

**EVALUATION OF COMPARATIVE EFFICACY OF *SHATPUSHPA*  
(*ANETHUM SOWA*) TAIL (OIL) MATRABASTI VERSUS TAB  
METFORMIN IN ARTAVKSHAYA  
(OLIGOMENORRHEA/HYPOMENORRHEA) AND OBESITY WITH  
SPECIAL REFERENCE TO POLYCYSTIC OVARAIN SYNDROME  
(PCOS) -A RANDOMISED CONTROL TRIAL**

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**ABSTRACT**

**Introduction-** It is a common endocrinopathy, and the underlying cause of POLYCYSTIC OVARAIN SYNDROME (PCOS) is unknown. It can be described by Rotterdam criteria, having 3 features out of which at least 2 are required, i.e. oligoovulation, hyperandrogenism and polycystic ovaries. Women with the endocrine disorder have higher rates of obesity, dyslipidemia, acanthosis nigricans, infertility, hirsutism, male pattern hair loss, acne and insulin resistance, which raise long-term health risk. **Objectives-** To evaluate the effect of *Shatpushpa* (*Anethum sowa*) *tail (Oil) MatraBasti* in POLYCYSTIC OVARAIN SYNDROME (PCOS) induced *Artavkshaya* (oligomenorrhoea/ hypomenorrhoea and obesity). **Methods-** Women aged between 18 to 35 years diagnosed with POLYCYSTIC OVARAIN SYNDROME (PCOS) mentioned in Rotterdam criteria Included in the study. **Expected Result-** As per studies, *Shatpushpa* (*Anethum sowa*) contains phytoestrogen, which helps to restore estrogen function in

females. Hence it acts upon the H-P-O axis and will regulate the normal menstrual cycle. Its *Tikshna* (sharp potency) and *Ushna Virya* (hot potency) properties will help in reducing excess adipose tissue and may assist in balancing hormonal levels by mitigating insulin resistance and lowering hyperandrogenism. **Conclusion-** It will be drawn after obtaining the results of the study.

**KEYWORDS:** *Shatpushpa, Artavkshaya, PCOS, Metformin, MatraBasti.*

## INTRODUCTION

POLYCYSTIC OVARIAN SYNDROME (PCOS) was described in 1935 by Stein and Leventhal. It is a common endocrinopathy, and the underlying cause of POLYCYSTIC OVARIAN SYNDROME (PCOS) is unknown. It can be described by Rotterdam criteria, having 3 features out of which at least 2 are required, i.e. oligoovulation, hyperandrogenism and polycystic ovaries.<sup>[1]</sup> Women with the endocrine disorder have higher rates of obesity, dyslipidemia, acanthosis nigricans, infertility, hirsutism, male pattern hair loss, acne and insulin resistance, which raise long-term health risk.<sup>[2]</sup> It influences approximately 4 to 20% of reproductive women. Studies show that earlier damage of POLYCYSTIC OVARIAN SYNDROME (PCOS) is caused by increased oxidative stress and hormonal imbalance, higher androgen levels and altered secretion of gonadotropins, i.e higher luteinizing hormone (LH) and lower follicular stimulating hormone (FSH).<sup>[3]</sup> Elevated LH causes hypertrophy of theca cells and produces more androgen from theca cells and stroma. Apart from androgen production, obesity is also associated with reduced SHBG, which induces insulin resistance and hyperinsulinemia, which increases gonadal androgen production.<sup>[4]</sup> Studies found that hyperinsulinemia and insulin resistance are important outcomes in females who suffer from POLYCYSTIC OVARIAN SYNDROME (PCOS).<sup>[5]</sup> There is no standard treatment for POLYCYSTIC OVARIAN SYNDROME (PCOS) which is only addressed symptomatically currently.<sup>[6]</sup>

**आतर्वक्षये यथो चतकालादर्शनमल्पता वा यो नवेदना च (सु सू १५/१२) (7)**

## INTERPRETATION

- *Artavkshaya* is equal to
- Irregular menses
- Scanty menses
- With or without pelvic pain

In Ayurveda literature, there is no direct reference to POLYCYSTIC OVARIAN SYNDROME (PCOS), but its symptoms are similar to (PCOS) -induced *Artavkshaya* (Oligomenorrhea/ hypomenorrhoea). Pain in the vagina, a clinical feature described here, is sometimes noted in estrogen deficiency; however, it is never present in cases suffering from hypomenorrhoea due to general debility or loss of body dhatu. *Katu* (hot), etc., articles increase the *Artava* (menstrual blood), thus the desire to consume this substance is probably due to a deficiency of *Artava* (menstrual blood).<sup>[8]</sup>

## OBJECTIVES

1. To evaluate the effect of *Shatpushpa* (Anethum sowa) tail (Oil) *MatraBasti* in POLYCYSTIC OVARIAN SYNDROME (PCOS) induced *Artavkshaya* (oligomenorrhea/ hypomenorrhoea).
2. To evaluate the effect of *Shatpushpa* (Anethum sowa) tail (Oil) *MatraBasti* in POLYCYSTIC OVARIAN SYNDROME (PCOS) induced obesity.
3. To evaluate the effect of *Shatpushpa* (Anethum sowa) tail (Oil) *MatraBasti* on clinical hyperandrogenism.

## MATERIALS AND METHODS

### Table -1: Inclusion and Exclusion Criteria.

#### Inclusion criteria

1. *BODY MASS INDEX (BMI)* between 23 to 30 kg/m<sup>2</sup>
2. Waist circumference 35inch(>88cm)
3. Age between 18 to 35 years
4. Rotterdam criteria (2 /3) features are required to diagnose
  - 1-Oligomenorrhea and/or anovulation
  - 2-Hyperandrogenism (clinical)
  - 3-PCO-diagnosed Ultrasonography

#### Exclusion criteria

1. *BODY MASS INDEX (BMI)* less than 23 and more than 30 kg/m<sup>2</sup>
2. Patients having any other disease causing oligomenorrhea and anovulation, excluding PCOS, on the above Rotterdam criteria.
3. Known case of Type 2 diabetes mellitus

4. Known cases of hyperandrogenemia like congenital adrenal hyperplasia, androgen-secreting neoplasms, Cushing's syndrome.
5. Known case of thyroid disease or severe cardiovascular disease
6. Known the case of kidney or liver diseases
7. History of hypersensitivity to Tab Metformin or *Shatpushpa (Anethum sowa)*
8. Pregnancy
9. Breastfeeding
10. hyperprolactinemia.

### Withdrawal symptoms

1. In case the patient desires to withdraw from the study.
2. In case of an adverse drug reaction from a drug under clinical trial
3. During this trial treatment, if any serious condition develops that requires urgent treatment, such participant will be withdrawn from the trial study

### 2-Groups

Group A-*Shatpushpa (Anethum sowa) tail (Oil) MatraBasti* (intervention group)

- Group B- Tab Metformin (control group)

**Table 2: Study Groups and Sample Size.**

Total Sample size	60 female ( 30 in each group)
Standard Pattern for basti instillation	<i>MatraBasti-shatpushpa</i> oil
Dose	60 ml for 7 days for 3 months
Comparison	Tab Metformin 500mg twice daily for 3 month

Ingredient for *Shatpushpa* oil-*Murchit tila tail* (sesame oil), *Shatpushpa (Anethum sowa)*

**Table 3: Screening and Investigations**

#### SCREENING INVESTIGATION

1. USG- (Abdominal /Transvaginal)
2. BSL-R
3. HB %

Parameters-1: Menstrual pain -Visual analogue scale for pain will be used for analysis.

Parameters-2: Acne -Investigator global assessment (IGA) scale will be used for analysis

Hirsutism-Ferriman Gallwey scale will be used for analysis

Timing of basti in intervention group: Post Menstrual 8<sup>TH</sup> TO 13<sup>TH</sup> DAY

**Expected results:** Statistical analysis will be performed with Paired t test, chi-square and fisher exact test and the result will be drawn. Tab Metformin can be a helpful part of treatment for some women with POLYCYSTIC OVARIAN SYNDROME (PCOS), especially those with insulin resistance or obesity. However, Tab Metformin is not effective as a first-line therapy for weight loss, ovulation induction, or treatment of clinical hyperandrogenic features, including hirsutism or acne. Tab Metformin has typical side effects like diarrhoea, vomiting, bloating in the abdomen and nausea.

As per studies, *Shatpushpa* (*Anethum sowa*) contains phytoestrogen, which helps to restore estrogen function in females. Hence it acts upon the H-P-O axis and will regulate the normal menstrual cycle. Its *Tikshna* (sharp potency) and *Ushna Virya* (hot potency) properties will help in reducing excess adipose tissue and may assist in balancing hormonal levels by mitigating insulin resistance and lowering hyperandrogenism

## DISCUSSION

Basti works on the whole body after entering *Pakvashaya* or *Guda*.

Basti will be made using *Shatpushpa Tail (Oil)*, which has the following Gunas like *Yonivishodhana* (cleansing the vagina), *Artavajanana* (stimulate menstrual blood flow), *Beejotsarga* (ovulation), *Deepan* (stimulate digestive fire). *Shatpushpa* exhibits phytoestrogenic activity, which may be due to its ability to affect the endogenous production of estrogen. The pituitary gland releases gonadotropin that stimulates estrogen synthesis in the ovaries and may enhance ovulation.

*Shatpushpa* (*Anethum sowa*) has *katu ras* and *katu vipak* along with *ushna veerya* which will help *Rajapravartana* (induced menses) and with the help of *vata-kapha shamak* properties *Shatpushpa* (*Anethum sowa*) alleviating kapha dosha which will relieve obstruction to flow of *raja* (menses) and its *anulomaka guna* will change gati of *apana vayu* from *pratiloma* to *Anuloma* that in the turn will help in its proper functioning i.e. *pravartana of raja*.

*It's Tikshna Guna* has *Srotoshodhaka* property which will help in discarding the malformed *doshas* improving metabolism and reducing *Kapha* and *Vata doshas*. *Shatpushpa* (*Anethum sowa*) have Hypolipidemic & Antihypercholesterolamic action which Supports metabolic health.

## CONCLUSIONS

It will be drawn after obtaining the results of the study.

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