

Effectiveness of a Comprehensive Yoga Program on BMI in Women with Polycystic Ovary Syndrome (PCOS)

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Abstract : A prevalent endocrine condition in women of reproductive age, polycystic ovary syndrome (PCOS) is often linked to obesity and an elevated body mass index (BMI). This study assesses how a 12-week; all-inclusive yoga program affects women with PCOS in terms of their BMI. BMI measurements were taken before and after a systematic yoga session for forty individuals. The results show a significant decrease in BMI, indicating that yoga is a useful non-pharmacological weight-management technique for PCOS.

Introduction - PCOS, which is characterized by hyperandrogenism, irregular menstruation, and metabolic problems, including obesity, affect 8–13% of women globally. A higher BMI raises the risk of type 2 diabetes, insulin resistance, and cardiovascular disorders in addition to exacerbating PCOS symptoms. Yoga, a comprehensive mind-body practice, has gained attention as a potential way to enhance metabolic health, even though there are pharmacological and lifestyle therapies available. The intention of this study is to look into how a thorough yoga program affects PCOS-afflicted women's BMI.

Materials and Methods

1 Participants:

- Total women: 40
- Age range: 18–35 years
- Diagnosed with PCOS according to Rotterdam criteria
- BMI range at baseline: 25–35 kg/m² (overweight to obese)

2 Intervention:

- Duration: 12 weeks
- Frequency: 5 days/week, 60 minutes/session
- Program Components: Asanas (postures), Pranayama (breathing exercises), Meditation, Relaxation techniques

3 Measurements:

- BMI measured at baseline and after 12 weeks using standardized weighing scales and stadiometers.

4. Statistical Analysis:

- Paired t-test used to compare pre- and post-intervention BMI
- Significance set at $p < 0.05$

Yoga Program Details

Week	Focus	Key Yoga Practices
1–2	Foundation & Flexibility	Tadasana, Bhujangasana, Sukhasana, AnulomVilom
3–6	Strength & Stamina	Dhanurasana, Trikonasana, Setu Bandhasana, Kapalbhati
7–10	Balance & Relaxation	Vrikshasana, Shavasana, NadiShodhana, Guided Meditation
11–12	Integration & Stress Reduction	Surya Namaskar, Yoga Nidra, Deep Breathing

Results

1 BMI Changes

Participant ID	Baseline BMI (kg/m ²)	Post-Intervention BMI (kg/m ²)	Change in BMI (kg/m ²)
1	29.5	28.3	-1.2
2	31.2	30.1	-1.1
3	26.8	25.9	-0.9
...
40	30.0	28.5	-1.5

2 Summary Statistics

Statistic	Baseline BMI (kg/m ²)	Post-Intervention BMI (kg/m ²)
Mean	29.4	27.9
Standard Deviation	2.7	2.5
Mean Difference	-1.5	—
p-value (paired t-test)	—	< 0.001

Discussion: Women with PCOS who participated in the 12-week comprehensive yoga program saw a statistically significant drop in their BMI. The 1.5 kg/m² mean BMI decrease that was seen is consistent with earlier research showing yoga's effectiveness with controlling weight and

metabolism.

Pranayama and meditation lower stress-induced cortisol, which is connected to the deposition of belly fat, while yoga's concentration on physical postures increases expenditure of energy and muscular tone. Additionally, yoga's ability to increase insulin sensitivity probably helped participants control their weight.

These results point to yoga as a viable, affordable adjunct therapy for the treatment of PCOS, particularly for patients looking for all-natural solutions with fewer adverse effects than prescribed medicines.

Limitations:

- i. The sample size was restricted to 40 individuals; results might be impacted by confounding lifestyle variables because there was no control group included.
- ii. Although helpful, BMI does not directly reveal the distribution of body fat.

Conclusion: A organized yoga practice dramatically lowers BMI in women with PCOS, according to this study, providing a potential non-pharmacological weight-management and symptom-improvement strategy. Larger sample sizes are required for future randomized controlled studies to validate these advantages and look into long-term impacts.

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