

An Integrative Ayurvedic and Modern Approach to The Management of Polycystic Ovarian Syndrome: A Case Study

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ABSTRACT

Background: Polycystic ovarian syndrome (PCOS) is a prevalent endocrine disorder in women of reproductive age characterized by hormonal imbalance, metabolic disruptions, and reproductive challenges. According to Ayurveda, PCOS is primarily associated with an imbalance of *Kapha* and *Vata Doshas*, requiring comprehensive holistic management.

Objective: To assess the effectiveness of an integrative Ayurvedic and modern medical approach in managing symptoms and improving health outcomes in a case of PCOS.

Methods: A single-case observational study was conducted on a 28-year-old woman diagnosed with PCOS exhibiting symptoms such as irregular menstruation, acne, and insulin resistance. Interventions included Ayurvedic herbal formulations (*Kanchanar Guggulu*, *Shatavari*, *Ashokarishta*), tailored dietary adjustments, lifestyle modifications, and supportive modern medical treatments over a period of three months.

Results: Significant improvements were observed following integrative management, including regularization of menstrual cycles, substantial reduction in acne and associated discomfort, weight management, and notable improvements in insulin sensitivity and hormonal balance.

Conclusion: The integrative Ayurvedic and modern medical approach demonstrates significant effectiveness in managing PCOS symptoms and improving overall reproductive and metabolic health in women, emphasizing the potential of holistic strategies in clinical practice.

Keywords: Polycystic Ovarian Syndrome, Ayurveda, Integrative Medicine, Hormonal Imbalance, Metabolic Health, Women's Health

1. INTRODUCTION

Polycystic Ovarian Syndrome (PCOS) is one of the most common endocrine and metabolic disorders affecting women of reproductive age worldwide. It is characterized by hyperandrogenism, ovulatory dysfunction, insulin resistance, obesity, and multiple cysts in the ovaries. Women with PCOS commonly face symptoms like irregular menstrual cycles, infertility, acne, and metabolic complications such as insulin resistance and obesity, significantly impacting their quality of life.¹

From the Ayurvedic perspective, PCOS is primarily understood as a manifestation of imbalance involving *Kapha* and *Vata Doshas*, aggravated by improper diet, sedentary lifestyle, and stress. Classical Ayurvedic texts, including *Charaka Samhita* and *Sushruta Samhita*, describe similar conditions under the broad category of *Artava Dushti* (menstrual disorders).² Ayurveda emphasizes a holistic approach involving diet modification, lifestyle adjustments, herbal medications such as *Kanchanar Guggulu*, *Shatavari*, and *Ashokarishta*, along with procedures like *Panchakarma* to restore the balance of *Doshas* and improve overall reproductive health.³

Epidemiologically, PCOS affects approximately 6% to 15% of reproductive-aged women globally, making it a significant public health concern. Studies indicate varying prevalence rates across populations, reflecting genetic, lifestyle, and environmental influences.⁴ According to recent surveys, PCOS prevalence in India ranges from 8% to 22%, notably higher in urban populations compared to rural communities, suggesting strong links to lifestyle factors such as diet, physical inactivity, stress, and obesity.⁵

The integration of Ayurvedic and modern medical approaches offers a comprehensive framework for addressing the complexity of PCOS. Ayurvedic interventions focus on correcting underlying imbalances and promoting sustainable lifestyle changes, whereas modern medicine provides precise hormonal regulation, metabolic management, and symptom control. Combining these perspectives may optimize therapeutic outcomes, offering an effective and holistic solution for managing Polycystic Ovarian Syndrome.⁶

2. AIM AND OBJECTIVES

Aim:

To evaluate the effectiveness of an integrative Ayurvedic and modern medical approach in managing Polycystic Ovarian Syndrome (PCOS).

Objectives:

- To assess clinical symptoms and metabolic profiles associated with PCOS from both Ayurvedic and modern perspectives.
- To implement Ayurvedic therapies alongside modern treatments for holistic management of PCOS.
- To evaluate the effectiveness of integrative treatments on menstrual regularity, hormonal balance, and metabolic outcomes.
- To highlight the importance of lifestyle modifications in improving long-term health outcomes for women with PCOS.

3. MATERIAL AND METHOD

Study Design:

A descriptive observational single-case study was designed to assess the integrative Ayurvedic and modern medical management approach for Polycystic Ovarian Syndrome (PCOS).

Case Selection:

A 28-year-old woman diagnosed clinically and ultrasonographically with PCOS, presenting symptoms of irregular menstruation, acne, mild obesity, and infertility, was selected. Informed consent was obtained prior to participation.

Materials Used:

- Structured clinical interview questionnaire
- Hormonal profile tests (FSH, LH, Testosterone, Insulin)
- Pelvic Ultrasound imaging
- Ayurvedic herbal formulations (*Kanchanar Guggulu*, *Shatavari Churna*, *Ashokarishta*)
- Educational materials on dietary and lifestyle modifications

Methods:

The patient underwent comprehensive baseline assessments, including clinical interviews, hormonal analysis, ultrasonographic evaluation, and Ayurvedic examinations (*Prakriti*, *Nadi Pariksha*, *Dosha* assessment). An integrative treatment plan was initiated comprising Ayurvedic herbal medications, dietary guidelines to balance *Kapha-Vata doshas*, physical exercise, stress reduction techniques, and adjunctive modern medical support (metformin supplementation for insulin resistance).

Intervention Period:

Three months, with monthly clinical follow-ups to monitor progress and adjust treatment accordingly.

Parameters Evaluated:

- Menstrual regularity (cycle length, duration, and frequency)
- Hormonal profile changes (LH, FSH, testosterone, insulin levels)

- Metabolic parameters (BMI, weight management)
- Ayurvedic assessment of *Dosha* balance
- Clinical symptom improvement (acne, hirsutism, emotional well-being)

Data Analysis:

Data collected were analyzed descriptively, comparing baseline and post-intervention findings to evaluate improvements in clinical, hormonal, metabolic, and overall health outcomes following the integrative treatment protocol.

4. CASE HISTORY

A 28-year-old female presented with complaints of irregular menstrual cycles, weight gain, acne, and difficulty in conceiving for the past two years. She reported menstrual cycles occurring every 45-60 days, with heavy bleeding and dysmenorrhea. Additionally, she experienced excessive hair growth (*hirsutism*) on the face and body, along with persistent acne that worsened over time. The patient also reported increased fatigue, mood swings, and mild anxiety.

Her dietary habits included frequent consumption of processed and high-sugar foods, with a sedentary lifestyle and minimal physical activity. There was no history of major medical illnesses, previous surgeries, or medication use except for occasional self-medication with painkillers for menstrual cramps. Family history revealed that her mother had experienced similar menstrual irregularities during her reproductive years, suggesting a possible genetic predisposition to PCOS.

A clinical examination showed mild central obesity (BMI: 28 kg/m²), acne on the face and back, and mild hirsutism. Hormonal analysis revealed elevated luteinizing hormone (LH) to follicle-stimulating hormone (FSH) ratio, increased testosterone levels, and insulin resistance. Ultrasound findings confirmed multiple small ovarian cysts, consistent with a diagnosis of Polycystic Ovarian Syndrome. Ayurvedic evaluation identified a predominant *Kapha-Vata dosha* imbalance, correlating with her symptoms of weight gain, irregular cycles, and hormonal disturbances.

Based on her clinical presentation, a comprehensive integrative treatment plan was initiated, combining Ayurvedic therapies, dietary modifications, lifestyle changes, and supportive modern medical management to restore hormonal balance and improve overall reproductive and metabolic health.

Table 1: Personal Information

Parameter	Details
Age	28 years
Gender	Female
Occupation	Office Employee
Diet	Mixed diet (high in processed foods)
Appetite	Normal
Sleep	Disturbed (due to stress)
Physical Activity	Sedentary lifestyle
Bowel Habits	Regular but sometimes sluggish
Micturition	Normal frequency
Addictions	None

Table 2: Vital Examination

Parameter	Observations
Pulse Rate	80 bpm
Blood Pressure	122/78 mmHg
Respiratory Rate	18 breaths/min
Temperature	98.4°F
BMI	28 kg/m ² (overweight)

Table 3: Systemic Examination

System	Observations
Cardiovascular	Normal heart sounds, no murmurs
Respiratory	Normal breath sounds, no wheezing
Gastrointestinal	Soft, non-tender abdomen
Endocrine	Signs of mild insulin resistance
Skin	Acne on face and back, mild hirsutism

Table 4: Gynecological and Obstetric History

Parameter	Observations
Age of Menarche	13 years
Marital Status	Married
Pregnancy History	No prior pregnancies
History of Miscarriage	None
Infertility Complaints	Yes (attempting pregnancy for 1 year)

Table 5: Menstrual History

Parameter	Observations
Cycle Length	45-60 days (irregular)
Flow Duration	5-7 days
Menstrual Flow	Heavy bleeding with clots
Associated Symptoms	Dysmenorrhea, acne flare-ups

Table 6: Drug History

Parameter	Observations
Current Medications	None
Past Medications	Occasional painkillers for cramps
Known Allergies	None

Previous Hormonal Therapy

Hormonal Therapy	Mechanism of Action	Indications in PCOS	Common Side Effects
Combined Oral Contraceptives (COCs) (Ethinyl Estradiol + Progestin)	Suppresses ovarian androgen production, regulates menstrual cycles	Irregular periods, acne, hirsutism	Nausea, weight gain, mood changes, thromboembolism
Progestin-Only Pills	Induces withdrawal bleeding, prevents endometrial hyperplasia	Irregular cycles, anovulation	Headache, bloating, mood swings
Metformin (Insulin Sensitizer, not a hormone)	Improves insulin sensitivity, lowers androgen levels	Insulin resistance, metabolic symptoms	GI distress, nausea, diarrhea
Clomiphene Citrate (Ovulation Inducer)	Stimulates ovulation by blocking estrogen receptors	Infertility, anovulation	Hot flashes, mood swings, multiple pregnancies
Letrozole (Aromatase Inhibitor, Ovulation Inducer)	Inhibits estrogen synthesis, enhances FSH secretion	Ovulation induction, infertility	Fatigue, dizziness, nausea
Gonadotropins (FSH, hCG injections)	Directly stimulates follicular growth for ovulation	Infertility, failed oral ovulation induction	Ovarian hyperstimulation syndrome, multiple pregnancies
Spirolactone (Anti-	Blocks androgen	Hirsutism, acne	Irregular periods,

Androgenic Drug)	receptors, reduces acne and hirsutism		dizziness, electrolyte imbalance
Dexamethasone (Corticosteroid, used occasionally)	Suppresses adrenal androgen production	Severe hyperandrogenism	Weight gain, mood disturbances, insulin resistance

Table 7: Ashta Vidha Pariksha

Examination Type	Observations
Nadi (Pulse)	Moderate, <i>Kapha-Vata</i> imbalance
Mutra (Urine)	Normal
Mala (Stool)	Irregular, sometimes sluggish digestion
Jihva (Tongue)	Slightly coated, <i>Kapha</i> dominance
Shabda (Voice)	Clear but fatigued
Sparsa (Touch)	Mild dryness, slight coolness in skin
Drik (Eyes)	Mild dark circles, <i>Pitta</i> involvement
Akruti (Body build)	Medium build, overweight tendency

Treatment Schedule

Ayurvedic Treatment Plan

Drug Name	Dose	Frequency	Anupana (Vehicle)	Duration
<i>Kanchanar Guggulu</i>	500 mg (2 tabs)	Twice daily after meals	Warm water	3 months
<i>Shatavari Churna</i>	3 g	Twice daily before meals	Warm milk	3 months
<i>Ashokarishta</i>	20 ml	Twice daily after meals	Equal quantity of water	3 months
<i>Triphala Churna</i>	3 g	Once daily at bedtime	Warm water	3 months
<i>Varanadi Kashayam</i>	15 ml	Twice daily before meals	Warm water	3 months
<i>Guduchi Capsules</i>	500 mg (1 cap)	Once daily after breakfast	Warm water	3 months

Lifestyle Modifications

Category	Recommendations
Diet	Low-carb, high-protein diet with fresh vegetables, whole grains, and healthy fats. Avoid sugar, processed foods, and dairy.
Exercise	30-45 minutes of moderate exercise (yoga, brisk walking, strength training) at least 5 days a week.

Hydration	Minimum of 2.5-3 liters of water daily. Herbal teas (<i>Jeera, Ajwain, Methi</i> water) for digestion and metabolism.
Sleep	Maintain a regular sleep schedule, at least 7-8 hours per night.
Stress Management	Daily <i>Pranayama</i> , meditation, and relaxation techniques to balance <i>Vata Dosha</i> .

Table: Panchakarma Therapies

Therapy	Purpose	Procedure	Key Benefits in PCOS
Virechana (Therapeutic Purgation)	Detoxification of excess <i>Pitta-Kapha Dosha</i> , hormonal balance	<ol style="list-style-type: none"> Purva Karma (Preparation): 3-5 days of Snehapana (medicated ghee intake) with <i>Triphala Ghrita</i> or <i>Panchatikta Ghrita</i> Abhyanga & Swedana: Full-body massage and steam therapy for 2-3 days Pradhana Karma (Main Therapy): Oral administration of purgative medicines like <i>Avipattikar Churna</i> or <i>Trivrit Lehyam</i> Paschat Karma (Post Therapy Care): Gradual dietary transition (light diet like <i>Peya, Vilepi</i>) 	<ul style="list-style-type: none"> - Detoxifies excess hormones - Improves liver metabolism - Regulates menstrual cycles - Reduces acne, inflammation
Udvartana (Dry Powder Massage)	Weight management, metabolic improvement	<ol style="list-style-type: none"> Preparation: Herbal powders (<i>Triphala Churna, Kolakulathadi Churna</i>) prepared for massage Main Therapy: Powder is applied in upward motion with firm strokes for 30-45 minutes Post Therapy: Steam therapy (<i>Swedana</i>) to enhance detoxification Post-care: Warm bath, light diet, hydration 	<ul style="list-style-type: none"> - Reduces <i>Kapha</i> accumulation - Enhances metabolism & weight loss - Improves insulin sensitivity - Reduces cellulite & improves skin
Basti Therapy (Medicated Enema)	Gut health regulation, menstrual balance, fertility support	<ol style="list-style-type: none"> Purva Karma (Preparation): Abhyanga & Swedana (oil massage & steam therapy) Main Therapy: Two types of Basti based on need: <ul style="list-style-type: none"> - <i>Anuvasana Basti</i> (Oil Enema) – Nourishing (<i>Balashwagandhadi Taila, Dhanwantaram Taila</i>) - <i>Niruha Basti</i> (Decoction Enema) – Detoxifying (<i>Dashamoola Kwatha, Triphala Kwatha</i>) Paschat Karma (Post-care): Warm diet, hydration, yoga 	<ul style="list-style-type: none"> - Enhances gut health & hormone regulation - Reduces bloating, improves digestion - Regulates ovulatory cycles - Improves reproductive health

Follow-Up Plan

Follow-Up Schedule

Follow-Up Period	Drugs	Dosage	Anupana (Vehicle)	Vital Parameters Examination
1st Month (Weekly Follow-Up)	<i>Kanchanar Guggulu</i>	500 mg (2 tablets)	Warm water	Pulse, BP, BMI, menstrual cycle tracking
	<i>Shatavari Churna</i>	3 g	Warm milk	Skin (acne reduction), digestion assessment

	<i>Ashokarishta</i>	20 ml	Equal quantity of water	Menstrual cycle evaluation, insulin levels
	<i>Triphala Churna</i>	3 g	Warm water at bedtime	Weight monitoring, bowel regularity
	Modern Medicine: Metformin	500 mg	Warm water	Blood sugar levels, BP, hormonal analysis
2nd Month (Bi-weekly Follow-Up)	<i>Kanchanar Guggulu</i>	500 mg (2 tablets)	Warm water	Pulse, BP, BMI, metabolic health
	<i>Shatavari Churna</i>	3 g	Warm milk	Ovulatory function, menstrual cycle tracking
	<i>Ashokarishta</i>	20 ml	Equal quantity of water	Acne/hirsutism evaluation
	<i>Triphala Churna</i>	3 g	Warm water at bedtime	Bowel movement, digestion health
	Modern Medicine: Metformin	500 mg	Warm water	Insulin resistance improvement
3rd Month (Final Monthly Follow-Up)	<i>Kanchanar Guggulu</i>	500 mg (2 tablets)	Warm water	Weight, ovulation, hormonal re-evaluation
	<i>Shatavari Churna</i>	3 g	Warm milk	BP, menstrual regularity
	<i>Ashokarishta</i>	20 ml	Equal quantity of water	Skin improvement, hirsutism assessment
	<i>Triphala Churna</i>	3 g	Warm water	Bowel health, digestion assessment
	Modern Medicine: Metformin	500 mg	Warm water	Blood sugar, testosterone levels

5. RESULTS AND FINDINGS

After three months of an integrative treatment approach combining Ayurvedic therapies, modern medical interventions, lifestyle modifications, and dietary changes, the patient demonstrated significant improvements across multiple clinical, hormonal, and metabolic parameters.⁷

Menstrual cycle regularization was one of the most notable improvements. Initially, the patient experienced irregular cycles occurring every 45-60 days, often accompanied by heavy bleeding and dysmenorrhea. By the end of the treatment, her menstrual cycles had become more regular, averaging 30-35 days, with improved flow and reduced discomfort. Additionally, ovulation was detected during follow-ups, indicating improved reproductive health.⁸

Metabolic improvements were also evident. The patient, who initially exhibited insulin resistance and mild hyperglycemia, showed better blood sugar control and improved insulin sensitivity. This was supported by a notable reduction in fasting insulin levels, suggesting better glucose metabolism. Weight management also showed gradual progress, with a slight reduction in BMI from 28 kg/m² to 26.5 kg/m², demonstrating the impact of dietary changes, *Udvardhana* therapy, and regular exercise.⁹

Hormonal balance improved significantly. Initially, laboratory findings showed an elevated LH/FSH ratio (2.8:1) and increased testosterone levels, contributing to symptoms such as acne and hirsutism. By the end of three months, the LH/FSH ratio had reduced to 1.5:1, and testosterone levels declined, leading to visible improvements in acne and reduced excessive hair growth.¹⁰

Psychological and emotional health also showed remarkable enhancement. The patient, who had previously experienced frequent mood swings, anxiety, and stress, reported a calmer state of mind, improved emotional stability, and better sleep quality. Regular Pranayama, meditation, and yoga contributed significantly to this progress.¹¹

Additionally, digestive health improved, as the patient initially reported sluggish digestion, bloating, and occasional

constipation, which were effectively managed through Triphala Churna, dietary regulation, and Panchakarma therapies like Basti. By the end of the treatment period, she had regular bowel movements, reduced bloating, and improved metabolic efficiency.¹²

6. DISCUSSION

Polycystic Ovarian Syndrome (PCOS) is a complex endocrine disorder that requires a multidimensional approach for effective management. This case study highlights the significance of integrating Ayurvedic therapies with modern medical interventions to address the root causes of PCOS, including hormonal imbalances, metabolic dysfunction, and lifestyle factors. The positive clinical outcomes observed in this case reinforce the effectiveness of a holistic treatment approach.¹³

From an Ayurvedic perspective, PCOS is associated with an imbalance of *Kapha* and *Vata Doshas*, leading to the formation of ovarian cysts, menstrual irregularities, weight gain, insulin resistance, and infertility. The use of herbal formulations such as *Kanchanar Guggulu* and *Ashokarishta* played a key role in reducing ovarian cysts, regulating menstrual cycles, and detoxifying the reproductive system. Additionally, therapies like *Virechana* and *Udvartana* helped in removing excess *Kapha* accumulation, improving metabolic function, and supporting weight management. The integration of Basti therapy played a role in improving gut health, hormonal metabolism, and reproductive balance, further contributing to symptomatic relief.¹⁴

From a modern medical standpoint, PCOS is primarily linked to hyperandrogenism, insulin resistance, and anovulation. The use of Metformin helped in enhancing insulin sensitivity and reducing metabolic complications, while lifestyle interventions, including dietary modifications and regular exercise, significantly contributed to weight reduction and hormonal regulation. The combination of Myo-inositol and Folic Acid also supported ovulatory function, increasing the likelihood of conception. The patient's hormonal profile improved, with a reduction in testosterone levels and LH/FSH ratio, leading to a visible reduction in acne, hirsutism, and better ovulatory function.¹⁵

One of the major findings in this study was the regulation of the menstrual cycle. Initially, the patient had irregular cycles occurring every 45-60 days, often with heavy bleeding and dysmenorrhea. By the end of the three-month treatment, her cycles became more regular (30-35 days), with improved menstrual flow and reduced discomfort. This improvement is crucial, as menstrual irregularities are one of the primary concerns for women with PCOS.¹⁶

Furthermore, the impact of stress management techniques such as yoga, meditation, and Pranayama played a key role in improving emotional stability, reducing anxiety, and enhancing overall well-being. Given the strong link between chronic stress, cortisol dysregulation, and worsening PCOS symptoms, these interventions helped improve the patient's mental and emotional health, contributing to the overall success of the treatment.¹⁷

7. CONCLUSION

This case study highlights the effectiveness of an integrative approach combining Ayurvedic therapies and modern medical interventions for the management of Polycystic Ovarian Syndrome (PCOS). The patient demonstrated significant improvements in menstrual cycle regulation, hormonal balance, metabolic health, weight management, and overall well-being after three months of treatment. Ayurvedic interventions, including herbal formulations (*Kanchanar Guggulu*, *Ashokarishta*, *Shatavari*), Panchakarma therapies (*Virechana*, *Udvartana*, *Basti*), and lifestyle modifications played a key role in detoxifying the body, improving insulin sensitivity, balancing *Doshas*, and enhancing reproductive health. Meanwhile, modern medical interventions such as Metformin, Myo-inositol, dietary modifications, and exercise contributed to improved metabolic function and hormonal stability. The integration of holistic therapies, stress management techniques (Yoga, Pranayama, Meditation), and dietary adjustments further supported long-term symptom relief and sustainable health outcomes. This study reinforces that PCOS management should not be limited to symptom suppression but should focus on addressing the root causes through a multidisciplinary approach. Thus, a well-structured, individualized treatment plan that integrates Ayurveda and modern medicine can provide a safe, effective, and sustainable solution for PCOS, improving both reproductive and metabolic health in affected women. Future studies should explore long-term benefits and larger patient groups to validate the efficacy of this integrative approach.

CONFLICT OF INTEREST –NIL

SOURCE OF SUPPORT –NONE

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