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EFFICACY OF CHANDRAPRABHA VATI IN POLYCYSTIC OVARIAN DISEASE

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ABSTRACT

PCOD/ PCOS/ Stein Leventhal-syndrome is not merely dysfunction of ovaries; it's a systemic, endocrinal & also a metabolic disorder. The easily noticed symptoms like menstrual irregularities, hirsutism, acne, hair loss, skin problems, obesity and fertility are only the tip of the iceberg. It is the more serious health problems like DM, infertility, cancer, cardiovascular diseases that are the real worries. Ayurveda, the ancient system of Indian medicine mainly aims at the treatment of the diseases as well as maintenance of the health. Ayurveda mainly concentrates on the *doshas* and *dushyas* involved, in understanding the manifestation of the disease rather than its nomenclature. Now at present, it is the golden opportunity for the Ayurvedic fraternity to come up with a better solution for the disease complex like PCOS. So, here an attempt has been made to work on the efficacy of *Chandraprabha Vati* along with conceptualising the disease PCOS in an Ayurvedic perspective.

Key words: PCOD; PCOS; Infertility; Menstrual irregularities

INTRODUCTION

Stree being the root cause of progeny, utmost care should be given to protect her from any ailments that affect her motherhood. Polycystic ovarian syndrome (PCOS) is one of the most common reproductive endocrinological disorders with a broad spectrum of clinical manifestations affecting about 6-8% of women of reproductive years[1]. The diverse manifestations of PCOS start at an early age when a girl is maturing into a young woman. In PCOD ovary fails to develop a mature egg and generate only multiple immature follicles[2]. Due to these multiple cysts hormonal imbalance occurs The conditions which are mentioned in various contexts in Ayurvedic classics under various headings as *Anartava, Nashtartava, Artava Kshaya, Vandhya Yonivyapat*[3], *Pushpaghni Jataharini, Granthibhootha Artavadushti, Srotodushti* and *Santarpanottha Nidana* can be to some extent compared with the symptoms of Polycystic ovarian syndrome. So here an attempt is made in treating PCOS with *Chandraprabha Vati*[4]

MATERIALS AND METHODS:

Plan of the study

Minimum 30 patients diagnosed as PCOD attending OPD and IPD of SDM Ayurvedic Hospital, Hassan was taken for study.

A detailed history regarding menstrual history, obstetric history, family history, past medication, clinical findings pertaining to *dosha, dushya, agni, srotasas,* etc. along with vaginal and speculum examination to asses any sign of infection or any disease related to

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menstrual irregularity or infertility were filled up in specially prepared proforma.

Study design

Present study is a clinical study with pre test and post test design. Data obtained during study was collected and tabulated statistically.

Criteria for selection of patients

Inclusion criteria

- Age: 18 – 35 yrs.
- Rotterdam criteria[5]

Exclusion criteria

- Patients having any other disease causing oligomenorrhoea and anovulation excluding PCOD on above criteria.
- Patients suffering from adrenal hyperplasia, severe insulin resistance, and androgen secreting neoplasm, thyroid abnormalities, Cushing's syndrome and cardiac diseases will be excluded.
- Any organic lesions of reproductive tract like TB, carcinoma and congenital deformities or any other pelvic pathology.

Diagnostic criteria:

Subjective and Objective criteria

All the patients confirming the above said inclusion criteria were included in the study and subjected to thorough interrogation, physical and sonographical examinations. Patients were selected on the basis of their clinical presentation particularly related to menstruation. Also clinical presentations like obesity, acne, hirsutism and acnthosis nigricans.

Ultra Sonography (USG) with the report of unilateral or bilateral PCO

Hormonal assay: Ratio of LH and FSH; i.e. LH: FSH

Laboratory investigations

1. Complete blood picture – Hb, T.C., D.C., ESR
2. Blood glucose level – RBS
3. Thyroid profile – T3, T4, TSH
4. Hormonal assay (before and after treatment) – LH: FSH
5. Ultrasonogram – Abdomino-Pelvis / Transvaginal for conformation of PCO, Volume of ovary, number of cysts and Size of cysts

Drug and dose

- ✓ Drug: Chandraprabha Vati (Ref: Bharat Bhaisajya Ratnakar) was taken from Shree Dhootapapeshwar Ltd., which has GMP standards.
- ✓ Dose: 500mg twice daily with water
- ✓ Duration: Treatment was given for 3 months
- ✓ *Anupana: Jala*
- ✓ Diet: Patient was advised about *Pathya* and *Apathya* accordingly

Plan for data analysis:

Statistical analysis of the study was carried out by obtaining the frequency, percentage, mean, standard deviation and standard error for different parameters. The data's of the same are presented as tables and graphs in the results section. The statistical significance of the difference between the means of various study parameters were derived using paired "t" test.

Assessment Criteria:

1. Interval of cycle: graded as
   35- 45 days – grade 1
   46- 60 days – grade 2
   61- 180 days – grade 3
   180- 365 days – grade 4
2. Amount of bleeding: graded as

Spotting/ scanty menstruation – 1

Normal flow – 2

Excessive – 3

3. Grades of the Overall assessment

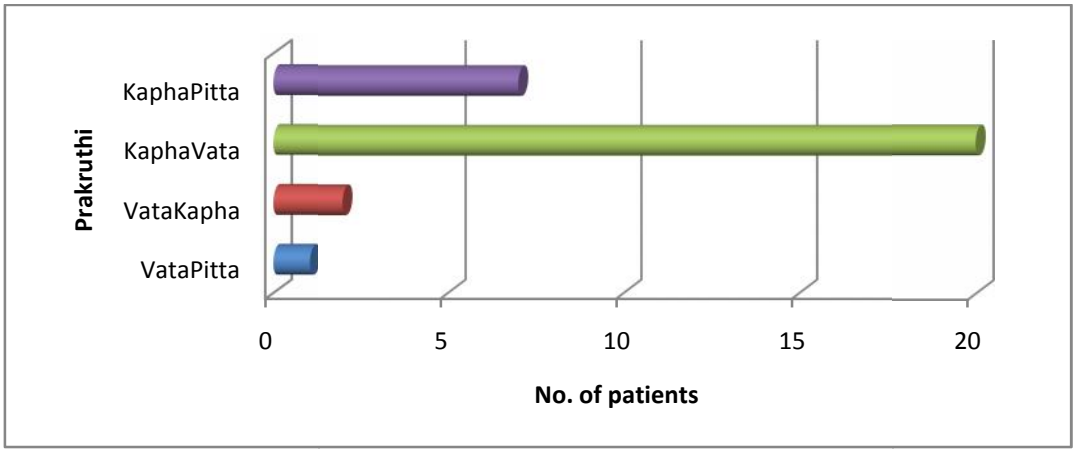
No improvement	All signs and symptoms persisting	Grade 1
Minor improvement	Atleast two signs and symptoms brought to the lower grade than before	Grade 2
Moderate improvement	Atleast three signs and symptoms brought to the lower grade than before	Grade 3
Marked improvement	All signs and symptoms brought to the lower grading than before	Grade 4
Maximum improvement	All signs and symptoms relieved	Grade 5

OBSERVATION AND RESULTS:

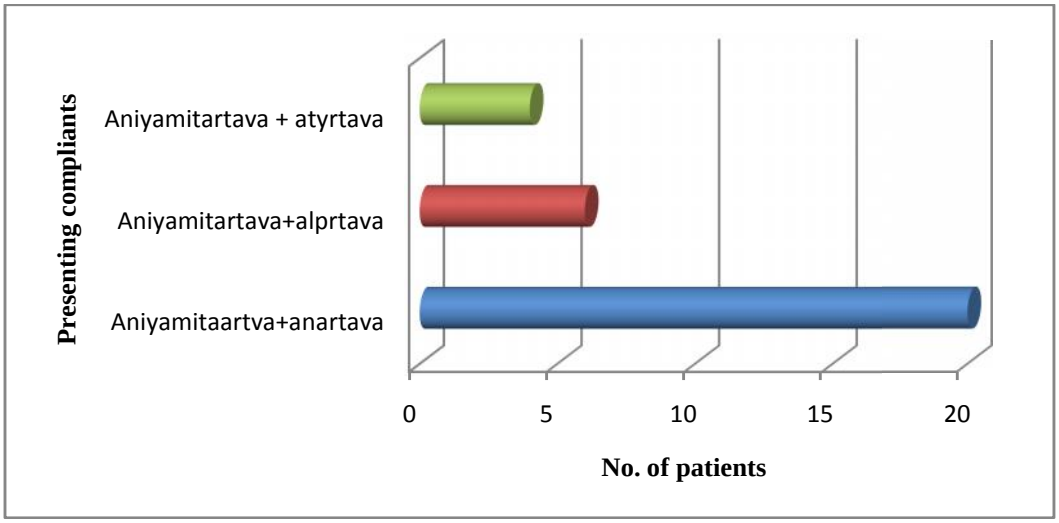
Distribution by Age:

Patients with the age group of 15 – 20 years was found to be 33.3%, 43.3% belonged to the age group of 21 – 25 years, 20% belong to the age group of 26 – 30 years and only 3.3% of patients belong to the 31 – 35 years.

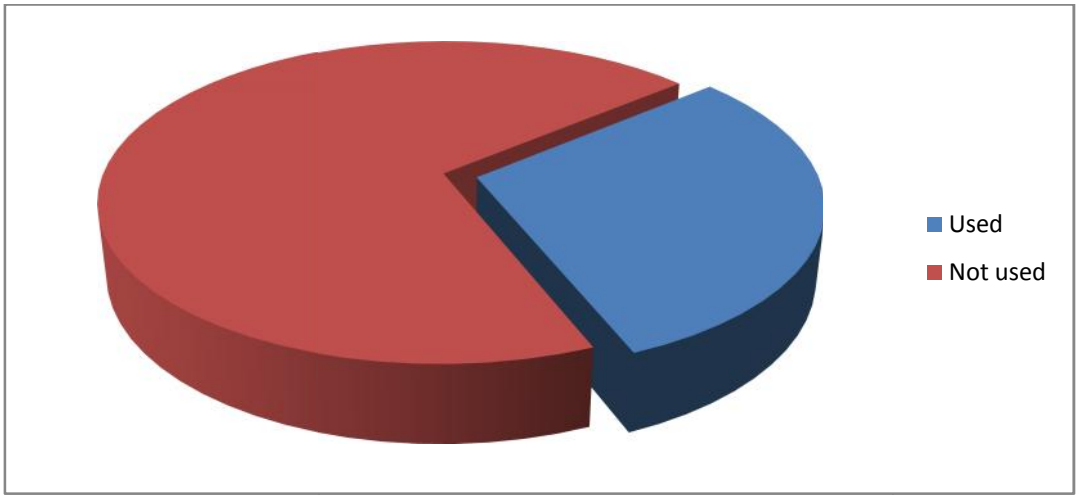
Distribution by *Prakruti*:-



Distribution by presenting complaints:-



Distribution by hormonal pill users:-



RESULTS:

Interval of cycle before treatment and after treatment:-

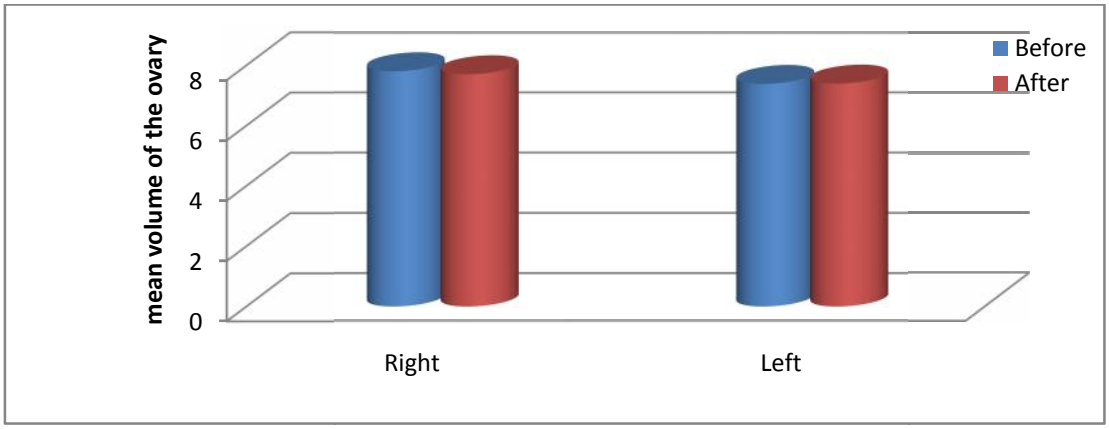
Before	Frequency	Percent	After	Frequency	Percent
46-60 days	12	40.0	**35-45 days**	8	26.7
61-180 days	16	53.3	**46-60 days**	11	36.7
181-360 days	2	6.7	**61-180 days**	10	33.3
Total	30	100.0	**181-360 days**	1	3.3
			Total	30	100.0

Ratio of LH and FSH:-

	SESSION		
	Before	After	Total
< 3 : 1 Frequency	27	27	54
% of SESSION	90.0%	90.0%	90.0%
> 3 : 1 Frequency	3	3	6
% of SESSION	10.0%	10.0%	10.0%
Total Frequency	30	30	60
% of SESSION	100.0%	100.0%	100.0%

A non significant association was observed in the ratio of LH: FSH where contingency coefficient value of 0.000 was found to be non significant at 1.000 level. From the table it is evident that among 30 patients, 27 of them had ratio of LH: FSH < 3:1 and 3 patients had the ratio of LH: FSH > 3: 1. But after treatment, there was no changes found among the patients.

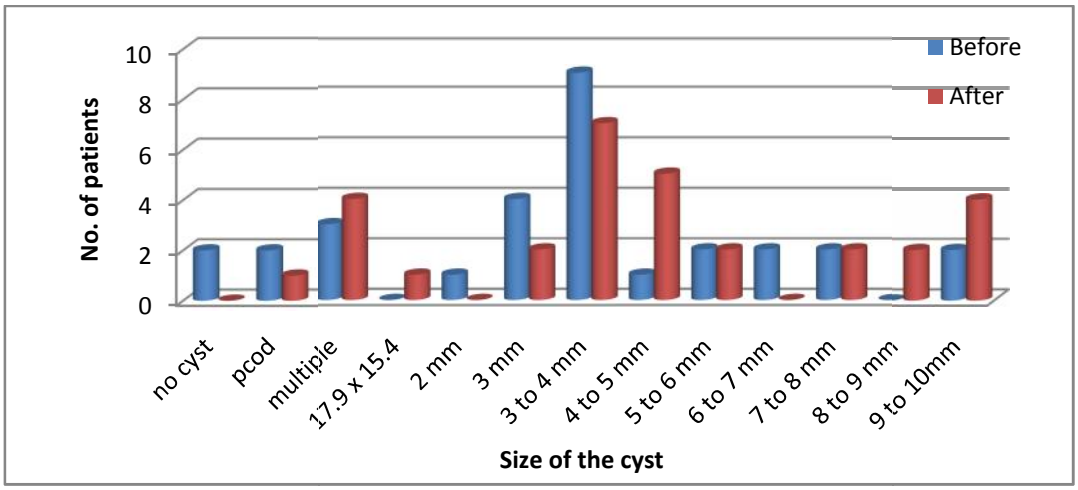
Volume of ovary:



The right mean volume of ovary before was 7.81 which were later decreased to 7.71. However, this decrease is found to be statistically non significant. The obtained t value of 1.013 was found to be non significant (P = 0.320).

The left mean volume of ovary before was 7.38 which were later decreased to 7.40. However, this decrease is found to be statistically non significant. The obtained t value of -.395 was found to be non significant (P = 0.696).

Size of cysts:



Among 30 patients, before clinical trial the USG findings with respect to the size of the cyst were as follows;

There were 2 patients were no cyst was found, 2 patients had PCOD changes, 3 patients had multiple cysts, 1 patient had cyst measuring 2mm, 4 patients had cyst measuring 3mm, 9 patients had cysts measuring 3-4mm, 1 patient had cyst size measuring 4-5mm, 2 patients had cyst measuring 5-6mm, 2 patients had cyst measuring 6-7mm, 2 patients had cyst size measuring 7-8mm, and 2 patients had cyst size measuring 9-10mm.

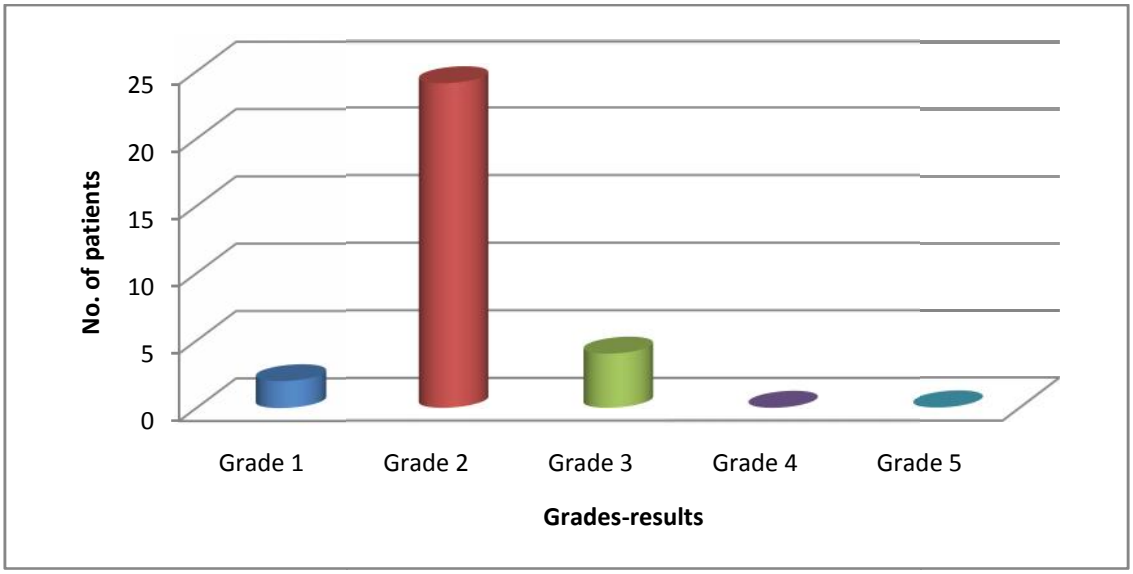
After the clinical trial the size of the cyst which was found in 30 patients were as follows;

There was only 1 patient who had PCOD changes, 4 patients who had multiple cysts; 1 patient had cyst size measuring 17.9x15.5, 0 patients had size of the cyst measuring 2mm, 2 patients had cyst size measuring 3mm, 7 patients had cyst size measuring 3-4mm, 5 patients had cyst size measuring 4-5mm, 2 pa-

tients had cyst size measuring 5-7mm, 0 patients had cyst size measuring 6-7mm, 2 patients had cyst size measuring 7-8mm, 2 patients had cyst size measuring 8-9mm, and 4 patients had cyst size measuring 9-10mm.

On statistically analyzing the effect of treatment on size of the cyst the contingency co-efficient value of 0.418 was found to be non significant at 0.389.

Overall assessment of treatment



On analyzing the effect of treatment overall statistically, it is noted that 2 patients (6.7%) had grade 1 i.e., no improvement , 24 patients (80.0%) had grade 2 improvement on completion of treatment i.e., minor improvement, with at least two signs and symptoms brought to the lower grading than before, 2 patients (13.3%) had Grade 3 improvement i.e., Moderate improvement, with at least three signs and symptoms brought to the lower grade than before and no patients with grade 4 and grade 5 improvement were noted in the study. There is a statistically significant change. The P value being .000.

DISCUSSION

This study would not have had any base but for the voluntary involvement of all 30 patients selected for the study. A drug or a clinical study can be considered effective only when it provides symptomatic relief and tackles the disease at the *samprapti* level itself. With this view the drug was selected in the study.

Drug was selected on the basis of its properties keeping in mind their probable mode of action. To evaluate the action of Chandraprabha Vati[6] on PCOS and its different manifestations, it was administered orally as 500mg twice daily for a period of three months and was followed at fortnight interval for 3 months to assess whether the relief provided by the drug is sustained.

Increasing no. of *kaphavata prakruti* is seen in the study may because of the close proximity of these *doshas* with the disease entity. Maximum number of patients had stress and this could be one of the *nidanas* of PCOD.

Among 30 patients, before clinical trial, 12 (40%) patients had the interval of menstrual cycle for 46 – 60 days, 16 (53.3%) patients had for 61 – 180 days, 2 (6.7%) patients had for 181 – 360 days.

After the clinical trial, 8 (26.7%) patients menstrual cycle between 35 – 45 days, 11 (36.7%) had between 46 – 60 days, 10 subjects had between 61 – 180 days and only 1 (3.3%) patient had menstrual cycle between 181 – 360 days.

On statistically analyzing the effect of treatment on the interval of cycle it is noted that there is a statistically significant result with P value being .043.

The result might be an effect of *Ushna, teekshna* drugs which relieves the *avarana* and there by the *Artava Pravrutti*.

A non significant association was observed in the ratio of LH: FSH where contingency coefficient value of 0.000 was found to be non significant at 1.000 levels. From the table it is evident that among 30 patients, 27 of them had ratio of LH: FSH < 3:1 and 3 patients had the ratio of LH: FSH > 3: 1. But after treatment, there was no changes found among the patients.

Due to increased pulsatile secretion of GnRh, secretion of LH is more than FSH which is also incorporated by increased level of androgens. Thus, in PCOD Serum.LH:SerumFSH ratio is increased. The value of this ratio is found more than 3 in PCOD, but it is not a rule.

So, this is not the diagnostic criteria for PCOD rather a supportive investigation. This is also supported by the data found in the present study that the S.LH:S.FSH ratio was <3 in most of the patients.

The right mean volume of ovary before was 7.81 which were later decreased to 7.71. However, this decrease is found to be statistically non significant. The obtained t value of 1.013 was found to be non significant (P = 0.320).

The left mean volume of ovary before was 7.38 which were later decreased to 7.40. However, this decrease is found to be statistically non significant. The obtained t value of -.395 was found to be non significant (P = 0.696).

Probably the drug does not act on volume of ovary

On statistically analyzing the effect of treatment on size of the cyst the contingency co-efficient value of 0.418 was found to be non significant at 0.389.

The drug has not brought about much change in the size of cyst.

A non significant association was found between the categories of number of cysts where the contingency coefficient value of 0.263 was found to be non significant at 0.485 levels.

It is evident that before treatment there were two subjects who had no cyst, 9 patients had 1 cyst, 1 patient had 3 cysts, 17 patients had multiple cysts and 1 patient had PCOD changes.

After the treatment we find that 0 patients had no cyst, 12 patients had one cyst, 1 patient had 2 cyst 1 patients had 3 cyst and 16 of them had multiple cyst.

Probably the medicine alone cannot bring about much change with regard to number of cysts.

Effect of treatment on overall assessment

On analyzing the effect of treatment overall statistically, it is noted that 2 patients (6.7%) had grade 1 i.e., no improvement , 24 patients (80.0%) had grade 2 improvement on completion of treatment i.e., minor improvement, with at least two signs and symptoms brought to the lower grading than before, 2 patients (13.3%) had Grade 3 improvement i.e., Moderate improvement, with at least three signs and symptoms brought to the lower grade than before and no patients with grade 4 and grade 5 improvement were noted in the study.

Most of the patients had considerable improvement in the interval of cycle which was regularised than before.

Maximum number of patients had normal flow and therefore showed improvement in the amount of bleeding after treatment.

CONCLUSION

Polycystic ovarian syndrome is a heterogeneous collection of signs and symptoms when gathered together form a spectrum of a disorder with a mild presentation in some, and a severe disturbance of reproductive, endocrine and metabolic function in others[7].

In present era drastic changes in lifestyle, food habits, environmental exposure to toxins along with hereditary predisposition for metabolic syndrome and stress have contributed to the common problem faced by today's female population – PCOD[8]. Classical description of PCOD is hard to pin point. Likewise the etiology and diagnosis remains controversial. No direct correlating condition was found in classical text books[9]. Hence aetiopathogenesis or *samprapti* of PCOD in *ayurvedic* terms were postulated. In Ayurveda it is better understood based on the *doshas* and *dushyas* involved rather than a mere term to represent it[10]. Here an attempt has been made to understand PCOS with Ayurvedic parlance which is caused due to the *santharpanottha nidana* or respective *srotodustikara nidana.*

The symptoms explained under *Artava Kshaya, Anartava, Nashtartava, Granthibhootha artavadushti*[11] and *Vandhya yonivyapat* can be to some extent compared to the symptoms explained under PCOS. The disease finds its relevance with the *Pushpaghni jathaharini*, which is the only entity, resembles the symptoms of PCOS.

PCOS can be considered as a condition manifested due to *Mityachara, Pradushtartava, Beeja dosha* and *Daiva*[12]. It is *a Santarpanottha vikara* with *Sanga, Avarana* and *Siragranthi* forms of pathogenesis. The pathogenic factors involved in PCOS are *Vata* and *Kapha doshas, dushyas – Rasa* and *Medas, Srotas – Artavavaha srotas* and *Agni – Jatharaghni* and *Dhatwaghni mandya*.

The clinical study has shown fruitful results over the regularization of the menstrual cycles and normalization of amount of bleeding. Final outcome of the study shows that apart from *Shamana Chikitsa, Shodhana* therapies can be effectively adopted to get the desired results in the management of PCOD as it is a disease with heterogeneous signs and symptoms.

Therefore management of PCOD with Chandraprabha Vati alone was found not to be very effective.

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