

Effect of Kapalabhati, Sithali, Seethakari Pranayama and Yogic Postures On Polycystic Ovarian Syndrome

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Abstract

Background: Polycystic ovarian syndrome is an endocrine disorder distinguished by hormonal imbalances, ovarian dysfunction, and metabolic disturbances. The incidence of PCOS varies greatly in India, from 2.2% to 26%.¹⁴

Purpose: To find out the effect of Kapalabhati, Sithali, seethakari pranayama and yogic postures in Poly- cystic Ovarian Syndrome

Materials and Methods: A total number 50 were selected from Jain Hospitals and labs based on inclusion criteria and were divided. Yoga group: Kapalabhati pranayama - 3 rounds with 5 forceful expirations Sithali pranayama - 5 breaths Seethakari pranayama - 5 breaths, Suryanamaskar - 6 rounds Bhujangasana, supta baddha konasana, dhanurasana, badhakonasana, and Nauvasana all hold for 15 - 30 s and dietary changes low fat food, less carbohydrates and high protein and meditation for 10 minutes. Conventional group: Conservative management including exercise including treadmill, steps climbing and cycling. Total session flows for an hour. Both groups were compared with the pre- and post-test measurements

Results: The study shows a significant effect on Polycystic Ovarian syndrome using yoga intervention

Conclusion: Yoga intervention can be used effectively on Polycystic ovarian syndrome for long term benefits

Keywords: Yoga, Polycystic ovarian syndrome, Kapalabhati pranayama

Introduction

Hormonal abnormalities, irregular menstrual periods, and the appearance of tiny cysts in the ovaries are its defining characteristics. Infertility, hirsutism (excessive hair growth), acne, and metabolic abnormalities like insulin resistance and obesity are just a few of the signs and complications that can result

from PCOS.¹ The objective of PCOS management is to encourage general health and quality of living while reducing symptoms and re-establishing hormonal balance. The recent advances and industrializations have brought a great impact on the lifestyle changes of the human population². These changes have shown a greater distress and impact on the health spectrum of the individuals. In this drastic revolution

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and pollution the health of the women have been highly affected causing various physical, mental and reproductive problems. The recent changes have certainly changed the natural rhythm of the human reproduction system especially the women's health as they are facing the broad spectrum of the health conditions like the metabolic disorders, reproductive issues, such as irregular menstruation and ovarian growth, miscarriage, fertility issues, cysts, irritation, amenorrhea and poly cystic ovaries.¹⁻⁴

The American Society for Reproductive Medicine (ASRM) and the European Society of Human Reproduction and Embryology (ESHRE) have reached a new understanding regarding the definition of polycystic ovarian syndrome. The current definition of PCOS is "The clinical presence of any of the three criteria that includes i) polycystic ovaries ii) Oligo-/anovulation iii) evidence of hyperandrogenism. This adapted definition helps in the diagnosis and clinical assessment of the condition.^{2,3} While traditional PCOS treatments including hormonal contraception and drugs to control menstrual cycles and manage symptoms are frequently employed, interest in alternative and complementary therapy is rising. Yoga has drawn interest as a possible therapeutic intervention for PCOS because it combines physical postures, breath control, and meditation. Numerous yoga techniques, such as Kapalabhati, Sithali, Seethakari Pranayama, and particular yogic postures, have been theorised to have positive impacts on hormone control, stress reduction, and general wellbeing.⁵⁻⁷

The potential advantages of yoga in addressing some of the underlying causes of PCOS served as the foundation for this study's justification. According to studies, yoga can help you manage your stress better, encourage relaxation, and improve your overall physical and mental health. Chronic stress and psychological issues can worsen symptoms and hormonal abnormalities, and they have been linked to the pathophysiology of PCOS.⁸ Yoga practises may therefore offer a holistic approach to PCOS care that addresses both the physical and psychological elements of the disorder.⁹ Additionally, it has been proposed that yoga practices are beneficial for metabolic parameters including insulin sensitivity and weight control, which are frequently impacted

by PCOS. Yoga may support lifestyle changes that are crucial in the management of PCOS by encouraging physical exercise, enhancing body awareness, and developing mindfulness. Yoga has been suggested as a viable supplementary therapy for PCOS, with the potential to reduce symptoms, regain hormonal balance, and enhance general health and quality of life.¹⁰

Aim

To find out the effect of Kapalabhati, Sithali, seethakari pranayama and yogic postures in Polycystic Ovarian Syndrome.

Material and Method

Subjects: Polycystic ovarian syndrome patients aged between 18 to 25 Sampling technique: convenient sampling Sample size: 50 samples Study period: October 2022 to June 2023.

Inclusion criteria

- Female population between the age of 18- 25
- PCOS condition diagnosed on the basis of Rotterdam criteria. (Oligo-anovulation, hyperandrogenism, and polycystic ovaries (at least one ovary with at least 12 follicles measuring 2 to 9 mm in diameter and/or an ovarian volume more than 10 mL). Females with post-delivery PCOS complications were also included
- Female who have attained the menarche for more than a year were included

Exclusion criteria

- Females with thyroid, pelvic floor dysfunction. Uterine fibroids, pelvic inflammatory disease were excluded, i.e differential diagnosis of PCOS
- Subjects with h/o heart and lung diseases and surgery were excluded
- Subjects with any h/o chronic disorders like osteoarthritis and rheumatoid arthritis were excluded.
- Post pregnancy females and females who are planning family were excluded

Outcome Measures

Ultrasound imaging of uterus

Procedure

The study took place in a private hospital, Madurai and the study was explained to the female population and the interested candidates were given a questionnaire to be filled for identifying the population with the condition of PCOS and scrutinized the candidates as per the inclusion and exclusion criteria. The suitable and interested candidates were scrutinized and the consent form for the study was sent. Once the consent is finalised, the individuals were split into two groups, each of which included.

1. Yoga group:

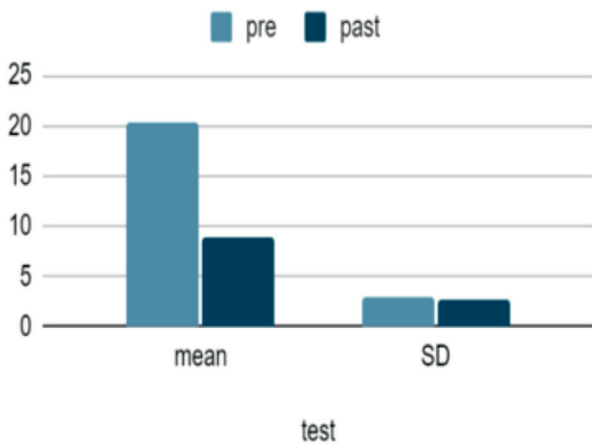
Kapalabhati pranayama - 3 rounds with 5 forceful expirations Sithali pranayama - 5 breaths (Inspiration with mouth with folded tongue, hold - 2s and expiration 8 s with nose) Seethakari pranayama - 5 breaths (Inspiration with clenched teeth, hold - 2s and expiration 8 s with nose) Suryanamaskar - 6 rounds Bhujangasana, supta baddha konasana, dhanurasana, badhakonasana, and Nauvasana all hold for 15 - 30 s and dietary changes low fat food, less carbohydrates and high protein and meditation for 10 minutes. Total session flows for an hour.

2. Conventional group:

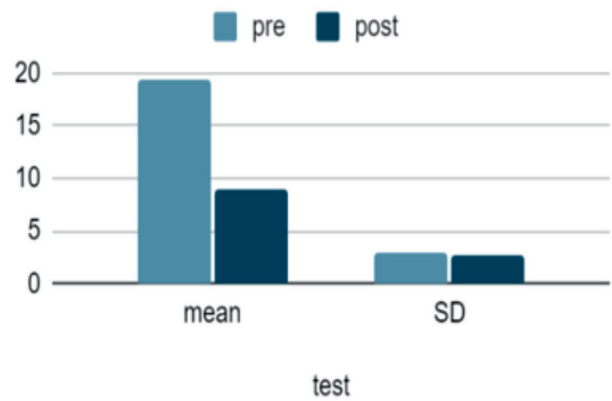
Conservative management includes a diet with low fat food, less carbohydrates and high protein and exercise including treadmill, steps climbing and cycling. Total session flows for an hour.

Both groups were compared with the pre-test and post-test measurements that were taken before and after the intervention. The intervention was given for three months and then the post- test values were taken. The outcome measurements were calculated.

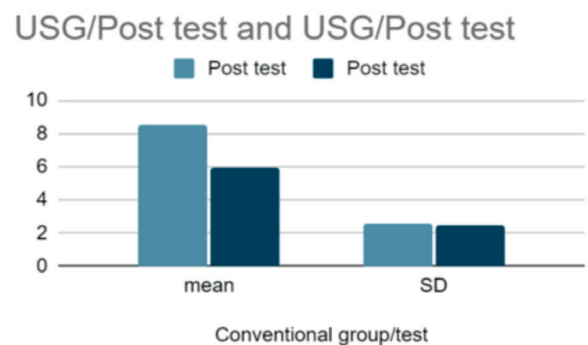
Data Analysis



Graph-1: pre test and post test values of yoga group



Graph-2: pre test and post test values of conventional group.



Graph-3: post -test values of both group.

Result

A total of 92 female population were filled out the google form in this study. The participants age from 18 to 25 years, approximately 12(11.04%) of the population were 18 to 19 and 50 (46%) were between the ages of 20 to 22 and 30 (27.6%) between 23 to 29. Over half of the participants 12 (11.04 %) have normal BMI, while 22(20.24%), 44 (40.48%) were underweight and overweight respectively, additionally 14 members of 12.88% were obese. So, statistical analysis of the quantitative data indicated statistically significant differences in both groups by measuring the diameter of the ovarian follicles. The experimental group’s pre-test and post-test results demonstrate that the pre-test value 20.2 of were decreased 8.88 to in post-test with a p value of 0.0001 (graph1). (graph2) shows that the pre and post-test value for conventional group, the pre-test value of 19.6 is reduced into 8.88 with a p value of 0.0001. compare the conventional and experimental group of post-tests,(graph 3) showing the value is 8.96 reduced into 5.86 and As the result, said that they are statistically significant with a p value of 0.0001

Discussion

Ragini shrivastava et al (2022): suggests that yoga and lifestyle modification must be the first line interventions for the PCOS as these are the interventions without side effects. It also concludes that there are various advantages of combining yoga with various therapies in the management of PCOS. It also suggest the integrated approach towards lifestyle modifications helps in aiding the condition of PCOS.¹¹ Maryam mohseni et al in 2021 stated that yoga exercises are recommended to control PCOS incorporated with the symptom of infertility caused in the women.¹²

Kalpana sharma et al in 2020 concluded that early lifestyle modifications reduce the risks of PCOS and its symptoms. It talks about the possible advantages of yoga as a management technique for PCOS¹³. Deepshikha Thakur et al in 2021 in her study concluded that yoga is very beneficial and effective management for PCOS.¹

The study here compares the effectiveness of the yoga therapy and conservative management. The result of this study proves that the lifestyle modifications helps to improve the PCOS symptoms. The results of Yoga group have proved that yoga can be taken as a therapy for improved benefits and better option for lifestyle modification.

Conclusion

The research on the effects of Kapalabhati, Sithali, Seethakari Pranayama, and Yogic Postures on Polycystic Ovarian Syndrome (PCOS) provides valuable insights into the potential benefits of yoga practices as alternative or adjunctive therapies for PCOS management. Yoga practices and conservative treatments commonly used in PCOS management provide insight into the potential benefits of incorporating yoga as a complementary therapy.

Ethical Clearance: Taken from the institutional ethical committee. ISRB number - 03/047/2022/ISRB/SR/SCPT

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Conflict of Interest: Nil

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