

A COMPARATIVE CLINICAL STUDY OF CHITRAKAGRANTHYADI KASHAYA AND TRAYANTHYADI KASHAYA IN PCOS

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<https://doi.org/10.46607/iamj0908082020>

(Published online: August 2020)

Open Access

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Article Received: 18/07/2020 - Peer Reviewed: 04/08/2020 - Accepted for Publication: 18/08/2020



ABSTRACT

PCOS is an endocrinal disorder and it is the most common health problem caused by disproportion of reproductive hormones with various metabolic disorders with its own origin characterized by a wide range of clinical features such as irregular menstruation, obesity and hyperandrogenism. According to *Ayurveda*, there is no direct correlation to PCOS is available. There are similar conditions according to the symptoms are explained under the concepts of *Pushpaghni Jathaharini*. The mode of treatment should be *Kapha-Vatahara*, *Vatanulomana*, *Pittavardhaka*, *Srotoshodhaka* and *Deepana*. Considering the above facts *Chitraka Granthyadi Kashaya* and *Trayanthyadi Kashaya* are selected for this study. This study was aimed to bring the efficacy of these *Kashayas* in PCOS.

Objectives: 1) A Comprehensive study of PCOS and its congruence in *Ayurveda*. 2) To study the efficacy of *Chitraka Granthyadi Kashaya* and *Trayanthyadi Kashaya* in PCOS and to compare its efficacy.

Materials and Methods: A randomizes comparative clinical study of two groups, consisting of 20 patients in each group. Group A was given *Chitraka Granthyadi Kashaya*, orally in the dose of 50ml twice daily before food

for three consecutive cycles. Group B was given *Trayanthyadi Kashaya*, 50 ml twice daily before food for three consecutive cycles.

Result: Clinical parameters were assessed statistically, and results were concluded. The study has shown that statistically difference between each group and its efficacy.

Conclusion: Based on observation both the groups showed significant results. *Trayanthyadi Kashaya* showed better results than *Chitraka Granthyadi Kashaya* in PCOS.

Keywords: PolyCystic Ovarian Syndrome, *Pushpaghni Jathaharini*, *Trayanthyadi Kashaya*, *Chitrakagranthyadi Kashaya*

INTRODUCTION

Stress being the root cause of the progeny, proper care should be given to protect her from any diseases that affect her motherhood. Anovulation disorder is one of the common causes of female infertility. PCOS is one of the conditions affecting this unique capacity of women. It is affecting up to one in five women of reproductive age. It is the leading cause faced among patients attending infertility clinics.

It is an endocrinal disorder. The incidence of PCOS increases due to change in lifestyles, eating habits and daily stress¹. Modern stressful lifestyle and junk food habits increase the prevalence of disease now a days. PCOS is one among it. Monica Woosely. R. D; leading nutrition expert as termed PCOS “The perfect endocrine storm”. Prevalence of PCOS in Indian adolescence is 9.13%² There is no direct reference about this disease in Ayurvedic texts, which indicates this disease was comparatively less prevalent in the ancient times. *Pushpaghni Jataharini*³ mention by *Kashyapa Samhithas Revathi Kalpadhyaya* bear some resemblance with symptoms of PCOS. The conditions which are mentioned in various contexts in Ayurvedic classics under various headings as *Anartava*, *Nashartava*, *Artavakshaya*, *Vandhya Yonivyapat*, *Pushpaghni Jathaharini*, *Granthibhuta Artavadushti*, *Srotodushti* and *Santharpanottara Nidana* can be to some extent compared with the symptoms of PCOS. Considering modern medicine, it prefers hormonal therapy and some surgical techniques. Administration of this hormonal therapy may lead to adverse effects.

So, it is necessary to modulate a well accepted Ayurvedic approach towards the ethiopathogenesis and formulate the principles of management. Hence in this

current scenario, there is necessity to modulate an alternative support for the treatment of disease which cause no side effects. So, there is a wide scope of research in *Ayurveda* to find a medicine, which is safe and potent to reduce the symptoms, the size of cyst and to normalize the ovulation. For this purpose, *Chitraka Granthyadi Kashaya* mentioned in *Ashtanga Hridaya Gulmaroga Chikitsa Adhyaya*⁴ and *Trayanthyadi Kashaya* mentioned in *Ashtanga Hridaya Vidradhi Vridhi Chikitsa Adhyaya*⁵ are selected as an oral administration in the clinical study.

Materials and Methods:

Source of Data:

Literary Source: All available Ayurvedic classical texts, scientific and Ayurvedic Journals, websites on internet regarding the PCOS and its management were reviewed and documented for the planned study.

Sample Source: 40 patients diagnosed with PCOS, fulfilling diagnostic and inclusion criteria, attending OPD of Alva's Ayurveda medical college and Hospital, Moodbidri and other available sources was allotted randomly into two equal groups A and B consisting of 20 patients

Drug Source: Raw drugs required were identified and collected from available local market, under the supervision of *Dravyaguna* expert. The *Kashaya Churna* was prepared at RSBK lab, Alva's Medical college, Moodbidri.

Method of Collection of Data:

A separate case sheet was prepared with complete history taking, physical signs and symptoms, necessary lab investigations and Ultrasonography of Pelvis. The

parameters of signs and symptoms was scored on basis of standard and was analysed statistically.

Study Design: A randomized comparative clinical study of two groups, consisting of 20 patients in each group has been taken.

Diagnostic Criteria: Diagnosis was based upon the presence of any two of the following three criteria.

1. Oligomenorrhoea / Anovulation
2. Clinical Hyperandrogenism
3. Polycystic ovaries confirmed by USG

Inclusion Criteria:

1. Age group of 16 to 35yrs
2. Patient fulfilling the diagnostic criteria
3. Both married and unmarried women.

Exclusion Criteria:

1. Patient having gross structural abnormalities of uterus and appendages
2. Those having primary amenorrhoea
3. Those suffering from malignancies and chronic systemic diseases.
4. Concurrent and previous use of oral contraceptive pills within last three months.
5. Endocrinological disorders like Diabetes Mellitus, thyroid abnormalities etc.

Interventions:

The Group A: has been given freshly prepared *Chitraka Granthyadi Kashaya* to take orally in the dose of 50 ml twice daily; before food for a period of 3 consecutive cycles. The menstrual phase of the menstrual period has been excluded.

Method of preparation:

Drugs of *Chitraka Granthyadi Kashaya* was purchased and prepared in the form of *Kashaya Choorna* as course powder. This *Kashaya Choorna* packed separately, 25 gm each and advised patients to prepare fresh *Kashaya*. One packet *Kashaya Choorna* which contain 25 grams, added with 200 ml of water and boiled and reduced into 50 ml and filtered. Patient has to take 50 ml of lukewarm *Kashaya* twice daily before food.

The Group B: has been given freshly prepared *Trayanthyadi Kashaya* to take orally in the dose of 50 ml twice daily; before food for a period of 3 consecutive

cycles. The menstrual phase of the menstrual period has been excluded.

Method of Preparation: Drugs of *Trayanthyadi Kashaya* was purchased and prepared in the form of *Kashaya Choorna* as course powder. This *Kashaya Choorna* packed separately, 25 gm each and advised patients to prepare fresh *Kashaya*. One packet *Kashaya Choorna* which contain 25 grams, added with 200 ml of water and boiled and reduced into 50 ml and filtered. Patient has to take 50 ml of lukewarm *Kashaya* twice daily before food.

Period of Observation: Assessed on 5th day after menstrual phase of each cycle for 3 consecutive cycles.

Follow up: one cycle after treatment

Assessment Criteria:

Subjective parameters:

- Interval between the cycle
- Duration of bleeding
- Amount of bleeding (No. of pads used per day)
- Acne

Objective parameters:

- Hirsutism
- Ultra-sonography of abdomen and pelvis for size and number of ovarian follicles.
- BMI

Investigations:

A) Objective Parameter:

1. Ultra sonography

B) Screening Parameters:

Following investigations are done if necessary:

1. Hormonal assay
2. Lipid profile
3. Thyroid profile
4. Diabetic profile

DISCUSSION

The purpose of the discussion is, to interpret and describe the significance of findings in light of what was already known about the research problem being investigated and to explain any new understanding or insights that emerged as a result of the study of the problem. In this present study, it was found that clinical features of PCOS differ in patient to patient. As

menstrual irregularities were found in all patients, but the associated symptom like Hirsutism, Acnathosis Nigricans, acne, obesity was not present in all subjects. So, the outcome of the treatment was mostly evaluated on the basis of improvement on main symptoms first and then on associated symptoms.

The assessment was done after the third menstrual cycle and the changes in outcome were analysed statistically.

Effect on Interval Between Cycles:

- a) The results on criteria interval of both groups showing statistically highly significant result with P value <0.001 individually, which indicates both groups are effective
- b) The comparative study proved to be statistically insignificant with the p value 0.019 which shows both groups are equally effective.
- c) If we see the percentage wise results of relief, it is evident that group B 59.52 % is high when compared to Group A 48.71 %
- d) These may be due to *Deepana*, *Pachana*, and *Kapha Hara* property of the drugs in *Trayanthyadi Kashaya*. *Trayanthi* is having *Artava Janaka* property and *Patola Moola* and *Katuka* is having *Rakta Shodhaka* property which will help in inducing the menstruation.

Effect on Duration of Bleeding:

- a) The results on criteria duration of bleeding of both groups showing statistically highly significant result with P value <0.001 individually, which indicates both groups are effective
- b) The comparative study proved to be statistically insignificant with the p value 1.000 which shows both groups are equally effective.
- c) If we see the percentage wise results of relief, it is evident that group B 56.66 % is high when compared to Group A 47.22 %
- d) These may be due to *Ama Pachana*, *Deepana*, *Srotoshodhaka*, *Vata- Kapha Hara* properties of *Trayanthyadi Kashaya*. *Triphala* is having *Anuloma* property and most of the drugs are having *Ushna Veerya* which helps in removing *Srotoshodhaka* and removes *Avarana* of *Kapha*, thus helps in improving bleeding.

Effect on Amount of Bleeding:

- a) The results on criteria interval of both groups showing statistically highly significant result with P value <0.001 individually, which indicates both groups are effective
- b) The comparative study proved to be statistically highly significant with the p value < 0.001, So here *Chitrakagranthyadi Kashaya* is more effective than *Trayanthyadi Kashaya*.
- c) If we see the percentage wise results of relief, it is evident that group B 68.75 % is high when compared to Group A 65.30 %
- d) This may be due to *Sonitha Sthapaka* and *Garbhasaya Sodhaka* property of *Hareetaki*. And *Nimba* is considered as *Garbasayothejaka* which helps to increase the endometrial thickness and thus helps in the case of hypomenorrhoea And *Triphala* is considered to be *Anuloma*. Which will cause *Vatanulomana* and helps for normal blood flow during menstruation.

Effect of Treatment on BMI:

- a) The results on criteria duration of bleeding of both groups showing statistically highly significant result with P value <0.001 individually, which indicates both groups are effective
- b) The comparative study proved to be statistically significant with the p value 0.025, which shows *Chitrakagranthyadi Kashaya* is more effective.
- c) If we see the percentage wise results of relief, it is evident that group A 65.21% is high when compared to Group B 47.05 %
- d) These may be due to the *Rechana* property of *Eranda*. Which will help to reduce the *Medas* thus it will reduce the *Sthoulyatha*. And *Kapha- Vatahara* property of the drugs in this *Kashaya* will help to reduce the weight and belly fat. All the drugs in this *Kashaya* are having *Deepana- Pachana* property it will maintain *Jataraagni* and there occur proper *Dhatwagni* and *Dhatu Poshana* also will occur.

Effect of Treatment on Hirsutism and Acanthosis Nigricans: The result in Hirsutism and Acanthosis Nigricans of both groups showed statistically insignificant result individually, which indicates both groups

are ineffective. The comparative study proved to be statistically significant too.

Effect of Treatment on Acne:

- a) The results on criteria Acne in both groups showing statistically highly significant result with P value <0.001 individually, which indicates both groups are effective
- b) The comparative study proved to be statistically insignificant with the p value 0.060 which shows both are equally effective.
- c) If we see the percentage wise results of relief, it is evident that group B 86.60 % is high when compared to Group A 57.14 %
- d) This may be due to the *Tridoshagna, Rechaka* property of *Triphala* which will reduces excessive *Pitta* and reduces the androgen excess which will reduces acne. *Amalaki, Nimba, Katuki* and *Masura* are having *Sheetha Veerya* which will reduce acne.

Effect on Ovarian Volume: Number of follicular cyst and volume of ovary was assessed using USG. 12 or more follicles at least in one ovary measuring 2-9 mm in diameter or total ovarian volume greater than 10 cm³ are suggestive of PCOS.

Right ovarian volume:

- a) The results on criteria Right ovarian volume of both groups showing statistically highly significant result with P value <0.001 individually, which indicates both groups are effective
- b) The comparative study proved to be statistically significant with the p value 0.020, which shows *Chitrakagranthyadi Kashaya* is more effective.
- c) If we see the percentage wise results of relief, it is evident that group A 27.98% is high when compared to Group B 18.54 %

- d) These may be due to *Kapha - Vatahara, Deepana, Pachana* and *Rechana* property of the drugs in the *Kashaya*. All drugs are having *Ushna Veerya* which will also pacify *Kapha* and *Vata* those are the main *Doshas* in PCOS. Due to *Rechana* property it will helps to reduce the size of ovary.

Left ovarian volume:

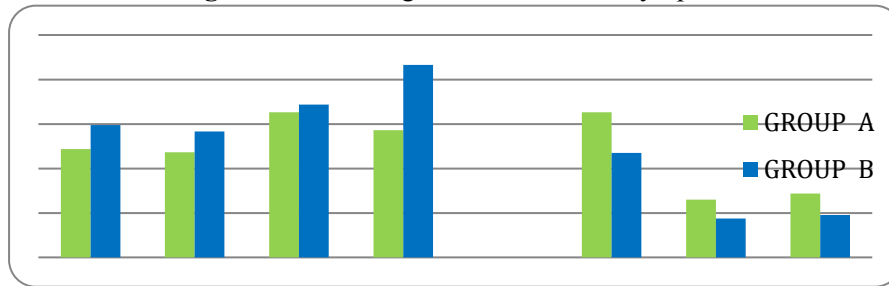
- a) The results on criteria Right ovarian volume of both groups showing statistically highly significant result with P value <0.001 individually, which indicates both groups are effective
- b) The comparative study proved to be statistically insignificant with the p value 0.099, which shows both are equally effective.
- c) If we see the percentage wise results of relief, it is evident that group A 28.66% is high when compared to Group B 19.07 %
- d) This also due to *Kapha - Vatahara, Deepana, Pachana* and *Rechana* property of the drugs in the *Kashaya*. All drugs are having *Ushna Veerya* which will also pacify *Kapha* and *Vata* those are the main *Doshas* in PCOS. Due to *Rechana* property it will helps to reduce the size of ovary.

Overall Assessment: There was marked improvement in 10 % of cases in group A and 5 % improvement results in group B. There was moderate improvement in 10 % of cases in group A and 5 % improvement in group B. There was mild improvement in 50% cases in group A and 75 % improvement in group B. There was minimal improvement in 25 % of cases in group A and 10 % improvement in group B. There was no improvement in 5 % of cases in both group A and group B.

Table 1: Comparative Effects of Groups

Symptoms	Mean of BT-AT		Mean difference	% of relief		T value	P value
	A	B		A	B		
Interval between cycle	0.950	1.250	0.300	48.71%	59.52%	1.641	0.109
Duration of bleeding	0.850	0.850	0.00	47.22%	56.66%	0.00	1.000
Amount of bleeding	1.60	0.650	0.95	65.30%	68.75%	4.727	<0.001
Acne	0.35	0.650	0.30	57.14%	86.60%	1.939	0.060
Hirsutism	0.00	0.00	0.00	0.00%	0.00%	0.00	1.000
BMI	0.750	0.40	0.35	65.21%	47.05%	2.333	0.025
Rt. Ovarian volume	4.60	2.65	1.95	27.98%	18.54%	2.427	0.080
Lt. Ovarian volume	4.60	3.10	1.50	28.66%	19.07%	1.692	0.099

Figure 1: Percentage of relief in each symptom



CONCLUSION

PCOS is diverse multisystem Endocrinopathy in women of reproductive age with ovarian wide variety of clinical features such as menstrual abnormalities, obesity and hyperandrogenism. PCOS is not a completely curable disease, but the symptoms can be curable by proper medications along with lifestyle modifications including diet and exercise. *Pushpahni Jathaharini* mentioned by *Kashyapa* bears some resemblance with PCOS, because it is not having any direct correlation. According to *Ayurveda*, it does not compare the condition to a single disease or syndrome, but the symptoms have similarities with *Nash-tarthava*, *Arthavakshaya*, *Granthibhuta Artava Dushti* and *Vandhya Yoni Vyapat*. *Dosha-Vaigunyatha* in this condition is *Kaphavidhi* and *Vataprakopa*. *Kapha-Vata Avarana* to the *Artavavaha Srotas* can cause *Nashtartava* or *Artavakshaya* which is high up in PCOS. *Agneya* property of *Pitta* is reduced in PCOS which is essential for normal *Artava Pravruithi*. Along with *Dosha Vaigunyata*, *Vishamasana*, and *Vihara* leads to improper functioning of *Agni* and which leads to *Srotoavarana* and cause *Ama*. Because of this, there occur hyperinsulinemia and hyperandrogenism causing Anovulation, menstrual irregularities and ovarian abnormalities like PCOS. The line of treatment should be *Kapha-Vatahara* and *Pitta Vardhaka*. The study has shown that statistically significant difference between each group in its efficacy when comparing. The study has shown *Trayanthyadi Kashaya* is having better action in restoring normal menstrual cycle, Duration of bleeding, Amount of bleeding and improving acne; while *Chitraka Granthyadi Kashaya* showing better results in reduction in BMI, and in reducing the volume of right and left ovaries. Both drugs showed

no effect in Hirsutism. Hence null hypothesis is rejected; Alternative hypothesis (H3) is accepted. i.e. *Trayanthyadi Kashaya* is more effective than *Chitraka Granthyadi Kashaya* in PCOS.

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Source of Support: Nil

Conflict of Interest: None Declared

How to cite this URL: Aswathi. R. S & Kavitha B K: A Comparative Clinical Study Of Chitrakagranthyadi Kashaya And Trayanthyadi Kashaya In PCOS. International Ayurvedic Medical Journal {online} 2020 {cited August, 2020} Available from: http://www.iamj.in/posts/images/upload/4084_4089.pdf