

# Hormonal imbalance due to polycystic ovarian syndrome

S. Bavana Sri<sup>1</sup>, R. Sarah Sathiyawathie<sup>1\*</sup>, Deepa Gurunathan<sup>2</sup>

## ABSTRACT

The polycystic ovary syndrome is a hormonal disorder caused by an imbalance in the pituitary-hypothalamic-ovarian system that is defined by a symptom of irregular menstrual cycle, testosterone excess, weight gain, acne, hair thinning on the head, increased facial, arm and leg hair, insulin resistance, and sugar cravings.

**KEY WORDS:** Androgens, Anovulation, Insulin resistance, Natural medication

## INTRODUCTION

Polycystic ovary syndrome (PCOS) is first and foremost an endocrine disorder. The endocrine system produces hormones that regulate various bodily processes. There are a number of different PCOS hormones involved. Especially, common in PCOS are elevated level of male sex hormones the most effective PCOS management approach addresses the underlying cause of hormonal imbalance which is something called insulin resistance. PCOS affects many different hormonal in many different ways. PCOS is hard to diagnose and it is often misdiagnosed or treated incorrectly. When not treated properly, it can lead to more serious health conditions including obesity and diabetes.<sup>[1]</sup>

## INSULIN RESISTANCE

Insulin is the ultimate cause for this problem with hormone, although this relationship is not fully understood. Actually it is not insulin itself that is the problem, but rather insulin resistance and underlying conditions that can lie at the heart of PCOS insulin resistance are basically means your body can no longer breakdown and absorb glucose as well as

it once did. This, in turn, can lead to the hormonal imbalance that is PCOS. The ovaries are particularly sensitive to insulin and when insulin is thrown off balance, the ovaries try to compensate by producing too many of certain hormones sometimes that can throw the entire hormonal system of balance. When untreated, can result in wide number of health problems including not just only PCOS but also things such as diabetes, obesity, and metabolic syndrome (syndrome x).<sup>[2]</sup>

## MENSTRUAL IRREGULARITIES

Menstrual complaints are high on the overall list of PCOS symptoms for women while there is normal variation in menstruation among women, some irregularities are true anomalies and may be a sign of PCOA or another health condition. Anovulation disrupts the remainder of the menstrual cycle, and the various menstrual symptoms reported by women with PCOS have an imbalance between their male and female sex hormones levels.<sup>[3]</sup> High levels of androgens disrupt normal ovulation by preventing the release of the egg by the ovary. Instead of releasing the egg, the ovary forms a small cyst. Additional cysts grow as other eggs develop but are not released. Multiple cysts cause the ovaries to enlarge, creating the polycystic ovaries that give this disorder its name. The remainder of the menstrual cycle cannot proceed normally. Different menstrual symptoms, from absent to irregular to extremely painful periods, frequently result.<sup>[4]</sup>

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<sup>1</sup>Department of Research, Saveetha Dental College and Hospital, Saveetha Institute of Medical and Technical Sciences, Chennai, Tamil Nadu, India, <sup>2</sup>Department of Pedodontics, Saveetha Dental College and Hospital, Saveetha Institute of Medical and Technical Sciences, Chennai, Tamil Nadu, India

**Corresponding author:** R. Sarah Sathiyawathie, Department of Research, Saveetha Dental College and Hospital, Saveetha Institute of Medical and Technical Sciences, 162, Poonamallee High Road, Chennai - 600077, Tamil Nadu, India. Tel.: +91-9884156513. E-mail: [dr.sarahrobin@gmail.com](mailto:dr.sarahrobin@gmail.com)

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## OTHER SYMPTOMS

### Infertility

PCOS is one of the leading causes of female infertility and is the reason why many women discover that they have the condition. This symptom can be ruinous to your self-confidence, as many women's identities are closely linked to bearing children. In addition, it can cause problems in marriage and relationships.

### Ovarian Cyst

PCOS is named after the "string of pearls" appearance of cyst that is often found in the ovaries, but again this symptom does not have to present to achieve a positive diagnosis.<sup>[5]</sup>

### Abnormal Hair Pattern

From loss of hair to excessive growth of hair, women who have PCOS can experience a variety of visible and difficult to treat hair conditions. Women who have hair loss often showcase male pattern baldness, brought on by excess hair growth, and experience extra hair on their chest, face, back, and other abnormal areas.<sup>[6]</sup>

### Obesity or Weight Gain

Common to many women with PCOS, weight gain and obesity are symptoms, serious that have serious consequences for your health because excess weight tends to exacerbate other symptoms and health problems such as high cholesterol, diabetes, and heart diseases.

## SKIN CONDITIONS

Acne is common among women who have PCOS as is an acanthosis nigricans. It develops as a thick velvety patch over the surface of skin. Skin tags also often occur.

### Sleep Disturbance

Insomnia and sleep apnea are common in women who have PCOS.

### Depression

PCOS greatly increases the odds of women developing depression. Various hormones along with coping difficult medical conditions are the culprits. Depression can be an especially troubling symptom of PCOS as it depletes your energy to seek help and make changes.<sup>[7]</sup>

### Prevention

PCOS has no guaranteed prevention measures. However, early detection and treatment can help in preventing long-term complications such as obesity,

diabetes, infertility, cardiovascular diseases, and metabolic syndrome. Keeping a healthy body weight will also significantly lower your chances of PCOS or manage its symptoms if you already have it.<sup>[8]</sup> Studies have linked smoking to higher androgen level, so it is a good idea to consider quitting as this will not only help lessen the symptoms but also improve your overall health.<sup>[9]</sup>

## CONCLUSION

PCOS is a hormonal imbalance affecting women that are primarily characterized by excess androgen or male hormones. It can cause several symptoms including missing or irregular periods, infertility, obesity, excessive hair growth, and acne. It left unmanaged PCOS may lead to complication such as diabetes, cardiac disease, as well as obesity and elevated blood pressure. If you are overweight, your doctor may recommend a weight loss program to help you manage its symptoms. Weight loss for women with PCOS can also help normalize menstrual cycles and increase the possibility of pregnancy. There are a number of natural medications and treatments specifically for managing the symptoms of PCOS that has also proven effective.

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