

Effect of integrated approach of yoga and naturopathy on polycystic ovarian syndrome: A case study

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ABSTRACT

Owing to stress, sedentary lifestyle and changes in diet pattern, there is an increase in the surge of lifestyle and metabolic disorders. Polycystic ovarian syndrome (PCOS) affects 8–13% of reproductive-aged women. PCOS is characterised by menstrual irregularity, hyperandrogenism and polycystic ovarian morphology (PCOM). The efficacy of yoga as a therapy to tackle the direct and indirect cause of ailment in the management of PCOS is to be documented. This is the case study of a female patient age 25 years, a diagnosed case of PCOS was registered at the Ayurveda, Yoga, Unani, Siddha, Homeopathy (AYUSH), yoga OPD, with complaints of irregular menstruation, treated successfully by Yoga and Naturopathy (Y and N), i.e., yoga, diet and lifestyle modification. This is evident from the reduction in weight, regularisation of the menstrual cycle along with morphological changes in the ovary after a follow-up of 6 months.

Keywords: PCOS and naturopathy, PCOS and Yoga, Yoga and Naturopathy

Introduction

Polycystic ovarian syndrome (PCOS) affects 8–13% of reproductive-aged women.^[1] It is the commonest endocrine disorder of reproductive age female in India.^[2] This is also associated with insulin resistance, obesity and components of metabolic syndrome.^[3] As per the Rotterdam Criteria, PCOS is defined as the presence of any two of the three features: (i) Oligo/amenorrhoea: Absence of menstruation for 45 days or more and/or ≤ 8 menses/year. (ii) Clinical hyperandrogenism: Modified Ferriman and Gallwey Score of 6 or higher. (iii) Polycystic ovaries in the pelvic ultrasound scan. PCOS has a genetic predisposition but its exact etiopathogenesis is not clear.^[4] About a 5% reduction in weight can regularise the menstrual cycle and improve

response to ovulation.^[5] The rationale of this case study was to focus on the effectiveness of Y and N interventions in the management of PCOS patients. To assess the efficacy of Yoga and Naturopathy (Y and N) in terms of change in weight, Body mass index (BMI), clinical features, regularisation of the menstrual cycle and morphological changes in the ovaries. Adopting a regular yoga practice can reduce stress and anxiety levels also, which can improve the overall health of the reproductive organs. The yoga techniques improve physical and mental health by decreasing the sympathetic tone and hypothalamic pituitary adrenal axis.

Case

A 25-year-old unmarried female with a height of 162 cm and weight 65 kg, with a clinical history of irregular menses for many years and a diagnosed case of PCOS, reported at the AYUSH OPD on July 19, 2019, to seek yoga therapy. Her duration of the cycle was 45–60 days. She also complained of acne on her upper back, pain in the lower abdomen before

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and during menses, feeling of heaviness over her abdomen and breast, generalised weakness and anxiety. She had gained 6 kg of weight in the last 1 year. She was pursuing her chartered accountancy curriculum and had a lot of exam stress, thereby. She took allopathic medications for about 8 months to regularise her periods but did not find any improvement, and subsequently, she opted for Yoga Therapy and Lifestyle Modification at AYUSH, AIIMS, Bhopal. Her ultrasonography was suggestive of PCOS and the clinical symptoms were of hyperandrogenism, so as per the Rotterdam Criteria, she was a case of PCOS. She was prescribed yoga, pranayama, relaxation techniques, meditation and kunjla kriya. A tailored and monitored yoga practice session was performed regularly for 60 min for the 1st week. Thereafter, home follow-up sessions were advised, 60 min of practice 5 days a week (excluding days of menstruation). Monitoring was done by a regular follow-up visit every 15 days for 6 months. The measurement of weight, BMI, menstrual cycle and Ultrasonography (USG) was noted systematically [Table 1].

Here are the details of the intervention given to the patient:

- A. Diet modifications—Aahara
 - a. Avoid cabbage, broccoli, brinjal, radish, soybean, roasted groundnuts, pickles, preserved food, fast foods, tinned/canned foods
 - b. Reduce intake of potatoes, tomatoes, oil, ghee
 - c. Add ample amount of fibre to the diet in the form of seasonal fruits—4–5 servings per day (avoid bananas)
 - d. Salads: A piece of cucumber, one to two pieces of carrots, a piece of beetroot, *amba baldi* per day
 - e. Mix vegetable soup (spinach, bottle gourd, carrot, beetroot, cucumber, drumstick, amla)/mix vegetable khichdi/*daliya*
 - f. Water intake (2.5–3 L/day)

- B. Lifestyle modifications:
 - a. Adequate sleep: To take proper sleep of at least 6 h. She was advised to correct the sleep–wake cycle (early to bed and early to rise—in moderation within the limits of her comfort.
 - b. Autosuggestion: Give a voluntary positive resolve to yourself actively, repeat it mentally and make sure you adhere to follow the same.
- C. Yoga Practices:

Perform the advised asana [Table 2] to aid physical effects (compression, decompression, stretching, relaxation) along with pranayama and meditation. Kunjal kriya was taught and advised to practice weekly.

Results

A follow-up patient record was maintained. After Y and N intervention, the weight and BMI decreased significantly. The menstrual cycle was regularised in 3 months and the ovarian morphology also showed normal morphology after 6 months of the Y and N treatment.

Discussion

The conventional medical management of PCOS is symptomatic treatment and lifestyle modification with weight reduction.^[6] Metformin, oral contraceptives, anti-androgens, clomiphene citrate and thiazolidinediones are used for the management of different presentations of PCOS.^[7] These drugs provide temporary, symptomatic relief and are not without side effects. They do not give a permanent cure of the disease.^[8] This case study revealed that yoga interventions can manage polycystic ovarian patients. There was regularisation of the menstrual cycle, restoration of ovulation and ovarian morphology after yoga therapy. A significant

Table 1: Follow-up record of the patient

OPD Visits	Date	Remark	Weight (kg)	BMI	USG	Menstrual cycle
1.	July 19, 2019	Consultation and treatment lifestyle modification advise	65	24.76	Ovaries are normal in size and shape Multiple small cysts present in the ovaries suggesting polycystic ovarian disease	55-60 days
2.	July 22, 2019	Intense phase of yoga: Yoga practices were taught: Regular 60 min, 5 days a week home follow-up advised	65	24.76		
3.	July 23, 2019					
4.	July 24, 2019					
5.	July 25, 2019	Follow-up for yoga				
6.	July 26, 2019					
7.	August 1, 2019					
8.	August 22, 2019	Kunjal (first cycle of kunjla kriya)	62.4	23.77		
9.	August 22, 2019	Follow-up for yoga				
10.	September 18, 2019	Follow-up for yoga 65 kg, 45 days cycle				
11.	October 11, 2019	Regular cycles, low-back pain and lower abdomen pain persist on and off	61.6	23.47		45 days
			61.3	23.36		30 days
12.	Nov 26, 2019	Follow-up for yoga, regular cycles	60.8	23.17		31 days
13.	Dec 26, 2019	Follow-up for yoga, regular cycles	60.2	22.94		30 days
3.	Jan 27, 2020	Follow-up for yoga, regular cycles	59	22.48		32 days
14.	Feb 27, 2020	Follow-up for yoga, regular cycles	59	22.48	Bilateral normal follicular echo pattern with normal stroma	30 days

Table 2: Yoga practices: the following yoga asana were practiced

S. No.	Yoga Practices	Duration (60 min)
Sitting series	Titali asana (butterfly pose), Baddhakonasana, Chakkichalanasana, Ardhaushtrasana	10 min
Supine series	Uttanapadasana, Sarvangasana, Halasana, Matsyasana, Shavasana	10 min
Relaxation	Deep relaxation technique	10 min
Prone series	Bhujangasana, Shalabhasana, Makarasana	7 min
Standing series	Tadasana, Trikonasana, Veerabhadrasana	7 min
Pranayama	Dirghaswash pranayama, Nadishuddhi pranyama, Kapalabhati pranayama, Ujjai pranayama, Bhramari	10 min
	Meditation (om kara naad)	6 min
	Kunjla kriya (weekly once)	

difference in the anthropometric measurements (body weight, BMI) was reported. This reaffirms the previous studies that a reduction of 5% of body weight can restore regular menstruation and improve response to ovulation.^[5] Some other studies also reported improvement in PCOS patients due to yoga therapy. The cause of improvement may be improved blood circulation to the pelvic viscera.^[9,10] Yoga mainly improves reproductive functions by reducing stress and balancing the neurohormonal profile.

This case was successfully treated with Y and N. PCOS is among the most common diseases of reproductive-age females. Early recognition and prompt treatment of PCOS is important to prevent the long-term sequel.

Limitation of the study

Long-term studies with a large number of patients are needed to establish Yoga and naturopathy as the treatment modality.

Conclusion

This case study suggests that yoga and lifestyle modification should be considered for first-line interventions for PCOS with or without medical interventions, especially in young patients. Minor lifestyle changes improve symptoms in PCOS patients. The cost-effectiveness of Y and N compared to the usual medical care has been identified in several comprehensive reviews. Early identification, patient's education and sensitisation for practising Y and N could play an important role in the alleviation of PCOS. Primary care physicians serving as the first contact for a patient with an undiagnosed health concern could be the best guide for motivating the patients to opt for this lifestyle modification at no or minimal cost. However, a well-planned study with a large sample size is required to establish the efficacy of Y and N in PCOS.

Declaration of patient consent

The authors certify that they have obtained appropriate patient consent form. In the form, the patient has given her consent for her clinical information to be reported in the journal. The patient understand that her name and initials will not be published and due efforts will be made to conceal her identity.

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Conflicts of interest

There are no conflicts of interest.

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