

Role of Physiotherapy Treatment in Managing Polycystic Ovarian Syndrome - A Case Study

R. Shireesha¹, S. Jagadeeswar Reddy², Dr. S. Raghava Krishna³, Dr. K. Madhavi⁴

^{1,2}BPT Internees, College of Physiotherapy, SVIMS

³MPT (ORTHO) Faculty, Ph. D, College of Physiotherapy, SVIMS

⁴MPT (CT), Ph. D, Professor, College of Physiotherapy, SVIMS

Abstract: *Polycystic Ovarian Syndrome (PCOS) is a complex, multifactorial disorder affecting women of reproductive age, characterized by symptoms such as Irregular menstrual cycles, weight gain, hirsutism, and insulin resistance. This case study highlights the treatment approach for a 23-year-old female presenting with irregular menstrual cycles, abnormal weight gain, and hirsutism. Initial assessments revealed elevated BMI, visceral fat, and multiple ovarian cysts. The treatment protocol, excluding medication, included physiotherapy exercises like Kegel's, pelvic bridging, and planks, alongside lifestyle changes such as intermittent fasting, improved sleep hygiene, and dietary adjustments. After six months, significant improvements were noted in weight, BMI, visceral fat, and regularity of menstrual cycles, with ultrasonography showing normalized ovarian structure. This study emphasizes the effectiveness of consistent physiotherapy, lifestyle modifications, and sleep regulation in managing PCOS and highlights the importance of a tailored approach for long-term metabolic health.*

Keywords: PCOS, physiotherapy, lifestyle changes, period tracker, diet, sleep; Kegels exercise

1. Introduction

PCOS (Poly cystic ovarian syndrome) a multifactorial; heterogenous syndrome that effect female reproductive system Over 5-10% of women are having PCOD in their reproductive age. In normal menstrual cycle; brain release GnRH (Gonadotropin releasing hormone) which show major effect on ovaries forming 6-12 follicle are responsible for 1. Estrogen release, 2.linning of uterus ,3.formation of egg.An unfertilized egg released into uterus to make one menstrual cycle. In PCOS; abnormal release of GnRH reduced follicle stimulating hormone (FSH) cause immature follicle which don't ovulate, forming cyst in ovaries; increases Luteinizing hormone (LH) secrete male hormone (androgen) which represent sign like acne; hirsutism. The changes in LH level shows great impact on insulin production decreased sensitivity to insulin hormone results in insulin resistance. The actual cause of PCOS is unknown; the cause can be multifactorial. The clinical symptoms include irregular menstrual cycle, abnormal weight gain, hirsutism (facial hair), rapid hair loss, mood swing, acanthosis nigricans , acne etc. other associated condition include Thyroid, diabetes mellitus, infertility, obesity, etc.

2. Case Report

A 23-year-old female presented for evaluation of irregular menstrual cycle and abnormal weight gain. she was not under any hormonal treatment, came to SVIMS OPD referred to college of physiotherapy, SVIMS university. patient complained about abnormal weight gain, irregular menstrual cycle; hirsutism; acne. The initial assessment of subject was taken on march 2024 before treatment. The assessment includes BMA and diagnostic reports. The BMA (body composition analysis) was measured by using N20 body composition analyser which include Height 152cm; Weight 59kgs; Skeletal mass 23.08%; BMI 25.5; Visceral fat -6; Hip-

waist ratio 0.82. The subject underwent ultra sonography of abdomen which shows **Liver:** grade 1 fatty liver, **Gall bladder:** normal, **Uterus:** shape and echotexture are normal, **Ovaries:** right measures 2.7x3.5x3.5cms, normal; Left ovary measures 3.8x2.5x2.5cms, normal in size Multiple follicles arranged peripherally, central echogenic stroma noted in bilateral ovaries **Impression: PCOD**

Treatment:

A) Physiotherapy exercises:

Exercise plays a major role in improving metabolism and weight loss. A protocol designed by the department of physiotherapy SVIMS UNIVERSITY The exercise design include: Warm up -10 minutes, Exercise-10mins.Warm up include whole body active ROM's, Exercises mainly focused on pelvic floor muscle training (Kegel's exercise) Pelvic bridging; Toe tap; Wall squat; Planks. The subject is advised to do the exercises one session per day, 3 days in a week for 6 months.

B) Life style changes:

A 20mins, moderate intensity walking after every possible meal
Cessation of all type of junk food; packed food
Strictly 6-8 hrs of sleep i.e. 10.30pm-6.00am.

C)Dietary changes include Fasting the Intermittent fasting(16hrs) Water fasting for every 15 days once (Ekadashi fasting); Limiting carbohydrates and including some food items like leafy vegetables, pumpkin seeds, ash guard juice, detox drinks, dry dates.

D)Sleep play important in maintaining metabolism and hormonal balance. The period between 10.30pm to 12.00am where body repair starts. Sleep heals 90% of health illness.

The subject was reassessed after treatment which shows - Weight 54.7kg; BMI -23.7; Skeletal mass 23.1%; Visceral fat - 4; Hip waist ratio = 0.8. The subject underwent ultrasonography for re assessment which shows **Liver:** normal, **Gall bladder:** distended, **Uterus:** shape and

echotexture are normal. **Ovaries:** right measures 2.7x3.5x3.5cms, normal; Left ovary measures 3.8x2.5x2.5cms, normal in size. **Impression:** no significant abnormalities noted.

PERIOD TRACKER			
BEFORE TREATMENT		AFTER TREATMENT	
MONTH	NUMBER OF FLOW DAYS	MONTH	NUMBER OF FLOW DAYS
August2023	16,17,18	March 2024	21,22,23
September2023	Absent	April 2024	22,23,24
October2023	26,27,28	May 2024	23,24,25
November2023	Absent	June 2024	22,23,24
December2023	Absent	July 2024	22,23,24
January 2024	16,17,18	August 2024	21,22,23
February 2024	Absent	September2024	20,21,22

3. Discussion

PCOS is represented differently in every individual. the symptoms/signs in one woman can't be the same in other women. Each individual with PCOS/PCOD should have customized protocol treatment. PCOS is a multifactorial it is affected for manier factors, represent various symptoms, as well as treatment to be in many ways(like life style changes, exercises, regulating sleep wake cycle)As PCOS is a metabolic disorder there is no complete cure , the only cure is a long term maintenance of body metabolism. Every activity in a day effect the hormonal cycles. however, in order to correct the metabolic cycle exercise and life style changes are mandatory. In this case study **Kegel's exercise** played a major role in strengthening the pelvic floor muscles and abdominals, to add up the effect warm up and other stretching's and strengthening exercises gave a good result in inch loss or weight loss. **Ekadashi or intermittent fasting** mainly effect to keep the balance of hormone and other secretory glands. Meanwhile breaking the fasting with rich Fiber food is also important for gut health. **Sleep** is the key in this study, some study shows that sleeping cure almost 90% for bodily illness. There are factors that affect the sleep like quality of sleep, duration of sleep.

4. Conclusion

In this study the patient with PCOS was not under any medication (hormonal pills, other supplements) physiotherapy exercises showed a great difference in improving patient menstrual cycles and losing weight and also inch loss. As PCOD is a metabolic disorder there is no single shot medication the only cure is **consistency**. A consistent maintenance of a healthy life style and other exercises itself showed a drastic change in women health.

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