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Research article

Biochemical analysis of Siddha Polyherbal Drug Sathappilai Chooranam

***Josephin Abisala[1], Porkodi A[2], Poongodi Kanthimathi AS[3]**

[1*] Post Graduate Scholar, Department of Siddhar Yoga Maruthuvam, [2] PG Scholar, Department of Siddhar Yoga Maruthuvam, [3]Head of the Department, Department of Siddhar Yoga maruthuvam, Government Siddha Medical College, Palayamkottai, Tirunelveli.

ABSTRACT

Siddha system of medicine in an ancient system that is practiced in TamilNadu in south India and other Tamil speaking regions of the world. Polycystic ovarian syndrome is heterogeneous disorder characterized by hyperandrogenism and chronic anovulation. Symptoms of PCOS arise during early pubertal years. PCOS is characterized by irregular menstrual cycles, anovulation and acne.

The aim of the study was to evaluate the therapeutic efficacy of sathappilai chooranam in internal medicine for the treatment of Raktha soorai vaayu. The biochemical analysis of the trial drug and it indicate the presence of calcium , sulphate , chloride , Starch , unsaturated compound , amino acids which revealed the effectiveness of therapeutic action of polycystic ovarian syndrome (Raktha Soorai Vaayu).

Keywords:

Polycystic Ovarian Syndrome, Raktha soorai vaayu, Biochemical Analysis, Sathappilai Chooranam.

Address for correspondence:

Josephin Abisala

PG Scholar

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INTRODUCTION

Polycystic ovarian syndrome(pcos) is the most common endocrinopathy in women of reproductive age, resulting from insulin resistance .Polycystic ovary syndrome (PCOS), also called hyper androgenic anovulation (HA),or Stein-Leventhal syndrome is the most frequent androgen disorder of ovarian function and it is characterized by amenorrhea or severe oligomenorrhea, anovulation and hyperandrogenism. It is a condition where enlarged cysts are located on the outer edge of each ovary. Up to 25% of the women have multiple fluid-filled cysts in their ovaries. However, many of these women don't develop PCOS. Hyperinsulinemia, this results in adverse effects on multiple organ systems and may result in alteration serum lipids, anovulation, abnormal uterine bleeding and infertility. When a woman gets affected with polycystic ovary disease, her pituitary gland may discharge high levels of luteinizing hormone (LH) and the ovaries may make excess androgens. This disrupts the normal menstrual cycle, and may lead to infertility, excess body hair and acne.

Siddha formulations not only treat this disease but also strengthen the uterus and ovary and correct the hormonal Imbalance without any undesirable side effects. So there is a need to evaluate a classical siddha formulation Sathappilai Chooranam mentioned in Padhartha Guna Vilakkam, Pg.no.308 for the treatment of RAKTHA SOORAIVAAYU (Polycystic ovarian syndrome).

MATERIALS AND METHODS

DRUGS	BOTANICAL NAME/FAMILY	PART USED	PART
SATHAPPU	*Rutta chalepensis/ Ruttaceae*	Leaves	1 Palam (35gms)
CHIRAKAM	*Cuminum cyminum/ Apiaceae*	Seed	1 Palam (35gms)
ATIMADURAM	*Glycyrrhiza glabra/ Fabaceae*	Root	1 Palam (35gms)
KARUNJCHIRAKAM	*Nigella sativa/ Ranunculaceae*	Seed	1 Palam (35gms)
CHANNA LAVANGA PATTAI	*Cinnamomum zeylanium/Lauraceae*	Bark	1 Palam (35gms)
CHTHAKUPPAI	*Anethum graveolens/ Apiaceae*	Seed	1 Palam (35gms)
KOTHTHAMALLI	*Coriandum sativum/ Apiaceae*	Seed	6 Palam (210 gms)

MATERIALS AND METHODS

Source of drug ingredients:

Table. 1 Qualitative analysis

S.no	Experiment	Observation	Inference
01	**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
02	**Test for sulphate** 2ml of the extract is added to 5% 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	A white precipitate is formed	Indicates the presence of chloride
04	**Test for carbonate** The substance is treated with concentrated hcl.	No brisk effervessence is formed	Absence of carbonate

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S.no	Experiment	Observation	Inference
05	**Test for starch** The extract is added with weak iodine solution	Blue colour is formed	Indicates the presence of starch
06	**Test for ferric iron** The extract is acidified with glacial acetic acid and potassium ferro cyanide.	No blue colour is formed	Absence of ferric iron
07	**Test for ferrous iron** The extract is treated with concentrated nitric acid and ammonium thiocyanate solution	No Blood red colour is formed	Indicates the absence of ferrous iron
08	**Test for phosphate** The extract is treated with ammonium molybdate and concentrated nitric acid	No yellow precipitate is formed	Absence of phosphate
09	**Test for albumin** The extract is treated with esbach's reagent	No yellow precipitate is formed	Absence of albumin
10	**Test for tannic acid** The extract is treated with ferric chloride.	No blue black precipitate is formed	Absence of tannic acid
11	**Test for unsaturation** 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.	No Colour change occurs	Indicate the absence of reducing sugar
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 same and dried it well.	Violet colour is formed	Indicates the presence of amino acid
14	**Test for zinc** The extract is treated with potassium ferro cyanide.	No white precipitate is formed	Absence of zinc

RESULTS AND DISCUSSION

The bio chemical analysis of the trial drug Chukku karpam was tabulated above in table. The trial drug , Chukku karpam contains,

1.Calcium

2.Sulphate

3.Starch & 4.Chloride

5.Unsaturated compounds

6. Amino acids

7.amino acid

Mode of action of the trial drug Chukku karpam- which brings about the bone mineralisation osteoblastic and osteoclastic activity in body. May be due to the presence of sulphate, amino acid, calcium in it.

CONCLUSION

It is a siddha drug taken from a siddha literature used in the treatment of vatha diseases. The drug is screened for its bio chemical properties. Further, comprehensive pharmacological analysis are needed to evaluate its potency and the drug has its own potency to undergo further research.

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Source of Drug Ingredients:

The required raw drugs for preparations of Sathappilai Chooranam are purchased from a well reputed country shop. The purchased drugs are authenticated by The Faculty / Expert members of Medicinal Botany and Gunapadam department at GSMCH- Palayamkottai.

Methods of Purification and Preparations:

All the ingredients have been completely purified as per the siddha literature in the presence knowledge of Guide / Faculty members. Then the trail drugs prepared from the ingredients.

Biochemical analysis:

Screening the drug Sathappilai chooranam to identify the Biochemical properties present in the ingredient.

Chemicals and drugs:

And the chemicals used in this study were of analytical grade obtain from Department of Biochemistry, Government Siddha Medical College& Hospital, 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 up to 100ml with distilled water. This fluid was taken for analysis.

RESULTS AND DISCUSSION

The bio chemical analysis of the trial drug Chukku karpam was tabulated above in table. The trial drug , Chukku karpam contains,

1.Calcium

2.Sulphate

3.Starch & 4.Chloride

5.Unsaturated compounds

6. Amino acids

Analysis reveals the presence of Sulphate, Amino acid, calcium, Starch, Chloride, Unsaturated compound in Sathappilai Chooranam

CONCLUSION

Sathappilai chooranam is a Siddha Drug taken from a Siddha literature used in the treatment of Raktha soorai vaayu(polycystic ovarian syndrome). The drug is screened for its bio chemical properties. Further, comprehensive pharmacological analysis are needed to evaluate its potency and the drug has its own potency to undergo further research.

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