

**AN APPROACH TO THE THERAPEUTIC MANAGEMENT OF  
POLYCYSTIC OVARIAN SYNDROME (*SOOTHAGAVAYU*) IN *SIDDHA*  
SYSTEM OF MEDICINE – A LITERATURE REVIEW**

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**ABSTRACT**

Traditional medical system is one of the centuries old practices and long serving holistic therapy to the human kind to fight against diseases and to lead a healthy life. *Siddhars* can also be called spiritual scientists of Tamil Nadu who explored and explained the reality of nature and its relationship to human by their yogic awareness and experimental findings. Classification of diseases in *Siddha* system is based on 3 humours such as *Vadha*, *Pitha* and *Kapha*. Treatment is aimed at restoring balance to the mind-body system. *Siddha* system has safest internal and external treatment option for various diseases as well as rare diseases. One most common reproductive endocrine disorder is *Soothagavaayu*. The aim of this article is to explore both

herbal as well as herbo-mineral formulations mentioned in *Siddha* literatures as a potential complementary medicine and suggesting it to the integrated approach for the management of Polycystic ovarian syndrome and its related complications.

**KEYWORDS:** Traditional system, *Soothagavaayu*, Anovulation, Broad spectrum, Polycystic ovarian syndrome, metformin.

**INTRODUCTION**

Polycystic ovarian syndrome (PCOS) is one of the most common reproductive endocrine disorders with a broad spectrum of clinical manifestations. A polycystic ovary is an

abnormally large numbers of developing egg seen to the ovarian periphery, looking like a “String of pearls”. Hallmark features of pcos include anovulation, hyperandrogenism, and polycystic ovaries. Other major manifestations of pcos are as follows: Luteinizing hormone hypersecretion, metabolic disturbances, hyperinsulinemia, insulin resistance, glucose intolerance, dyslipidemia, hirsutism, acne, obesity, diabetes mellitus type II, and infertility. Various long-term complications include cardiovascular events, endometrial cancer, and psychological disorders such as stress and depression represents various symptomatology associated with the disorder.<sup>[1]</sup> Pcos is becoming increasingly common in India because of a variety of factors. Lifestyle modification is often used to treat the metabolic consequences of pcos. Current treatment can be aimed in treating infertility and improving the alteration in women’s hormone can lead in irregularities in menstrual cycle that can further cause ovarian dysfunction, uterine bleeding and infertility. Treatment for pcos in modern medicine includes clomiphene citrate, letrozole, spironolactone, metformin and eflornithine. Menstrual disorders are mostly treated with oral contraceptives. However the use of these medications produce some of the unwanted side effects. Pharmacological agents such as metformin, oral contraceptive pills, and antiandrogen agents are also frequently used. Metformin is associated with fatal and nonfatal lactic acidosis even though the incidence ranges from 1 to 17 cases per 100,000 patients-years. Oral Contraceptive Pills have been associated with weight gain and cardiovascular and thromboembolic events. Antiandrogen use has been associated with hepatic toxicity that could be fatal. The risk and nature of these side effects must be considered when choosing therapies.<sup>[2]</sup> Due to the need for long term treatment for managing PCOS, side effects should be at minimal measures and therefore herbal and herbomineral based drugs can be adopted which delivers minimal side effects. Hence this article is aimed in collecting the list of medication mentioned in Siddha literature for the treatment of pcos and its related complications. Treatment is aimed at restoring balance to the mind-body system. Siddha system has safe herbal, polyherbal and herbo-mineral treatment for various diseases. Clinical features of soothaga vaayu Correlates with polycystic ovarian syndrome in modern aspect.

## PREVALANCE

The pcos statistics in India 2021 show that one in five Indian women suffers from pcos. In addition, urban women are at a higher risk of developing pcos because of their bad lifestyle habits. Pcos is common in women suffering from obesity. It has been seen that more than 80% of women suffering from pcos are overweight or obese.<sup>[3]</sup> Women with pcos have a

higher prevalence of risk factors for type 2 diabetes and cardiovascular diseases.<sup>[4,5]</sup> The risk of glucose intolerance among pcos subjects seems to be approximately 5 to 10 fold higher than normal. Moreover, the onset of glucose intolerance in pcos women has been reported to occur at an earlier age than in the normal population (approximately by the 3rd-4th decade of life). However, other risk factors such as obesity, a positive family history of type 2 diabetes and hyperandrogenism may contribute to increasing the diabetes risk in pcos.<sup>[6]</sup>

## OVULATORY DISORDER

Ovulatory disorder is a very common gynaecological problem that presents in a variety of clinical scenarios, including amenorrhoea, irregular menstruation and hirsutism. Serious consequences of chronic ovulatory dysfunction are infertility and increased risk of developing carcinoma of breast and endometrium. Normal ovulation requires the coordination of the menstrual cycle at the central hypothalamus-pituitary axis, the feedback signals and the local response with the ovaries. Any disruption to these factors at each of these levels may result in a dysfunctional state, leading to anovulation and polycystic ovaries.

## PATHOPHYSIOLOGY

When compared with levels found in normal women, patients with persistent anovulation have higher mean concentration of LH, but low or low normal levels of FSH. The elevated LH levels are partly due to increased sensitivity of the pituitary to Gonadotropic releasing hormone stimulation. Because the FSH levels are not totally depressed, new follicular growth is continuously stimulated, but not to the point of full maturation and ovulation, and they are in the form of multiple follicular cysts 2 to 10mm in diameter. These follicles are surrounded by hyperplastic theca cells, often luteinized in response to high LH levels. As various follicles undergo atresia, they are immediately replaced by new follicles of similar limited growth potential.

## MECHANISM OF ONSET OF PCOS DURING PUBERTY

The onset of pulsatile growth hormone (GH) secretion during early puberty induces the release of IGF-1 (Insulin like growth factor-1) by the liver and most other tissues. GH also provokes insulin resistance, which selectively affects peripheral glucose. The resulting hyperinsulinemia acting on IGF-1 causes ovarian hyperstimulation inducing thecal cell hyperplasia and excessive androgen production. The increased androgens cause follicular atresia and increased circulating estrone levels because of peripheral conversion in adipose tissues. The altered endocrine milieu provokes increased pituitary LH secretion, which

aggravates the theca cell stimulation. After puberty the insulin and IGF-1 levels progressively decline in most patients, resulting in normalization of clinical and morphological picture. Only in a few cases pcpos persists.<sup>[7]</sup>

## CAUSES

- Insulin resistance
- Low grade inflammation
- Heredity
- Excess androgen

## CLINICAL SIGNS AND SYMPTOMS

**1. Menstrual irregularity and Infertility** – 66% of patients with pcpos will present with menstrual irregularity, in the form of oligomenorrhea or amerrhoea. The irregular menses reflects anovulation, which inturn leads to infertility. Women with anovulatory cycles the action of estradiol on the endometrium is unopposed because of the lack of cyclical progesterone secretion. In long term, it may result in the development of endometrial hyperplasia or malignancy.

**Diagnosis** - can be diagnosed by high circulating of LH and FSH.

**2. Obesity** – Body mass index (BMI) greater than  $25\text{kg/m}^2$  is found in 35-50% of women with PCOS. Obesity is associated with the following alterations that interfere normal ovulation.

- a. Increase peripheral aromatization of androgens to estrogen
- b. Decrease levels of sex hormone binding globulin (SHBG) leading to a rise in free estradiol and testosterone levels.
- c. Deleterious effect on glucose tolerance and increased insulin levels that can further stimulate ovarian stroma tissue production of androgens

**3. Hyperandrogenism** – One of the earliest signs of excess androgen levels is acne and seborrhea. Later, hirsutism develops and may lead to an increase in male hair patterns, such as alopecia. In extreme cases of androgen excess, as seen with testosterone producing tumor, virilism may occur. Virilisation may be accompanied by clitoromegaly, breast atrophy and increased muscular mass.

**Diagnosis** – can be done by high circulating levels of testosterone and androstenedione.<sup>[7]</sup>

**Hirsutism:** A condition which result in excessive terminal hairs in the region such as face, chest, abdomen etc. Secretion of androgenic molecules in female reproductive age such as testosterone, dihydrotestosterone, dehydroepiandrosterone sulphate, androstenedione, in which testosterone and dihydrotestosterone binds with the androgen receptor and produce altered hair follicle both morphologically and physiology.

**Acne and seborrhoea:** the enhanced androgen concentration in pcos leads to stimulation of sebaceous glands to produce sebum, leading to the development of acne and seborrhoea.

**Androgenic alopecia:** Androgenic alopecia is the phenomenom of gradual hair loss in a definite pattern due to enhance concentration and secretions of androgen. Women with alopecia areata have pcos and elevated levels of androgenic hormones.<sup>[8]</sup>

## SPECTRUM OF CLINICAL MANIFESTATION OF POLYCYSTIC OVARIAN SYNDROME

**Table no: 1 spectrum of clinical manifestation of polycystic ovarian syndrome.**

Symptoms	Endocrine manifestation	Possible late sequelae
Obesity	Increased androgen (testosterone and androstenedione)	Diabetes mellitus(11%)
Menstrual disturbances	Increased LH	Cardiovascular disease
Hyperandrogenism	Increased LH:FSH ratio	Hyperinsulinemia
Infertility	Increased estrogen	Endometrial cancer
Asymptomatic	Increased fasting insulin Decreased sex hormone binding globulin (SHBG)	Hypertension

## COMPLICATIONS

- Infertility
- Gestational diabetes or pregnancy-induced high blood pressure
- Miscarriage or premature birth
- Nonalcoholic steatohepatitis — a severe liver inflammation caused by fat buildup in the liver.

## DRUGS USED IN MODERN TREATMET AND ITS ADVERSE EFFECT<sup>[9]</sup>

1. Clomiphene citrate
2. Aromatase inhibitors – letrozole

3. Gonadotrophins – recombinant FSH
4. Drug that facilitate ovulation induction – insulin sensitizers like metformin.

**Table no. 2: Drugs used in modern treatment and its adverse effect.**

S.No	Drugs	Usage	Adverse effects
1.	Clomiphene citrate	Infertility	Hot flushes, headache, skin rashes
2.	Spironolactone	Effective for reducing hirsutism	polydipsia, polyuria, nausea, headaches, fatigue, gastritis
3.	Metformin	Acts as a insulin sensitizer	Nausea, vomiting, Anorexia, metallic taste, rarely lactic acidosis, long term usage may interfere with vitamin B <sub>12</sub> absorption leading to vitamin B <sub>12</sub> deficiency.
4.	Letrozole	Induce ovulation	hairloss, hot flashes, muscle pain, nausea, diarrhoea, dizziness.

Due to the unusual adverse effect, there is a need for treating pcos with minimal side effects is highly recommended. Here comes the treatment option for treating pcos in siddha system of medicine because people seeking more attention towards alternative system of medicine nowadays.<sup>[10]</sup>

## METHODOLOGY

### STUDY DESIGN

Literary review from *Siddha* classics of diseases having symptoms similar to PCOS were done.

### PLACE AND DURATION OF STUDY

Government Siddha Medical College library (Dr. B.R.Ambedkar), Chennai.

The therapeutic formulations retrieved from the authenticated Siddha literatures as follows

1. *Anubhoga vaidhya Navaneetham*
2. *Kannusamy Parambarai Vaithiyam*
3. *Sikitcha Ratna Deepam*
4. *Anuboga vaidhiya biramma ragasiyam*

### STATISTICAL ANALYSIS

Collected data were processed and statistically analysed by a simple statistical method using Microsoft Excel 2019.

**SIDDHA ASPECT OF SOOTHAGAVAAAYU****DEFINITION**

A menstrual disease marked by pain in the epigastrium, corpulency, enlargement of the abdomen. It is due to the uterus being choked up with accumulation of the menses arising from heat combining with the deranged vaayu in the system.<sup>[11]</sup>

According to *siddha* text, Agathiyar amuthakalai nanam, the aetiology of reproductive diseases according to *Siddha* science says, consumption of high calorie diet like starchy foods, milk, fruits during menstruation results in accumulation of *Vayu* in the uterine cavity. This leads to reduced blood flow to the organ resulting obesity, abdominal pain and finally failure of conception.<sup>[12]</sup>

**SYNONYMS**

Soothaga soolai

Dhoora soolai

Karpa vaayu

**SIDDHA ETIOLOGY<sup>[13,14,15]</sup>**

Venereal diseases

Infections

Increased body heat due to excessive physical activity

Coitus at the time of menstrual cycle

Diseases and food poisoning

Retention of lochia

Amenorrhoea due to accumulation of vaayu and agni in ovaries

**SIGNS AND SYMPTOMS**

Anovulation.

Lower abdominal pain.

Headache and Low back pain.

Central obesity.

Increased vayu produces uterine disorders

**CLINICAL CORRELATION OF SOOTHAGAVAAYU WITH PCOS<sup>[11]</sup>****Table no: 3 clinical correlation of soothagavaayu with pcos.**

Mathavidai katti pogum	Absence of menstruation due to accumulation of vaayu and agni in ovaries.
Karukuli thurum	Anovulation.
Adivairu vali	Lower abdominal pain.
Thalaivali, idupulaichal	Headache and Low back pain.

**CO MORBID CONDITION**

- Depression
- Sleep apnea
- Obesity
- Cardiovascular diseases
- Endometrial cancers
- Hyperglycemia or hypoglycemia
- Type 2 diabetes
- Miscarriages

**PRIMARY KUTRAM AFFECTED**

Vatham

**SECONDARY KUTRAM AFFECTED**

Pitham/ Kabam

**SIDDHA PATHOGENESIS**

It is explained by aggravation of kabham and later affects vatham and pitham.

**INVESTIGATION**

In seven udalthathukal, Saaram, Senneer, Oon, Kozhuppu get affected.

Envagai Thervu (Eight Fold System of Clinical Assessment)

- I. Naadi -kabam / vathapitham
- II. Sparisam - Tenderness in lower abdomen region
- III. Naa - Pallor
- IV. Niram – Normal
- V. Mozhi - Low pitched
- VI. Vizhi - Normal/ Pallor



VII Malam – Constipation

VIII. Moothiram:

Neerkuri - Yellowish in colour

Neikuri - Oil may spreads in the form of pearl

## **MODERN MEDICAL INVESTIGATION**

### **Sonography**

Transvaginal sonography is especially useful in obese patient. Ovaries are enlarged in volume ( $\geq 10 \text{ cm}^3$ ). Increased number ( $>12$ ) of peripherally arranged cysts (2 – 9 mm) are seen.

### **Laboratory test**

Serum values

LH level is elevated and/or the ratio LH:FSH is  $> 3:1$

Reversible estradiol : estrone ratio (oestrone level is markedly elevated)

HBG level is reduced.

Androstenedione is elevated.

Serum testosterone and DHEA-S may be marginally elevated.

Thyroid function tests

Fasting glucose tests to measure your blood sugar levels

Lipid level tests to assess the amount of cholesterol in your blood.<sup>[16]</sup>

### **Laproscopy**

Bilateral polycystic ovaries are characteristics of PCOS.

### **Diagnosis**

Based on the clinical symptoms and laboratory.

## **DIFFERENTIAL DIAGNOSIS**

Other causes of irregular or absent menstruation and hirsutism are,

Adrenal hyperplasia

Cushing's syndrome

Hyper prolactinemia

Androgen secreting neoplasms

Other pituitary and adrenal disorder

Other insulin resistant situations such as acromegaly.<sup>[17,18]</sup>

**DIAGNOSTIC CRITERIA**

- (a) Presence of three abnormal findings out of the five,
- (b) Triglyceride levels  $\geq 150$  mg/dL.
- (c) HDL – cholesterol  $< 50$  mg/ dL.
- (d) Blood pressure  $\geq 130/80$  mm Hg.
- (e) Fasting glucose  $\geq 100$  mg/ dL.
- (f) Abdominal obesity (waist circumference)  $> 88$  cm.

**LINE OF TREATMENT**

Kazhichal maruthuvam (Purgation)/ Vamana maruthuvam (Therapeutic emesis)

Ennai muzhukku (Oleation)

Internal medicine

Siddhar yoga maruthuvam

Varmam maruthuvam

Dietary advice

**ADVICE**

- (i). Healthy lifestyle: Healthy lifestyle includes eating a balanced and nutritious diet, maintaining a healthy weight, being as active as possible.
- (ii). Physical activity: Physical activity includes walking, household chores, and planned exercises. Regular exercise greatly helps women with pcos in many ways, such as helping to improve mood and prevent weight gain, type 2 diabetes.<sup>[19]</sup>
  - Taking the stairs instead of the lift
  - Trying a pedometer and work out
- (iii). Emotional health: Important to keep eye on emotional health. Emotional health may be improved with education about pcos, support and appropriate treatment.
  - Caring for psychological well being
  - Reducing stress through self care practices such as getting enough sleep, avoiding over commitment and making time to relax can also help a person.<sup>[20]</sup>

**YOGA FOR PCOS**

- Pranayamam
- Surya Namaskaram (Sun Salutation),
- Bhujangasanam (Cobra Pose),

- Salabhasanam (Locust Pose),
- Dhanurasanam (Bow Pose),
- Trikonasanam (Triangle Pose),
- Parsva -konasanam (Twisted Angle Pose),
- Prasarita Padottanasanam (Spread leg intense stretch)
- Sarvangasanam (Shoulder Stand),
- Paschimottanasanam (Sitting forward stretch)
- Sarvasanam.<sup>[21]</sup>

## YOGASANAM

All patients were advised to do yogasanam. Yoga is a part of Siddha medicine which plays a major role in not only treating the disease but also in preventing the disease. Women should keep in mind that they should not do asanas during their monthly menstrual cycle. After, the cycle ends, asanas can be practiced and it will give a lot of benefits.<sup>[22]</sup> Yoga eases any stress through breathing techniques that bring complete relaxation within the body. Relaxation can work to offset the effects of hormonal imbalance, irritability and frequent mood swings.<sup>[23]</sup> Aasanas for Soothaga vaayu were Dhanurasanam, Bujangasanam, Salabasanm, Sarvangasanam and Savasanam.<sup>[24]</sup>

## VARMAM

Varmam is an ancient Tamil medical system discovered and practised by Siddhars. It is a part of the Siddha medical system, which originates in South India. It is a subtle energy which flows along with the life force. Each and every part of our body contains vital energy to improve our body function. To stimulate the energy, Varmam should be applied.

## VARMAM FOR PCOS

1. Pallai Varmam (Pit Varma Point)
2. Anna (Alias) Unthi Varmam (Nourishing Varma Point).<sup>[25]</sup>

### 1.PALLAI VARMAM

#### Location

The pit present straight to the nipple below the breast on chest on both sides.

#### Anatomy

It located at the mid – clavicular plane, just below the costal margin.

**Indications**

It is used in treating pcos, anemia, oligospermia, oral ulcers & tastelessness.

**2. ANNA (ALIAS) UNTHI VARMAM****Location**

5 fingers below to the Urumi varmam, 4 fingers below to the Pantti varmam.

**Anatomy**

It is located at the center of the umbilicus.

**Indications**

It is used in treating pcos, anemia, oligospermia, oral ulcers & tastelessness.

**FOODS TO EAT**

A healthy diet adequate intake of nutrients, vitamins and minerals.

- A low glycemic index (GI) diet: Foods in a low GI diet include whole grains, legumes, nuts, seeds, fruits, starchy vegetables, and other unprocessed, low carbohydrate foods.<sup>[26]</sup>
- A healthful pcos diet can also include the following foods:
  - o Natural, unprocessed foods.
  - o High fiber foods.
  - o Fatty fish including salmon and sardine.
  - o Spinach and other dark leafy greens
  - o Dark red fruits such as red grapes, blueberries, blackberries and cherries
  - o Broccoli and cauliflower
  - o Dried beans, lentils and other legumes
  - o Healthful fats such as olive oil as well as avocados and coconuts
  - o Nuts including pine nuts, walnuts and almonds.
  - o Spices such as turmeric and cinnamon.<sup>[21,22]</sup>

**The DASH diet**

Doctors often recommend the Dietary Approaches to Stop Hypertension (DASH) diet to reduce the risk or impact of heart disease. It may also help manage pcos symptoms. A DASH diet is rich in fish, poultry, fruits, vegetables, whole grain, and low fat dairy product. The diet discourages foods that are high in saturated fat and sugar.<sup>[22]</sup>

## FOODS TO AVOID

- Refined carbohydrates, such as mass – produced pastries and white bread.
- Fried foods
- Sugary beverages such as sodas and energy drinks
- Processed meats
- Excess red meat.<sup>[22]</sup>

## CURRENT TREATMENT

Current treatment approaches utilized for pcpos management mainly depends on lifestyle modification, insulin sensitizer molecules, nutritional supplements, ovulation induction, assisted reproductive technology therapy and surgical treatment.<sup>[10,11]</sup>

## TREATMENT FOR PCOS IN SIDDHA SYSTEM

**Table no 4: Plants with Emmenagogue Activity.**

S.no	Platns	Botanical name
1.	Aduthinda palai	<i>Aristolochia bracteolate</i>
2.	Masipathiri	<i>Artemisia nilagirica</i>
3.	Perungayam	<i>Ferula asafetida</i>
4.	Ellu	<i>Sesamum indicum</i>
5.	Aatruthumathi	<i>Neptania oleracea</i>
6.	Anasipalam	<i>Ananas comosus</i>
7.	Kariyabolam	<i>Aloe littoralis</i>
8.	Kumkumappoo	<i>Crocus sativus</i>
9.	Malai vembu	<i>Melia azedarach</i>
10.	Kalyanamurungai	<i>Erythrina variegata</i>
11.	Aruvadha	<i>Ruta chalepensis</i>
12.	Alivirai	<i>Lipidium sativum</i>
13.	Echuramooli	<i>Aristolochia idica</i>
14.	Kadugurogini	<i>Veratri viridi rhizome</i>
15.	Karungeeragam	<i>Nigella sativa</i>
16.	Kalarchik kodi	<i>Caesalpinia bonduc</i>
17.	Kattralai	<i>Aloe barbadensis</i>
18.	Kariapolam	<i>Aloe littoralis</i>
19.	Kaattu mullangi	<i>Blumea lacera</i>
20.	Kaattu vengayam	<i>Urginea idica</i>
21.	Kunthirikkam	<i>Boswellia serrata</i>
22.	Kuppaimeni	<i>Acalypha indica</i>
23.	Guruver	<i>Vetiveria zizanioides</i>
24.	Korai	<i>Cyperus rotundus</i>
25.	Sanappu	<i>Crotalaria juncea</i>
26.	Sanbagam	<i>Michelia champaca</i>
27.	Sathakuppai	<i>Anethum graveolens</i>
28.	Sivakaranthai	<i>Spheoranthus amaranthoides</i>

29.	Sembarathai	<i>Hibiscus rosa-sinesis</i>
30.	Sembai	<i>Sesbania sesban</i>
31.	Thumbai	<i>Leucas aspera</i>
32.	Nuna	<i>Morinda tinctoria</i>
33.	Paruthi	<i>Gossypium herbacum</i>
34.	Pirandai	<i>Cissus quadrangularis</i>
35.	Pilappu seeragam	<i>Carum bulbocastanum</i>
36.	Manchitti	<i>Rubia cordifolia</i>
37.	Malli	<i>Jasminum grandiflorum</i>
39.	Mavilangu	<i>Crataeva magna</i>
40.	Murungai	<i>Moringa oleifera</i>
41.	Moongil	<i>Bambusa arundinacea</i>
42.	Vallarai	<i>Centella asiatica</i>
43.	Valenthirapolam	<i>Commiphora myrrha</i>
44.	Vengayam	<i>Allium cepa</i>
45.	Venthayam	<i>Trigonella foenum</i>
46..	Atruthumatti	<i>Citrullus coclocynthis</i>
47.	Masipathiri	<i>Quercus infectoria</i>

### MINERAL FORMULATIONS FOR TREATING PCOS IN SIDDHA LITERATURE

**Table no 5: Mineral formulations for treating pcod in siddha literature.**

S.No	Name of the Formulation	Nature	Reference	Page.no
1.	Guru Pathangam	Mineral	Anuboga vaithiya navaneedham -7	129
2.	Namanasa Melugu	Mineral	Kannusamy parambarai vaithiyam	203
3.	Seena lavana parpam	Mineral	Kannusamy parambarai vaithiyam	384
4.	Navamani Chendooram	Mineral	Sigiccha rathina deepam	255
5.	Lavana Melugu	Mineral	Sigiccha rathina deepam	267
6.	Panjanavaloga Melugu	Mineral	Sigiccha rathina deepam	268
7.	Sanga Thiravagam	Mineral	Sigiccha rathina deepam	299

### THE HERBAL FORMULATION FOR TREATING PCOS IN SIDDHA LITERATURE

**Table no. 6: The herbal formulation for treating pcos in siddha literature.**

S.no	Name of the Formulation	Nature	Reference	Page.no
1.	Milagu ilagam	Herbal	Anuboga vaithiya navaneedham – 8	15
2.	Ulli Ilagam	Herbal	Anuboga vaithiya navaneedham – 8	35
3.	Inji Rasayanam	Herbal	Anuboga vaithiya navaneedham-8	39
4.	Attathi chooranam	Herbal	Anuboga vaithiya navaneedham – 8	55
5.	Ingushtathi urundai	Herbal	Anuboga vaithiya navaneedham – 8	55
6.	Perungaya Ilagam	Herbal	Anuboga vaithiya navaneedham – 8	86
7.	Magavaatha kesari kuligai	Herbal	Kannusamy parambarai vaithiyam	154
8.	Panjakavviya legium	Herbal	Kannusamy parambarai vaithiyam	192

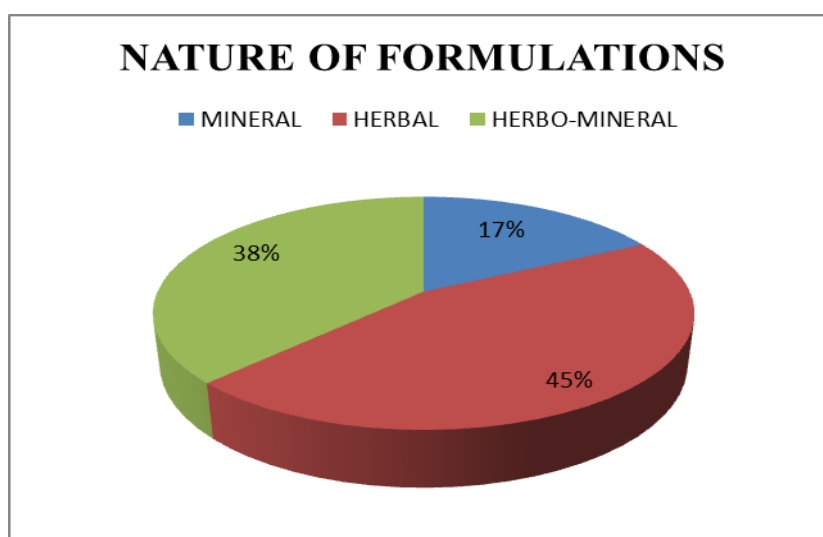
9.	Kandha pulapa legium	Herbal	Sigiccha rathina deepam	181
10.	Maga thiravagam	Herbal	Sigiccha rathina deepam	301
11.	Soothagavaayu pattai ilagam	Herbal	Anuboga vaithiya navaneedham – 9	104
12.	Soothagavaayu kathiri ilagam	Herbal	Anuboga vaithiya navaneedham – 9	104
13.	Soothagavaayu Nimba ilagam	Herbal	Anuboga vaithiya navaneedham – 9	104
14.	Soothagasanni Thailam	Herbal	Anuboga vaithiya navaneedham – 9	105
15.	Soothagavaayu kudineer	Herbal	Anuboga vaithiya navaneedham – 9	106
16.	Soothagavaayu chooranam	Herbal	Anuboga vaithiya biramma ragasiyam 8	227
17.	Magavaadha moosambara kuligai	Herbal	Anuboga vaithiya biramma ragasiyam 1	90
18.	Bosana kudori mathirai	Herbal	Anuboga vaithiya biramma ragasiyam 1	88

## HERBOMINERAL FORMULATION PCOS IN SIDDHA LITERATURE

**Table no: 7 Herbomineral formulation pcos in siddha literature.**

S.No	Nature of the Formulation	Nature	Reference	page.no
1.	Sevathai nei	Herbomineral	Anuboga vaithiya navaneedham – 9	29
2.	Thengaai ilagam	Herbomineral	Anuboga vaithiya navaneedham – 8	100
3.	Pachai karpooora melugu	Herbomineral	Anuboga vaithiya navaneedham – 7	58
4.	Jeevaalanala rasam	Herbomineral	Anuboga vaithiya navaneedham – 7	46
5.	Kabari melugu	Herbomineral	Sihinccha rathina deepam	278
6.	Karpooora chunnam	Herbomineral	Kannusamy parambarai vaithiyam	407
7.	Lavana chendooram	Herbomineral	Kannusamy parambarai vaithiyam	364
8.	Sithathi ennai	Herbomineral	Kannusamy parambarai vaithiyam	265
9.	Kasthuri melugu	Herbomineral	Kannusamy parambarai vaithiyam	225
10.	Moosambara melugu	Herbomineral	Kannusamy parambarai vaithiyam	225
11.	Sara melugu	Herbomineral	Kannusamy parambarai vaithiyam	224
12.	Thirisootha melugu	Herbomineral	Kannusamy parambarai vaithiyam	213
13.	Kosigar sowbakkiya kulambu	Herbomineral	Kannusamy parambarai vaithiyam	204
14.	Arpudha mathirai	Herbomineral	Anuboga vaithiya biramma ragasiyam – 2	87
15.	Menilavana chooranam	Herbomineral	Kannusamy parambarai vaithiyam	116

## RESULTS AND DISCUSSION



**Chart 1: Nature of formulations.**

## INFERENCE

In this review, as per the text book of *siddha* literatures formulated medications contains 45% herbal formulations, 17% mineral formulations and 38% herbo-mineral formulations for PCOS.

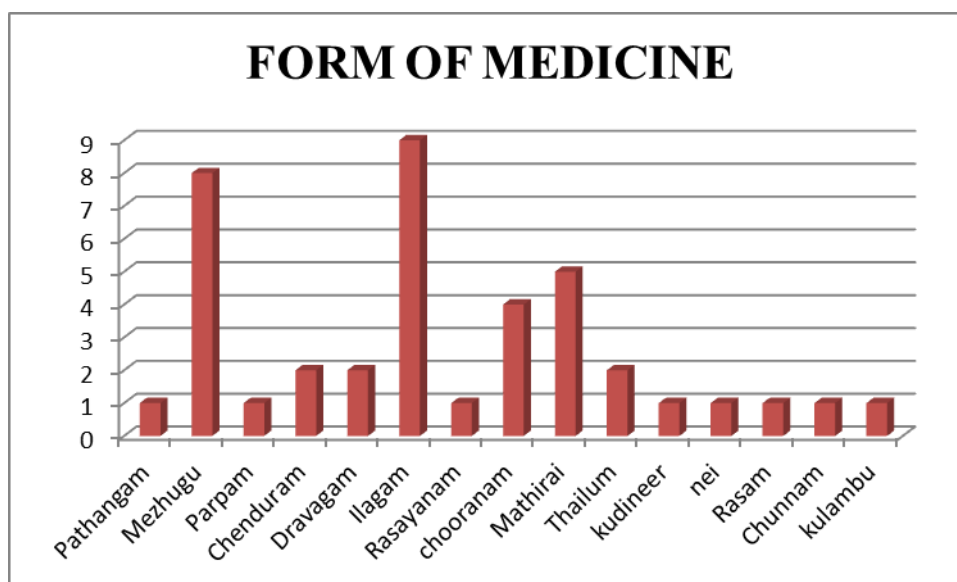


Chart 2: Form of medicine.

## INFERENCE

In this review, as per the text book of *siddha* literatures formulated medications prescribed for PCOS, most of the medications mentioned in the form of ilagam.

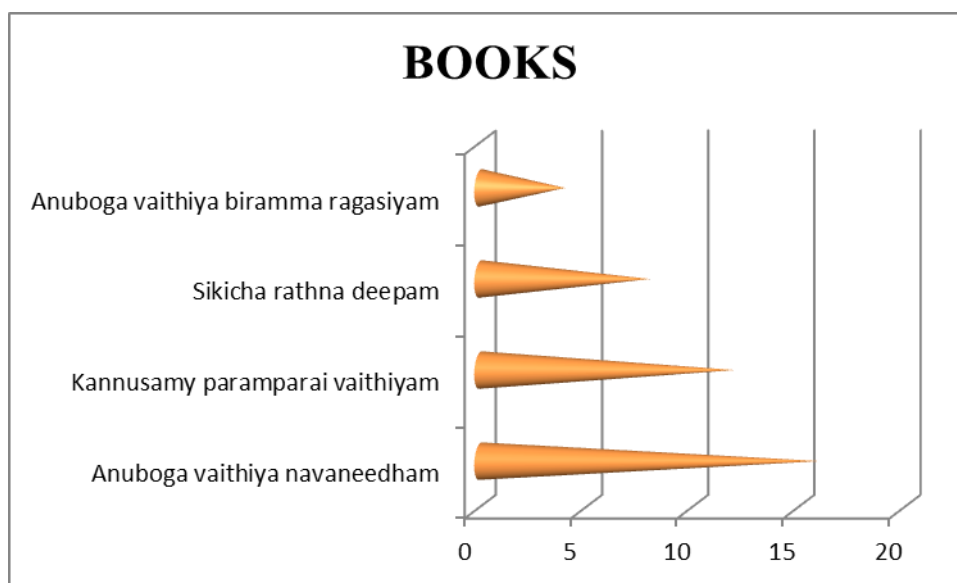


Chart 3: List of books



## INFERENCE

In this review, as per the text book of *siddha* literatures formulated medications prescribed for PCOS, most of the medications mentioned in the books of *Anuboga vaithiya navaneedham*.

According to the documented data regarding 40 formulations and they were classified into herbal, herbo mineral and, mineral based on formulations. From the above data, medications mentioned for treating PCOS contains 45% of the formulations were plant based, 38% of the formulations were Herbo mineral based, 17% of the formulations were mineral based in system system of medicine.

## CONCLUSION

From the above review, most of the medicines are herbal in nature. so it will be best to treat PCOS without any side effects. The most of the medications for PCOS is mainly in the form of ilagam the most of the formulated medications prescribed for PCOS are mentioned in the books of *Anuboga vaithiya navaneedham*. From this, we conclude that the above stated herbal, mineral and herbomineral formulations are effectively used for the treatment of PCOS and its related disorders. However most of the herbals mentioned in siddha literature possess ovulation inducing activity, antiandrogenic activity, hypoglycemic activity and antidyslipidemic activity. Nowadays most of the women are at increased risk of developing PCOS due to their modified and unusual dietary lifestyle. To overcome this issues thereby arises the therapeutic protocols to improve the health status of women. Potential treatment options for the management of PCOS in siddha system includes internal medicines, external medicines, yoga therapy, weight reduction, intake of low dietary carbohydrate and daily exercise.<sup>[27]</sup> specific drugs like insulin sensitizers can be given for reducing its complications. Although polyherbal formulations were commonly used and have seen good prognosis but evidence based scientific approach for all the medicines were seems to be in minimal. This review article will be beneficial for future researchers to conduct in-vivo evaluation, safety evaluation thereby conducting clinical trial.

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