

# Innovations

## “Dietary Consumption and Lifestyle Choices in Polycystic Ovarian Syndrome: A Case Study”

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### Abstract

**Background:** One of the most prevalent endocrine metabolic illnesses affecting women who are fertile is classical polycystic ovarian syndrome, or PCOS. It is somewhat upsetting because we are still unable to identify the precise etiology of this disease, making a full recovery impossible. Only by lifestyle adjustment (diet and exercise) and the availability of effective medications it can be managed and its symptoms lessened. Despite being uncommon, this sickness is manageable because the majority of these reasons are treatable. As a result, it's vital to look for these disorders aggressively and treat them quickly. **Case presentation:** In March 2023, a 33-year-old lady was diagnosed with polycystic ovarian syndrome, which led to irregular menstruation, hirsutism, and amenorrhea. The blood pressure was elevated. Investigation revealed elevated levels of LH and testosterone. The FSH to LH ratio was 3:1. There was a reduction in the quantity of sex hormone binding globulin, or SHBG. **Conclusion and Outcome:** Exercise and diet were best treatment choice for Poly Cystic Ovarian Syndrome patient that requires further examination before to being suggested on a long term basis and successful treatment outcome.

**Keywords:** Polycystic ovary syndrome, Luteinizing Hormone (LH), Follicle Stimulating Hormone (FSH).

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### Introduction:

PCOS is a disorder with many different presentations and is heterogeneous. Despite the fact that the condition was initially identified in 1935, we still don't have a complete treatment. The reason for this is because we are still unsure of the exact origin of this ailment. Unfortunately, despite our present understanding of its numerous metabolic impacts, we still don't know the precise

cause of all the symptoms it might generate. It is therefore impossible to alter the pathophysiology; only the symptoms may be reduced or removed<sup>1</sup>. In women of reproductive age, PCOS (polycystic ovary syndrome) is the most common hormonal disorder with an unknown origin. Numerous detrimental consequences, such as those on the endocrine, metabolic, psychological, and reproductive systems of the human body, may result from it.

The metabolic syndrome, which includes dyslipidemia, insulin resistance, and obesity, affects around 50% of PCOS patients. Although the pathogenesis of PCOS is largely unknown, research suggests that hereditary and environmental factors contribute significantly to ovarian hyperandrogenism and decreased insulin sensitivity<sup>2-6</sup>.

Women who have polycystic ovarian syndrome may also break out in acne often. One of the most effective ways to manage Poly Cystic Ovarian Syndrome symptoms and enhance reproductive issues is to regulate hormone levels. Control hormone levels by eating meals high in fiber and nutrition and avoiding PCOS-related blood sugar problems. Common symptoms of Poly Cystic Ovarian Syndrome can be lessened by weight loss achieved via exercise and a balanced diet. The case study highlights the significant contribution of physiotherapy and nutrition treatment in mitigating the problem and achieving improved outcomes.

#### **Case Study:**

A 33-year-old woman was diagnosed with polycystic ovarian syndrome in March 2023, which resulted in amenorrhea, hirsutism, and irregular menstruation. There was increased blood pressure (160/100). She weighed eighty-one kg. She doesn't smoke or use alcohol as a personal habit. She didn't have any family history of hormonally linked illnesses or PCOS. The patient's family claims that she has struggled with anxiety for a very long time. A general physician evaluated her and provided lifestyle advice to help her lose her present weight.

There is no particular diet that works for PCOS treatment or prevention. Nonetheless, exercising and eating a healthy diet can help control some of the long-term effects of PCOS.

Selecting healthy fats is crucial since a diet heavy in saturated and trans fats can raise cholesterol and blood pressure. Consume 2 to 3 Tbsp of unsaturated fat (polyunsaturated and monounsaturated fat) daily to maintain heart health. Increasing fiber can help control blood sugar and reduce cholesterol. It also aids in feeling full and is beneficial to the digestive system. Try these foods that are high in fibre: fruits: particularly orange, kiwi, pears, and berries; vegetables: particularly broccoli, spinach, and peas. Legumes such as kidney

beans, soybeans, lentils, and chickpeas; whole grains such as brown rice, red rice, quinoa, barley, and oats: Nuts and seeds high in dietary fiber include flax, sunflower, and almonds. At every meal, protein is crucial. You can consume both plant-based protein sources like beans, peas, almonds, seeds, and tofu and animal-based protein sources like lean meat, eggs, and seafood. Take action: Aim for three hours or more of moderate activity each week.

The patient in this case study started following a particular diet and doing mild aerobic exercise under the supervision of a dietitian along with a physiotherapist in order to recover. The patient lost 12.8 kg of body weight in 8 months. Following a year on Metformin, Telzzy H 40 antihypertensive medication, and a balanced diet, the patient's weight was 68.2 kg in Sep 2023, BMI dropped, and blood pressure returned to normal. Stopping the antihypertensive medication. At her convenience, she began using homeopathic medication for her therapy. But in order to lose additional weight, the patient is still following a certain diet. The investigation resumed as usual. She is currently using the homeopathic medication *OleumMorrhuae* for a little hirsutism issue.

**The patient's food regimen is listed below:**

**Diet Chart:**

**Early Morning:** Apple cider vinegar/ Fenugreek seeds water/Aloe vera juice (Any one out of them)

**Breakfast:** Dalia (1 bowl)+200 ml low fat milk/ Poha (1 bowl)+ 1 cup tea/ 1-Methi Parantha+ ½ cup low fat curd/ 1- BesanCheela+ 1 spoon green chutney+ ½ cup low fat curd / 1 chapati + 1 bowl green vegetable + ½ cup low fat curd. (Any one out of them)

**Lunch:** 2 Chapati + 1 cup tindasabzi + 1 cup dal + ½ cup low fat curd+ 1 plate salad/ 2 chapati + 1 cup gharaita + 1 cup dal + 1 plate salad/ 1 cup red rice + 1 bowl daal + ½ cup low fat curd + 1 plate green salad/ Brown rice + ½ cup Dal + 1 plate green salad (Any one out of them)

**Evening:** 1 cup tea+ 1 wheat rusk/ 1 guava/ 1 cup tea+ puffed rice bhel/ 1 cup tea + boiled chana chat/ 1 bowl strawberry/ one Apple ( Any one out of them)

**Dinner:** 1 stuffed palakchapati+ 1cup dal + 1 plate salad/ 1 chapati + 1 cup bengansabzi + 1 plate salad/1 katori vegetable soup/ 1 cup vegetable khichdi + 1 plate green salad (Any one out of them).

By following this diet and aerobic training four times per week she managed her weight.

**Few principles about diet:**

- a. Avoid starving yourself.
- b. Eating less won't help treat PCOS.
- c. Recognize the difference between temptation and hunger.
- d. Choose a plant-based diet over one based on animals.
- e. Develop a basic, locally grown, seasonal diet.
- f. Try not to mess with food too much.
- g. Steer clear of restaurant, processed, and refined foods.
- h. Steer clear of food packaged in plastic.
- i. Steer clear of needless freezing and heating.
- j. Choose raw sugar and jaggery over manufactured sugar.
- k. Go for mustard oil or desi ghee.

She was told to follow the above-mentioned diet plan and engage in aerobic exercise five times a week. The appropriate outcomes to recover from the condition were obtained by combining nutrition and aerobic exercise.

**Discussion:**

According to research, polycystic ovarian syndrome patients exhibit signs of general inflammation, which has been connected to cardiac problems as well as a number of other illnesses. According to Stathos, the diet is an effective means of treating inflammation since it excludes processed meats, refined sugar, and saturated fats. She points out that individuals with polycystic ovarian syndrome can maintain their health and avoid difficulties by following other well-balanced diets that include non-starchy fruits and vegetables, lean protein, healthy carbohydrates, and low-fat dairy. The symptoms of Poly Cystic Ovarian Syndrome can be made worse by eating an excessive amount of foods that cause inflammation, and those who have the syndrome are more likely to develop heart disease and many other conditions. One of the finest methods for treating the condition is hormone regulation. Manage hormone levels by eating nutrient-dense, high-fiber meals and avoiding blood sugar issues linked to PCOS. According to the study's findings, eating a balanced diet and engaging in regular physical activity significantly enhance patients' health and quality of life. A few guidelines that we must remember are avert depriving yourself of food. Reducing food intake won't address PCOS. Understand the distinction between hunger and temptation.

Prefer an animal-based diet to one that is plant-based. Create a seasonal, locally sourced, basic diet. Make an effort to limit tampering with food. Avoid refined, processed, and restaurant-style meals. Stay away from food that is

wrapped in plastic. Avoid heating and freezing unnecessary areas. Select jaggery and raw sugar instead of processed sugar. Opt for desi ghee or mustard oil.

**Conclusion:**

This case was complicated with amenorrhea, hirsutism, and irregular menstruation along with blood pressure and anxiety issues, who obtained a positive outcome by the appropriated treatment and diagnosis. This insinuates adherence to Common symptoms of Poly Cystic Ovarian Syndrome can be lessened by weight loss achieved via exercise and a certain diet.

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