

Your Nutrition Guide to Manage PCOS

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Received: September 23, 2020; **Published:** October 29, 2020

Abstract

If you are reading this it means you most probably have PCOS (polycystic Ovarian Syndrome) or a close relative of yours has PCOS. Welcome on board both of us are on the same boat. In fact, PCOS is affecting 1 in 5 women and is thought to be the most common endocrine disorder in women.

Helping women with PCOS have always been my interest. Below is some evidence-based information I have researched on PCOS and its management.

Keywords: *PCOS (Polycystic Ovarian Syndrome); Insulin; Testosterone*

What is polycystic ovarian syndrome (PCOS)?

To put it in simple words, it is a hormonal imbalance that affects women and mainly those in childbearing age. This imbalance is due to increase in the male hormone Testosterone.

Women with PCOS often have enlarged ovaries. Their ovaries may have many cysts on them, which is where the name comes from.

Women with PCOS may also have high levels of insulin but these insulins do not function normally and what we refer to as insulin resistance.

To clarify insulin resistance; after a meal sugar spikes in the blood therefore our pancreas releases insulin that signals our body cells to take this insulin from the blood and use it for energy. However, when there is insulin resistance body cells do not respond to the hormone insulin thus sugar accumulates in the blood. This can lead to type 2 diabetes and difficulty in losing weight.

Insulin resistance occurs in 4 out of 5 women with PCOS!

Some women with PCOS may have both high androgens (male hormones) and insulin resistance or just one them.

What causes PCOS?

Real causes are still unknown however there appear to be a relation to family history, insulin resistance, lifestyle, and environment.

Women with immediate relative such as mother, aunt, or sister with PCOS are more likely to have PCOS as well.



Figure 1

How to diagnose PCOS?

To be diagnosed with PCOS, women need to have two out of three of the following:

1. Irregular or absent periods.
2. Acne, excess facial or body hair growth, scalp hair loss or high levels of androgens (testosterone and similar hormones) in the blood.
3. Polycystic ovaries (many small cysts on the ovaries) visible on an ultrasound.

Note that ultrasound alone is not reliable in the diagnosis of polycystic ovaries, especially in adolescents and young women, as up to 70% of young women may have polycystic ovaries on ultrasound. This means 1 and 2 must be present for young women to be diagnosed with PCOS.

It is important to know that young women and adolescents may take up to 2 years for their menstrual cycle to be regulated post menarche. If irregular cycles continued into the third-year post menarche then PCOS should be investigated.

Still 70% of women with PCOS remain undiagnosed.

Most women know they have PCOS mainly between their 20s and 30s when they are trying to get pregnant.

What are the symptoms?

You may not have all these symptoms, and each woman is different. If you believe you have any of these symptoms check with your doctor to do further investigation.

Most common symptoms are:

- Excess hair growing on your face, chest, stomach or back (hirsutism)
- Thinning hair or baldness (alopecia)
- Irregular periods or no periods at all



Figure 2

- Abnormal vaginal bleeding
- Difficulty falling pregnant or not falling pregnant at all (BUT NOT IMPOSSIBLE)
- Acne
- Easy weight gain
- Swollen belly
- Mental health problems such as depression and anxiety.

Can we prevent PCOS?

No, there is no clear prevention method to stop PCOS from occurring. However, treatment is particularly important. PCOS is a long-term condition and requires long term treatment and management to prevent worsening of symptoms and development of chronic diseases.

Can I still get pregnant with PCOS?

Yes, of course you can. It may be difficult but not impossible. That is why it is especially important to get diagnosed and start managing PCOS. If you have any of the symptoms above, please check with your GP to get diagnosed as early as possible and start the management process.

What is the nutrition approach to manage PCOS?

Lifestyle and eating habits can highly help in managing PCOS symptoms.

Weight management

Weight reduction if overweight or obese and prevention of weight gain if you have healthy weight. Losing weight by only 5% to 10% can highly improve symptoms such as restore of normal hormone growth, regular periods, and improved fertility etc.

In some cases, lean women can also have PCOS but still suffer from irregular menstrual cycle.

Tip: It may be harder to lose weight if you have PCOS, seek the advice of GP and dietitian to get the best approach.

Choose carbohydrates with low glycaemic index (GI)

What is GI?

It is a rating system for foods containing carbohydrates. It shows how quickly each food affects your blood sugar (glucose) level when that food is eaten on its own. Carbohydrates with a low GI value (55 or less) are more slowly digested, absorbed, and metabolised and cause a lower and slower rise in blood glucose and, therefore usually, insulin levels.

Therefore, choose food that are low in GI. Below are some examples of Low GI carbohydrates:

- Keeping foods 'whole' is a good guideline, e.g. wholegrain bread instead of whole meal or white,
- Traditional Rolled oats instead of instant oats,
- Natural Muesli,
- Whole meal pasta instead of white pasta,
- Uncle Bens Cajun style Rice instead of jasmine rice,
- Soba noodles,
- Quinoa,
- Burghul,
- Buckwheat,
- Sweet potato instead of the white potato.



Figure 3

Tip: Read Ingredients and make sure that the first ingredient is a whole grain or wheat and not something else such as sugar and similar alternatives. Stay away from refined carbohydrates such as white bread and sugary snacks and drinks.

Take it easy on carbohydrates!

Consider the portion of food/carbohydrate that you are eating even if low GI. A large portion of a low GI food can undesirably increase your blood glucose levels.

Always make sure to balance your meal between Low GI food, lean protein and healthy fats and include lots of non-starchy vegetables. The right Carbohydrate pairing will prevent the spike in sugar level in blood and reduces carbohydrate craving. This could be wholegrain bread with avocado and beans or even whole grain rice cake with cream cheese and salmon.

I stress on not skipping having proteins as part of your meals because protein help in slowing gastric emptying, leading to marked reduction in postprandial glycemia. Work with a dietitian to know your required number and distribution of macronutrients.

Make omega 3 part of your daily diet

Based on current evidence and an interesting meta-analysis in which data from randomized controlled trials were obtained to assess the effects of omega-3 fatty acid versus placebo or western medicine in women with PCOS it was concluded that omega-3 fatty acid may be recommended for the treatment of PCOS with insulin resistance as well as high Total cholesterol (especially LDL-C) and Triglycerides. Where to find omega 3 in your food?

- Fish and other seafood (especially cold-water fatty fish, such as salmon, mackerel, tuna, herring, and sardines).
- Nuts and seeds (such as flaxseed, chia seeds, and walnuts).
- Plant oils (such as flaxseed oil, extra virgin olive oil).
- Dark chocolate at least 75%.
- Fortified foods (such as certain brands of eggs, yogurt, juices, milk, soy beverages).



Figure 4

Tip: Have at least two times a week fatty fish such as salmon, add a teaspoon of extra virgin olive oil to your salad, add a teaspoon of chia seeds to your morning breakfast bowl, base your snacks on raw nuts.

Cinnamon is another trick!

Studies have shown that cinnamon can decrease insulin resistance. Most women with PCOS suffer from insulin resistance which makes it harder to lose weight. A study on women has shown those taking cinnamon supplements had a decrease in Insulin resistance. In addition to that cinnamon has helped restore and regulate menstrual cycle (more regular periods). along with a significant decrease in serum level of testosterone the male hormone. High levels of testosterone lead to irregular periods.

Cinnamon also being a great antioxidant and anti-inflammatory has shown to decrease the LDL the bad cholesterol and increase HDL the good cholesterol. Many women with PCOS suffer from dyslipidaemia thus cinnamon can help to regulate cholesterol levels.

Tip: Add around teaspoon (or ½ teaspoon) of cinnamon to your morning porridge, add it to your hot tea drink.



Figure 5

Flaxseed and PCOS

Flaxseed is a rich source of lignan and has been shown to reduce androgen levels in men with prostate cancer and because women with PCOS have high androgen levels (Testosterone levels) a study has proven that supplementation with flaxseed has also helped in regulating PCOS symptoms.

This randomised Control trial has shown promising results in decreasing PCOS symptoms in a group of women who were supplemented with flaxseeds compared with those who were not. This was a 30g (4 Tablespoons) of ground flaxseed per day for a period of 12 weeks.

Results have shown a significant reduction in insulin resistance, leptin, body weight, androgen levels, hirsutism, reduction in total cholesterol level and enhancing regular menstrual cycle.

Tip: Make sure the flaxseed is ground to be effective and add one tablespoon of flaxseed to your salad.



Figure 6

Bulk your diet with anti-inflammatory food

A study published in North American Journal of Medical Sciences was conducted on a total of 100 nonpregnant, overweight, and obese adult females with PCOS. They followed an anti-inflammatory Mediterranean diet for a period of 12 weeks. At baseline and study end, fasting blood samples were drawn to measure biological markers, body fat percent (BFP), and visceral fat area (VFA) were assessed by the InBody720 device and anthropometric measurements were done for all participants who were subjected to an anti-inflammatory hypocaloric diet and physical activity for 12 weeks.

Results showed at least:

- 7% weight loss.
- Significant improvements in body composition, hormones and menstrual cyclicity, blood pressure, glucose homeostasis, dyslipidaemia.
- This was a clinically relevant weight loss that is associated with a reduced prevalence of type 2 diabetes mellitus (DM2) and metabolic syndrome (MS) in the general population.
- Improved fertility outcomes in PCOS.
- We achieved 63% regain of menstrual cyclicity and
- 12% spontaneous pregnancy rate within 12 week.

Tip: Increase the intake of omega-3 food, reduce meat intake to once a week, use herbs and spices, Turmeric is an excellent anti-inflammatory spice, corporate green tea in your hot drinks choices. It is a great antioxidant.

Exercise and PCOS

Exercise helps improving insulin sensitivity and having PCOS highly linked to insulin resistance thus exercise will be of great help.

Lean women with PCOS should not fear exercising on the contrary focus on resistance exercise this will help to increase your muscle mass thus reduces insulin resistance.

A study comparing women with PCOS who walked 7500 steps a day versus inactive women showed that active women had showed a decrease in androgen levels, decreased waist circumference and lower BMI.

Tip: Aim for 150 to 300 minutes (2 ½ to 5 hours) of moderate intensity physical activity or 75 to 150 minutes (1 ¼ to 2 ½ hours) of vigorous intensity physical activity, or an equivalent combination of both moderate and vigorous activities, each week.

Anxiety, stress and PCOS

A fact is that women with PCOS have been shown to have more anxiety and this increases inflammation. Managing anxiety is important. This could be achieved by getting enough and good quality sleep. Go outside and enjoy some sunshine and vitamin D when possible. Meditation, yoga and exercise are of great help as well.

Should i go dairy free or gluten free?

To keep it short there is no single evidence or study that shows going Gluten free or dairy free manages PCOS symptoms. However, there may be an evidence that going dairy free can reduce acne [1-9].

Conclusion

In conclusion PCOS management is a long-term journey that requires a lifestyle intervention. A complete PCOS management team is important this may include a dietitian, GP, endocrinologist and gynaecologist.

My advice to you do not gather random information from friends and the internet and feel helpless, Seek Professional advice. In this article I have tackled major controls and approaches that can help in reducing PCOS symptoms. However, this is not all!

If you have not chosen your dietitian yet, I am keen with PCOS management and ready to join your management team.

Each woman is different and requires her unique approach.

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Volume 15 Issue 11 November 2020

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