



## International Journal of Advance Studies and Growth Evaluation

# A Hormonal and Functional View of the Combined Benefits of Yoga and Physiotherapy for Women with PCOS

<sup>1</sup> Sakshi Nagru and <sup>\*2</sup> Lakshita Aggarwal

<sup>1</sup> Assistant Professor, Department of Physical Education, Guru Kashi University, Punjab, India.

<sup>\*2</sup> Demonstrator, Department of Physiotherapy, Guru Kashi University, Punjab, India.

### Article Info.

E-ISSN: **2583-6528**

Impact Factor (SJIF): **6.876**

Peer Reviewed Journal

Available online:

[www.alladvancejournal.com](http://www.alladvancejournal.com)

Received: 28/July/2025

Accepted: 01/Aug/2025

### Abstract

Polycystic Ovary Syndrome (PCOS) is an endocrine disorder that occurs in about 8–13% of reproductive-aged women. It is a symptom complex that encompasses a group of symptoms involving insulin resistance, polycystic ovarian morphology, an ovulation, and hyper androgenism, and greatly affects reproductive, metabolic, and psychological well-being. Although pharmacological therapies-hormonal contraceptives, insulin sensitizers, and ovulation induction drugs-are the current standard medical treatment, non-pharmacological methods are increasingly being eyed as complementary for the management of this disorder. Lifestyle changes, especially involving yoga and physiotherapy, have been found to be effective in controlling hormonal disturbances and enhancing functional ability as a whole. Yoga, which focuses on control of breathing, awareness, and body postures, is linked to lower levels of stress, increased sensitivity to insulin, and regulated hormonal balance. In the same way, physiotherapy interventions comprising organized exercise regimens can contribute to weight control, improvement of cardiovascular endurance, and resolution of musculoskeletal dysfunctions commonly encountered in PCOS patients. This study investigates the interactive benefits of yoga and physiotherapy in PCOS management, citing their potential for providing holistic, non-pharmacological, and sustainable benefits. Through the review of existing evidence and therapeutic benefits, the study seeks to highlight the significance of incorporating these lifestyle therapies into routine PCOS management protocols to enhance the quality of life and reproductive health in affected women.

### \*Corresponding Author

**Lakshita Aggarwal**

Demonstrator, Physiotherapy  
Department, Guru Kashi University,  
Punjab, India.

**Keywords:** PCOS, yoga, hormones, physiotherapy, insulin, asana, prevention.

### Introduction

PCOS-Hormonal abnormalities such as elevated androgen levels, insulin resistance, and changed luteinizing hormone, or LH, to follicle-stimulating hormone (FSH) ratios are characteristics of polycystic ovarian syndrome (PCOS). Menstrual abnormalities, infertility, obesity, and mental disorders can all be influenced by these disturbances.

Non-pharmacological treatments have grown in significance because of their low risk and additional health advantages, even while pharmaceutical management treats symptoms including hyperandrogenism and irregular menstruation. Particularly, yoga and physical therapy have demonstrated promise in enhancing general functional ability and managing hormone profiles. Yoga- Yoga is an ancient Indian practice that involves physical postures (asanas), breathing exercises (pranayama), and meditation. Based on maintaining harmony

between the body and mind, yoga has become a universally accepted mode of holistic therapy. Yoga improves flexibility, strength, and balance in addition to lowering stress and ensuring mental lucidity. In contemporary medicine, yoga is increasingly valued for its therapeutic application in the management of chronic diseases, such as metabolic disorders, cardiovascular diseases, and endocrine disorders. Its holistic nature contributes to global well-being, and hence it is a useful adjunct to traditional medical intervention, particularly in situations like Polycystic Ovary Syndrome (PCOS) and diseases related to stress. Physiotherapy- Physiotherapy, or physical therapy, is a health care profession aimed at restoring and improving physical function, movement, and overall health. It is the assessment, diagnosis, and treatment of numerous musculoskeletal, neurological, and cardiopulmonary conditions by non-surgical means. Some of these include

therapeutic exercises, manual therapy, posture re-education, electrotherapy, and patient education. Physiotherapy not only seeks to ease pain and enhance movement but also to enhance long-term health through preventive intervention and

rehabilitation. In disorders such as Polycystic Ovary Syndrome (PCOS), physiotherapy supports by addressing factors like weight control, insulin sensitivity, and physical inactivity using customized exercise interventions.

## Hormonal Implications in PCOS

### Key Hormonal Imbalances

Hormone	Typical Alteration in PCOS	Functional Impact
LH	Elevated	Stimulates androgen production
FSH	Reduced or normal	Impairs follicular development
Insulin	Elevated (resistance)	Stimulates ovarian androgen production
Testosterone	Elevated	Hirsutism, acne, anovulation
Cortisol	Often elevated	Increased stress response

### Role of Yoga in PCOS Management

The hypothalamic–pituitary–ovarian (HPO) axis is the focus of yoga techniques including asanas (whether they're postures), pranayama (breathing exercises), and dhyana (meditation), which aim to regulate hormonal imbalances.

lowers testosterone levels, which helps with acne and hirsutism.

- Increases insulin sensitivity through lowering insulin and fasting glucose levels.
- Lowers cortisol: Minimizes the hormonal imbalances brought on by stress.

### Hormonal Advantages of Yoga

- Lowers Serum Testosterone: Consistent yoga practice

### Key Asanas and Their Effects

Asana	Primary Effect	Hormonal Benefit
Supta Baddha Konasana	Pelvic relaxation	Supports ovarian function
Dhanurasana	Stimulates abdominal organs	Aids in hormone regulation
Bhujangasana	Improves blood circulation	Enhances ovarian health
Anulom Vilom	Nervous system balance	Reduces cortisol levels

### Role of Physiotherapy in PCOS Management

Physiotherapy uses myofascial release, pelvic floor treatment, posture correction, and structured exercise to address the metabolic and functional components of PCOS.

### Improvements in the area in Function

- Increases insulin sensitivity through endurance and aerobic exercise
- Losing weight serves as crucial in regulating hormone cycles. Pelvic floor therapy: Enhances urine and reproductive function

### Evidence-Based Physiotherapy Modalities

Modality	Protocol	Functional Benefit
Aerobic Exercise	30 mins/day, 5 days/week	Increases insulin sensitivity
Resistance Training	2–3x/week	Enhances metabolic rate
Core Stabilization	Pilates-based	Improves posture and reduces lower back pain
Manual Therapy	Trigger point, fascia release	Alleviates pelvic and musculoskeletal pain

### Combined Benefits of Yoga and Physiotherapy

#### Synergistic Hormonal Effects

The benefits of combining yoga and physiotherapy are reciprocal:

- Yoga reduces the disruptive actions of the HPO axis by downregulating stress hormones like cortisol.
- Physiotherapy lowers androgen levels indirectly by reducing adiposity and improving insulin function.

### Functional Outcomes

Outcome	Yoga	Physiotherapy	Combined Effect
Menstrual Regularity	✓✓	✓	✓✓✓
Insulin Sensitivity	✓	✓✓	✓✓✓
Weight Loss	✓	✓✓✓	✓✓✓
Mood/Stress	✓✓✓	✓	✓✓✓
Fertility Support	✓	✓	✓✓

### Clinical Studies Supporting Integrated Approach

- Saxena *et al.* (2022) found that a 12-week yoga intervention reduced testosterone by 29% in PCOS women compared to controls.
- Nidhi *et al.* (2013) observed improvements in insulin

resistance markers and menstrual regularity with yoga and lifestyle interventions.

- Mohan *et al.* (2020) noted a significant increase in ovulation frequency and decreased BMI with combined exercise and yoga protocols.

### Proposed Protocol for Women with PCOS Weekly Integrated Routine

Day	Activity	Duration
Mon	Yoga (Asanas + Pranayama)	60 mins
Tue	Aerobic Exercise + Core Strength	45 mins
Wed	Yoga Nidra (Guided Relaxation)	30 mins
Thu	Resistance Training + Myofascial Release	45 mins
Fri	Yoga + Meditation	60 mins
Sat	Group Physical Therapy (Pelvic Focus)	60 mins
Sun	Rest/Light Walk	-

### Conclusion

Although PCOS is a complex endocrine condition, a comprehensive approach to treatment is beneficial. Physiotherapy addresses structural and metabolic dysfunctions, whereas yoga helps by balancing the HPO axis and regulating stress hormones. Collectively, these treatments offer a potent non-pharmacologic approach to help women with PCOS improve their hormonal profiles, lessen their symptoms, and live better lives.

### References

1. Shrivastava R, Mishra S, Singh R, Shrivastava P. Effect of integrated approach of yoga and naturopathy on polycystic ovarian syndrome: A case study. *J Family Med Prim Care Documented improvements in menstrual regularity, weight, and ovarian morphology after a 6-month yoga-based lifestyle intervention* ([PMC] <sup>[1]</sup>). 2022; 11(4):1525-27.
2. Metangale AR, Mishra BR. Therapeutic Yoga for the management of Polycystic Ovarian Syndrome-A Review. *J Ayurveda Integr Med Sci. Reviews the role of asanas, pranayama, and meditation in hormone regulation, metabolic balance, and stress reduction* ([jaims.in] <sup>[2]</sup>). 2025; 9(11):276-82.
3. Mirase J, Kuchewar V, Parwe S. A Narrative Review on the Role of Yoga on Polycystic Ovary Syndrome. *Int J Life Sci Pharma Res. Highlights stress, insulin resistance, and obesity as targets of yoga therapy in PCOS management* ([ijlpr.com] <sup>[3]</sup>). 2023; 13(2.SP1):L24-29.
4. Patel AD *et al.* Yoga intervention improves metabolic parameters and quality of life among infertile women with PCOS. *Int J Yoga. (Referenced in reviews above)* ([irjay.com] <sup>[4]</sup>). 2023; 16:98-105.
5. Nidhi R *et al.* Effect of a yoga program on glucose metabolism and blood lipid levels in adolescent girls with PCOS. *Int J Gynecol Obstet. Shows endocrine improvements with sustained yoga practice* ([jaims.in] <sup>[2]</sup>). 2012; 118(1):37-41.
6. Iranian RCT: Yoga Effects on Anthropometric Indices and PCOS Symptoms in Women Undergoing Infertility Treatment. *PMC Demonstrated reductions in abdominal/hip circumference and hirsutism after 6 weeks of yoga* ([PMC] <sup>[5]</sup>), 2022.
7. Mishra S *et al.* Therapeutic Role of Yoga and Pathophysiological Insights of Pelvic Floor Dysfunction in PCOS. *J Neonatal Surg, Explores yoga's effects on pelvic floor strength, autonomic balance, and hormonal regulation in PCOS* ([J Neonatal Surgery] <sup>[6]</sup>), 2024..
8. BMC systematic review Benefits of physical activity on reproductive health functions among PCOS women. *Physical activity improves menstrual frequency, ovulation, hormonal balance, quality of life, and insulin resistance* ([BioMed Central] <sup>[7]</sup>), 2023.
9. MDPI meta-analysis: Pharmacological and Non-Pharmacological Interventions for PCOS in Indian Women. *Confirms that lifestyle therapies including diet and exercise are first-line, with physiotherapy-based exercise improving insulin sensitivity and ovulatory function* ([MDPI] <sup>[8]</sup>).
10. Health.com news summary: Natural Remedies ... PCOS Symptoms. *Mentions yoga combined with diet/exercise may support hormonal balance and insulin sensitivity* ([health.com] <sup>[9]</sup>).
11. Economic Times Science-backed Yoga poses ... PCOS. *Highlights yoga's scientific support in alleviating PCOS-related metabolic and hormonal symptoms* ([The Economic Times] <sup>[10]</sup>), 2025, 6.
12. Gandhi P, Parmar R, Patel G. Effect of fertility massage versus yoga in PCOS. *Parul Univ J Health Sci Res. 2022; 1(1):25-31. Yoga versus fertility massage study found both improved anxiety/depression in PCOS, though massage had greater psychological benefit after 6 weeks* ([pujhsr.paruluniversity.ac.in] <sup>[11]</sup>).
13. Cramer *et al.* systematic/meta-analysis: Yoga as therapy-benefits on stress, endocrine function, exercise therapy context relevant to PCOS support ([Wikipedia] <sup>[12]</sup>).
14. General mechanism studies: how yoga affects stress biomarkers (cortisol, cytokines, hypothalamic function), underlying endocrine effects relevant to PCOS ([Wikipedia] <sup>[12]</sup>).
15. Aspire Physio article: Role of Physiotherapy in Managing PCOD. *Describes how exercise therapy-including yoga/Pilates/manual therapy-can address weight, insulin resistance, pelvic pain and hormonal balance in PCOS* ([aspirephysio.in] <sup>[13]</sup>).