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THE EFFICACY OF *SHATAPUSHPA CHOORNA KALPAM* IN POLYCYSTIC OVARIAN DISEASE

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ABSTRACT

Polycystic Ovarian Syndrome(PCOS) is a common endocrine disorder in women in their reproductive years. The clinical manifestation of this disorder is menstrual irregularities, signs of androgen excess, and obesity. According to Ayurveda, *Pushpaghni Jataharini* mentioned in Kasyapa Samhita *Rewati Kalpadhyaya* having signs of anovulatory menstrual cycles with the features of hyperandrogenism presents a clinical picture somewhat similar to PCOS. *Shathapushpa* (the research drug) is mentioned in Kasyapa samhita. It is found to be effective in the treatment of *Arthavanasa* (amenorrhoea) and *Vandhyatwa(*infertility*)*. The *Doshic* status of PCOD is kapha dushti and vata vaigunya. Agneya property of pitha is reduced. The drug *Shathapushpa* is *Ushnaveerya*, *Theekshna*, *vata samana* and thus it is *pitha vardhaka* and *kapha vata samana*. *Shathapushpa* is *arthava Pravartini*(emmenagogue) and *putrapada*. Moreover, it is *rasayana*(rejuvinative) in nature, promoting positive health of women, restoring *bala*, *swara*, *varna*, etc. The aim of the study was to assess the effect of *Shatha pushpa choorna Kalpam* in inducing menstruation in subjects with Poly Cystic Ovarian Disease. After treatment 93. 3% of patients in the study group and 60% of patients in the control group got menstruation within 21 - 35 days.

Keywords: PCOS, *Shathapushpa ,Arthavanasha,* Kasyapa Samhitha,Pushpaghni

INTRODUCTION

PCOS is a common endocrine disorder in women in their reproductive years. The clinical manifestation of this disorder is menstrual irregularities, signs of androgen excess, and obesity(1). The disease can also result in long-term consequences such as diabetes mellitus, coronary heart disease, endometrial cancer, etc. Infertility is one of the major complications of this syndrome. More than a physical condition, it is social and emotional isolation. According to Ayurveda, *Pushpaghni Jataharini* mentioned in Kasyapa Samhita *Rewati Kalpadhyaya* having signs of anovulatory menstrual cycles with the features of hyperandrogenism presents a clinical picture somewhat similar to PCOS. The occurrence of regular menses is an index of the reproductive health of women. The conventional system of medicines is found to be effective to induce menstrual bleeding and regularising menstrual cycles to a certain extent. However, the side effects of these artificial drugs in the form of hormones cannot be ignored.

The syndrome is characterized by the occurrence of single or multiple clinical features such as menstrual disturbances, anovulatory infertility, obesity, acne, hirsutism, male pattern alopecia, acanthosis nigricans, raised serum concentration of the luteinizing hormone, testosterone, prolactin, insulin, and reduced serum sex hormone binding globulin. Hypersecretion of LH in the early and mid-follicular phase is associated with menstrual cycle disturbances, reduced conception rates, and increased miscarriage rates.

Current diagnosis of PCOS is made by Rotterdam criteria which includes oligo/anovulation, clinical/biochemical evidence of hyperandrogenism, polycystic ovaries-cysts 2-9mm in diameter, more than 12 in number, irrespective of stromal echogenicity, irrespective of the distribution of follicles or volume > 10ml. If two out of the above 3 criteria are present, then it can be diagnosed as PCOS.

Regarding long-term health risks associated with this syndrome, the basic underlying pathology appears to be insulin resistance - hyperinsulinemia, in the presence of normoglycemia. The reason for hyperinsulinemia is increased peripheral target tissue resistance and decreased hepatic insulin clearance. The ratio of fasting glucose to fasting insulin is less than 4.5, which is consistent with insulin resistance. Women with PCO have android obesity which is seen as a waist-to-hip ratio of greater than 0.85 (central obesity) and many of them have increased BMI. This fat is more sensitive to catecholamines, less sensitive to insulin, and more active metabolically. It is associated with hyperinsulinemia, impaired glucose tolerance, diabetes Mellitus, and increased androgen production rates, resulting in decreased levels of SHBG and increased levels of free testosterone and oestradiol.

Women along with hyperinsulinemia are also at increased risk of developing gestational diabetes mellitus, preeclampsia, hypertension, hyperlipidemia and type 2 diabetes mellitus which may increase the risk of cardiovascular disease in later life.

The etiopathogenesis and treatment of PCOS are being tried to be explained by the unique approach of Ayurveda. It is thought to yield better results by passing the more expensive and invasive treatments.

Pushpaghni jathaharini mentioned in Kasyapa Samhitha *Revathi Kalpadhyaya* presents a clinical picture somewhat similar to that of PCOS(2). Excessive hair growth is clear from the description itself which can be considered a result of elevated levels of androgen. So, from the description of *Pushpaghni*, it can be considered a hyperandrogenic condition resulting in anovulation and subfertility. The modern hypothesis on the etiology of PCOS underlines the fact that it is multifactorial in origin, the main culprits being genetic, metabolic, environmental, and stress factors. These can be explained under the *nidanas - beeja dushti*, *virudhahara viharas* which trigger the *vyadhigatakas - dosha*, *dushya*, *Agni ,aama*, and *srothas.* Their interaction results in *vyadhi*. The role of genetics is well explained by modem science. The role of *beeja dushti* in the etiology of *yonirogas* is mentioned

by all *Acharyas*. Among women genetically predisposed to PCOS, an additional event like Stress, weight gain, or an increase in insulin level leads to the development of the full-blown syndrome. "Nutrient toxicity" is considered an important factor in the development of this disease. Overeating, administration of an unwholesome diet, and a sedentary lifestyle show the wide prevalence of this disease among the current population. According to our *Acharyas*, the *vyadhis* caused by *virudhaharas* may affect the reproductive capability of the individual or may be transmitted to the next generation. According to Kasyapacharya, *sarvasini* and *bhojanatyagini* are included in the general *nidana* of *Jataharini* which must be avoided.

Lack of exercise and excess intake of fatty foods results in a higher Body Mass Index which intern leads to *medovaha srothodushti*. *Divaswapna* may vitiate *Mamsavaha srothas* while *atichintana* results in the vitiation of *rasavaha srothas*.

A wide range of manifestations of this metabolic syndrome points out that all three *doshas*, multiple *dhathus*, and *srotases* are involved in their pathogensis. Due to the above *nidanas*, *kapha* gets vitiated and results in the obstruction of *srotases* which leads to *vata prakopa*. *Pitha* seems to be relatively in *Ksheenavastha*. *Pitha* in normalcy, especially in quality is necessary for the maintenance of *arthava*.

Shathapushpa (the research drug) is mentioned in Kasyapa samhita(3). It is found to be effective in the treatment of *arthavanasa* and *vandhyatwa*. *Doshic* status of PCOD is *Kapha* vitiation and *Vata vaigunya*. *Agneya* property of *pitha* is reduced. The drug *Shathapushpa* is *Ushnaveerya*, *Theekshna*, *vata samana* and thus it is *pitha vardhaka* and *kapha vata samana*. The drug is easily available, cost-effective, and can be prepared and administered easily. This study is an attempt to find out effective management in PCOD with Shathapushpachoornakalpam. It is *vatha kapha samana* and *pitha vardhana* in properties. *Shathapushpa* can cure oligomenorrhea, secondary amenorrhea, menorrhagia, anovulation, etc. These facts show the wide acceptability of this drug in the treatment of PCOS. One of the *nidana* for *yoniroga* is said to be *daiva*. For this also *Shathapushpa* yields the best results being mangalakari, and alakshmihari. Here *Shathapushpa* is given with *gritha* as *anupana* followed by the intake of *Ksheera Yavagu*. According to Kasyapa Samhita *Shathapushpa* is *arthava pravarthini* and *putrapada*. Moreover, it is *rasayana* in nature, promoting positive health of women, restoring *bala*, *swara*, *varna*, etc. It is also indicated in *arthavarodha*, *arthavativridhi*, *anarthava*, and *kashtarthava*, which can be taken as the perfect modulator in reproductive neuro endocrinology.

Materials and Methods

For this an Interventional - Randomized Controlled Trial was done in patients coming to the Department of *Prasuti-Streeroga*, Govt: Ayurveda College Hospital for women and children, Poojappura, Thiruvananthapuram, Kerala. Patients with irregular menstruation, secondary amenorrhea, obesity and hirsutism within the age group 18-40years were included and cases with primary amenorrhea, malignancy, systemic and chronic illness were excluded from the study.

A total of 30 cases were selected, A detailed history of patients was noted in specific proforma who fulfill the inclusion and exclusion criteria were randomly allocated into two groups, Group A and Group B. Group A was given *Shathapushpa chroornam* 15gm with *ghritham* (quantity sufficient) as anupana in empty stomach at 6 am. After the digestion of drug, ksheera yavagu was given. This is continued for 3 months and follow-up was done for the next 3 months.

For Group B (the control group) a set of *Ayurvedic* formulations which was found to be effective in Polycystic Ovarian Disease was given. It consists of *Kumarisatwam* in *choorna* form with *Apamargadi kwatha* as *anupana*. All the drugs in *Apamargadi kwatha* were taken in *choorna* form and 48 gms of this *choorna* was boiled in sixteen parts of water and reduced to 1/8" part. This *kwatha* is administered in two divided doses along with 500 mg of *Kumarisathwa* for 3 months, the follow-up was done for next 3 months and variables were assessed statistically(4).

Uniform patterns of *pathya* were recommended for all the participants of both groups during the course of treatment. The effectiveness of both modes of treatment was scored after treatment and after follow-up and analyzed statistically using the 'paired t-test compared using Mann Whitney U test and conclusions were drawn.

USG (abdomen & pelvis) was taken to assess the sonological status of the patient before and after the study and also to confirm ovulation. Also the relevant hormonal assays (FSH, LH) were done to assess the hormonal status.

RESULTS

After treatment 93. 3% of patients in the study group and 60% of patients in the control group got menstruation within 21 - 35 days. After follow up no significant changes were noted in both groups. While comparing both groups since P<0.05, it is found that both drugs are effective in the induction of menstruation.

It was found that there is considerable improvement in the menstrual parameters in both groups, but regarding menstrual interval and duration of bleeding study drug was found to be more effective during the treatment period (P < 0.01) i.e., the study drug had more effect in acute management.

Out of 15 patients in the study group, 9 patients got ovulation compared to 1 patient in the control group. The test was highly significant (P < 0.001). Out of 7 patients who were married in the study group 2 of them conceived with a success rate of 28%.

DISCUSSION

The amount of bleeding is graded as spotting, scanty, moderate, and severe. 20% of patients in the study group and 60% of patients in the control group had scanty menstruation. Spotting was observed in 20% of patients in the study group and 7% in the control group. After treatment, all the patients in the study and control group got a moderate amount of bleeding. The test was significant at P < 0.01. While comparing both drugs P < 0.05 which means the study drug was more effective.

About 46.7% of patients in the study group had a duration of bleeding <3 days which was changed to normal after treatment. It was sustained during follow-up also. In the control group before treatment 2 patients had <3 days and 3 patients had <7 days duration. After treatment, all got the duration of bleeding within 3-7 days. But during follow-up, one patient got a duration of bleeding < 3 days. While comparing both groups since p < 0.05 study drug was more effective than the control drug.

Before treatment, in the study group 33.3% of patients, and in the control group 26.7% of patients had complaints of dysmenorrhea. After treatment in both groups P < 0.05 i.e., the test was found to be significant which means both drugs are equally effective in curing dysmenorrhea.

Hyperpigmentation and hirsutism showed no measurable difference in either group after treatment and follow-up. It is to be assumed that this therapy is not of use in correcting these conditions.

The Body Mass Index of patients in both groups was analyzed statistically. 53.3% of patients in the study group and 73.3% of patients in the control group were overweight and 13.3% of patients in the study group and 20% of patients were obese. After follow up 80% of the patients in the study group got a reduction in their BMI to the normal range whereas 46% of patients in the control group came to normal BMI. The test was significant at 0.01 levels which means that the study drug was more effective in reducing BMI. This effectiveness results from the *medoghna*, *srothosodhana*, and *vatha kapha samana* properties of the drug. The loss of body weight can also alter the abnormality in the endocrine profile thereby decreasing the complication of obesity and insulin resistance.

Among 15 patients in the study group, 7 patients were married and were desired for conception. Amongst them, 2 patients conceived with a success rate of 28%. Though the study was aimed at inducing menstruation in PCOS, *Shathapushpa Kalpam* described by Kashyapacharya is a unique drug of choice in the management of infertility.

28% of patients in the study group achieved pregnancy while no one in the control group achieved this. Even though the value is insignificant it is said that in the conventional system of medicine itself, only 45%

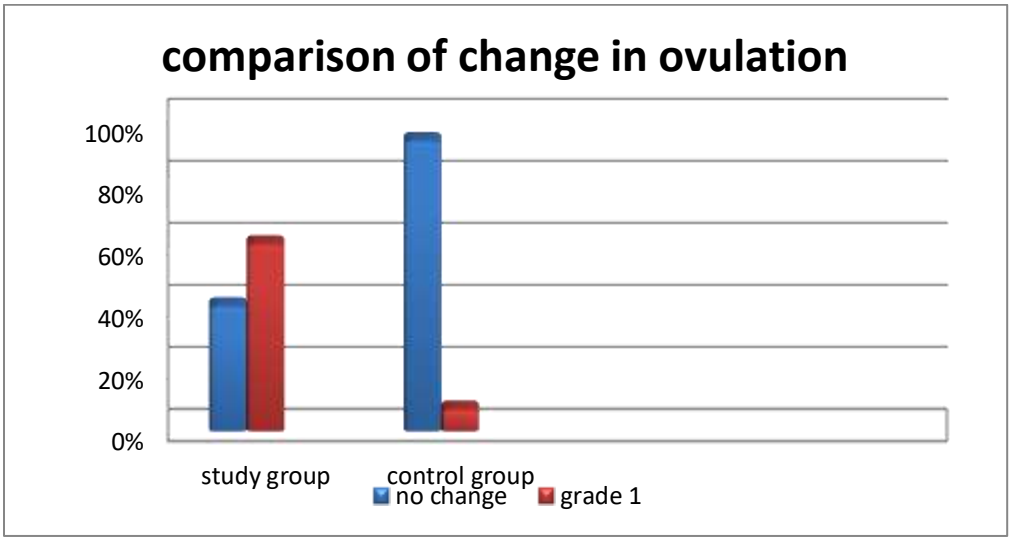
achieve pregnancy with PCOS after medical management.

While going through the response of treatment it is found to be statistically effective in regularizing menstruation, increasing duration and amount of bleeding, relieving dysmenorrhea, reducing body weight, normalizing LH, and inducing ovulation. Among 15 patients in the study group, 7 patients were married and desirous of conception. Among them, 2 patients conceived with a success rate of 28%. From this, it is clear that *Sathapushpa Kalpam* described by Kashyapacharya is unique drug in the management of Infertility.

Satapushpa is *Vata Kapha Samana* and *Pitavardhana* is the basic treatment principle behind *arthavarodha*. As the drug is *Ushnaveerya* it is thought to correct the *Agni* at the *dhatu* level which helps in the reversal of pathogenesis to an extent. To prove its better action and efficacy over current medications, it was compared with a control drug, *Kumari Satwa choornam* with *Apamargadi Kwatha* with proven efficacy.

CONCLUSION

PCOD is found to have a multifactorial origin. *Pushpaghni Jathaharini* bears a resemblance with PCOS in its hyperandrogenic and anovulatory states. While considering the effectiveness, *Shathapushpachoornakalpam* is superior to *Kumarisatwachooram* along with *Apamargakwatha* in improving menstrual parameters. While the LH levels were reduced to normal, but FSH level remained static. Establishment of ovulation and achievement of pregnancy was a success in the present study.



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