



Biochemical analysis of the drug Asuvaathi chooranam for iron deficiency anaemia

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Abstract

Siddha system of medicine is one of the ancient system of medicine .. The basic structure of siddha medical system is in no way differences from logic system of modern science. Here the drug Asuvaathichooranam contains the herbs which possess the primary and secondary phytochemicals, Hematinic and anthelmintic properties. This research article evaluate the biochemical analysis of the drug Asuvathichooranam which brings about the presence of compounds ensures the prevention of anaemia.

Keywords: Siddha medicine, Asuvaathi chooranam, Anaemia.

Introduction

The siddha system of medicine is mainly practiced in the southern part of India. The word Siddha has its origin in the Tamil word Siddhi which means an object to be attained or perfection bliss . Sidhars, mainly hailing from Tamil Nadu were spiritual masters who possessed the ashtama siddhis (eight siddhis) or unique

powers. Siddhars laid the foundation for Siddha system of medicine. Hence, it is called Siddha medicine. The basic structure of siddha medical system is in no way differences from logic system of modern science. Like logic system, siddha system of medicine is based on three factors of Observation, Influence and Hypothesis. Moreover, siddha medicinal treatment is based on Inferences like Thesis, Anti-thesis and Synthesis.

The human body which has 'life force' consists of the five primordial elements (panchabhootam) – earth, water, fire, air and space.

Among these,

1) Earth (Nilam) is the External body (purakaaranam) consists of seven tissues viz. Saaram, Senner, Oon, Kozhuppu, Enbu, Moolai and Sukkilam. 2) Space (Aagayam) is the internal body (Agakaaranam) responsible for all movements of mind and body. 3) Others (air, fire, water) are three humours, viz. Vaatham, pitham and kabham. (also called Trithodam or Mukkutram). Iron deficiency anaemia is the most common type of anaemia, and it occurs when body doesn't have enough of the mineral iron. Iron is a nutrient that's essential to child's growth and development. In developed countries, iron deficiency is the only frequent micronutrient deficiency.

Here the drug Asuvaathi chooranam form the evidence of Agathiyarvaithiyasoothiram 650. This is because these herbs possess the primary and secondary phytochemicals, Hematinic and anthelmintic properties.

Materials and Methods

General protocol for preparation of any Herbal formulation in siddha involves the following steps:

1. Collection of the raw material
2. Authentication
3. Purification
4. Preparation
5. Authentication of final trial drug (Asuvaathichooranam)

Drug selection:

Here in, the compound herbal formulation Asuvaathi Chooranam for Mannunveluppunoi was taken, mentioned in the classical Siddha literature Agathiyarvai thiyachuthiram 650 compiled by S.S.Mathrubootheswaran published by Narmadhapadhipagam page no: 105-107.

Collection of the raw materials

All the raw drugs are collected in the Vallalarnaattumarundhukadai, town, tirunelveli.

Authentication

All the ingredients of AsuvaathiChooranam were identified and authenticated by Department of Gunapadam in Government Siddha medical college and hospital, palayamkottai, Tirunelveli-627002.

Purification and preparation:

Taken Amukkarakilangu is purified in milk, dried and powdered. Taken the equal quantities of all the drugs chukku, milagu, thippili, jadhikai, jadhipathri, adhimadhuram, kirambu, kadukurohini and kurosaniomam were roasted and grounded into a fine powder. The powder was sieved through a clean white cloth to get a uniform particle size of Chooranam. Then equal amount of powdered sugar added to it. The drug is stored in clean dry air-tight container.

S.no	Ingredients	Botanical name/ family	Parts used	Quantity
1.	AmukkaraKilangu	Withaniasomnifera/ Solanaceae	Tuber	27 kalanju (137.7gm)
2.	Chukku	Zingiberofficinales/ Zingiberaceae	Rhizome	3 kalanju (15.3gm)
3.	Milagu	Piper nigrum/ Piperaceae	Fruit	3 kalanju (15.3gm)
4.	Thippili	Piper longum/ Piperaceae	Fruit	3 kalanju (15.3gm)
5.	Saathikai	Myristicafragrans/ Myristicaceae	Fruit	3 kalanju (15.3gm)

6.	Saathipaththiri	Myristicafragrans/ Myristicaceae	Aril	3 kalanju (15.3gm)
7	Athimathuram	Glycyrrhizaglabra/ Fabaceae	Root	3 kalanju (15.3gm)
8.	Kirambu	Syzygiumaromaticum/ Myrtaceae	Flower bud	3 kalanju (15.3gm)
9.	Kadugurohini	PicrorhizaScrophulariiflora/ Scrophulariaceae	Root	3 kalanju (15.3gm)
10.	KurosaniOmam	Hyoscyamusniger/ Solanaceae	Seed	3 kalanju (15.3gm)
11	Seeni	Sugar		54 kalanju (275.4gm)

Route of administration:

Name of the medicine :AsuvaathiChooranam
 Route of administration : Oral route
 Dosage : 500 mg- 1 gm/ twice a day (According to Age), After food.
 Duration : 48 days.
 Adjuvant : Fresh buffalo whey,Honey and Ghee
 Indication :Mannunveluppunoi.
 Reference: AGASTHIYAR VAIDHYA CHUTHIRAM 650 (105-107)

Authentication of final trial drug:

The prepared drug was authenticated by the Professor, Head of the department of

Kuzhanthaimaruthuvam, Government siddha medical college, palayamkottai for its completion.
QUALITATIVE ANALYSIS OF ASUVAATHI CHOORANAM

Preparation of the extract:

5 gram of the drug was weighed accurately and placed in a 250 ml 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 makes up to 100 ml with distilled water. This fluid is taken for analysis.

S.no	Experiment	Observstion	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	Indicate the presence of chloride
4.	TEST FOR CARBONATE: The substance is treated with concentrated HCL	No brisk effervescence 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 and potassiumferrocyanide.	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

Inference:

The given sample of “Asuvaathichooranam” contains Calcium, Sulphate, Chloride, Starch, Unsaturated compound, Reducing sugar and Amino acid. Biochemical analysis report was given by Biochemical department, Government Siddha Medical College, Palayamkottai.

Discussion

. Iron deficiency anemia is the most common type of anemia. It is most widespread to children and women all ages. The world health organization estimates that for the entire world, anemia reached a staggering 2 billion people affected, also about 50% of cases is due to iron deficiency. The drug Asuvaathichooranam contains Calcium, Sulphate, Chloride, Starch, Unsaturated compound, Reducing sugar and Amino acid. The presence of the compounds ensures the bioavailability of iron.

Conclusion

Iron deficiency anaemia is the most common type of anaemia, and it occurs when body doesn't have enough of the mineral iron. Iron is a nutrient that's essential to child's growth and development. In developed countries, iron deficiency is the only frequent micronutrient deficiency. This research article evaluates the biochemical analysis of the drug Asuvaathichooranam which brings about the presence of compounds ensures the prevention of anaemia.

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