipal, Utthamanipoo and Vellaierukampoo. The drug was prepared as per the text.

Details regarding Physio-Chemical Analysis:

Organoleptic character:

The organoleptic characters of the sample drug were evaluated. 1 gm of Linga Chenduram was taken and the colour, texture, particle size and other morphology were viewed by naked eye under sunlight. Then the result was noted.

Physiochemical Investigation:

Physiochemical investigation like pH value, Loss on drying at 105°C. Action on heat and ash test have been done as per the guidelines of WHO.

pH Value:

Potentiometrically pH Value determined by a glass Electrode and a suitable pH meter.

Loss on Drying:

The powdered drug is dried in the oven at 100° – 105°C to constant weight.

Action on heat:

A small amount of the sample is taken in a dry test tube and heated gently. If strong white fumes evolve the presence of carbonate.

Ash Test:

A filter paper is soaked into a mixture of sample and cobalt nitrate solution and introduced into the Bunsen flame and ignited. Appearance of yellow colour flame indicates the presence of sodium.

Details regarding Biochemical Analysis:

The Bio-Chemical Analysis was done to identify the acid and basic radicals present in the Linga Chenduram.

Results

Physico-Chemical and Bio-Chemical Analysis:

Table 1. Physico-chemical Analysis of sample of Linga Chenduram

Parameters	Total Ash	Values
Ash value	Water soluble ash Acid insoluble ash	4.70+0.041 2.80+0.010
Extractive value	Ethanol soluble extractive value Water soluble extractive value	7.20+0.500 8.20+0.500
Loss on drying pH analysis	Loss on drying at 70 ^{o} C	8.20 + 0.510 6.9

Table 2. Biochemical test for Linga Chenduram

S.No	Experiment	Observation	Inference
01	**Test for calcium:** 2mloftheabovepreparedextract Is taken in a clean test tube. To this add 2mlof4%Ammonium oxalate solution.	No White precipitate Is formed	Absence of calcium
02	**Test for sulphate:** 2mlofthe extract is added5% Barium chloride solution.	A white precipitate is formed	Indicates the Presence of sulphate
03	**Test for chloride:** The extract is treated with silver Nitrate solution	No white precipitate is formed	Absence of chloride
04	**Test for carbonate:** The substance is treated with Concentrated HCl.	No brisk Effervescence is formed	Absence of carbonate

05	**Test for starch:** The extract is added with weak Iodine solution	No blue colour is formed	Absence of starch
06	**Test for iron ferric:** The extract is acidified with Glacial acetic acid and Potassium ferrocyanide.	A blue colour is formed	Indicates the Presence of Ferric Iron
07	**Test for phosphate:** The extract is treated with Concentrated Nitric acid and Ammonium thiocyanate solution**.**	Yellow precipitate is formed	Indicates the Presence of Phosphate
08	**Test for tannic acid:** The extract is treated Ferric Chloride.	No blue black Precipitate is formed	Absence of Tannic acid.
09	**Test for unsaturation**: Potassium permanganate solution is added to the extract.	It does not gets decolourised	Absence of unsaturated
10	**Test for the reducing sugar:** 5mlof Benedicts qualitative Solution is taken in a test tube and allowedtoboilfor2mtsand added8-10dropsoftheextract and again boil itfor2mts**.**	Colour changes occurred.	Indicates the Presence of Reducing sugar.
11	**Test for amino acid:** One or two drops of the extract is Placed on a filter paper and dried It well. Afterdrying,n1% Ninhydrin is sprayed over the Same and dried it well.	A Violet colour is formed	Indicates the Presence of Amino Acid
12	**Test for zinc:** The extract is treated with Potassium Ferrocyanide.	No white precipitate Is formed	Absence of Zinc

Conclusion

Table 1 shows the physicochemical nature of the Linga Chenduram. Table 2 shows the Biochemical analysis of the Linga Chenduram exhibits the Presence of Sulphate, Iron ferric, Phosphate, Reducing sugar, Amino acid. And also the Absence of Calcium, Chloride, Carbonate, Starch, Tannic acid, Unsaturated, Zinc.

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