

## Signs and symptoms of polycystic ovarian syndrome

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### ABSTRACT

Polycystic ovarian syndrome (PCOS) is also known as polycystic ovarian disease. It is the most common female endocrine disorder prevalent. The prime factor of this disease is that the hormone levels are unbalanced. Women with PCOS typically have high levels of androgens, also known as male hormones. They also have higher levels of insulin production that can result in excess weight gain. It also has an uncertain etiology, and it is a serious threat that woman having PCOS will have an irregular menstrual cycle and they have difficulties in even getting pregnant. Some studies have also shown women with PCOS to be at higher risk for suicide due to lower self-esteem as well as prone to endometrial, ovarian, and breast cancer. PCOS affects the quality of life and can worsen anxiety and depression either due to the features of PCOS or due to the diagnosis of a chronic illness. Moreover, its prevention is impossible; however, we can reduce the risk of this disease by having an active lifestyle and by consuming a proper and nutritious diet.

**KEY WORDS:** Causes, Management, Ovary, Polycystic, Symptoms, Syndrome

### INTRODUCTION

Polycystic ovarian syndrome (PCOS) is a condition wherein the hormone levels of female get imbalanced. The word “polycystic” means “many cysts.” It mostly affects women of childbearing age that is from 15 to 44.<sup>[1]</sup> PCOS has adverse impacts on female endocrine, reproduction, and metabolism. PCOS can impact women’s reproductive health, leading to anovulatory infertility and a higher rate of early pregnancy loss. PCOS has additional metabolic derangements, such as insulin resistance, impaired glucose tolerance, and dyslipidemia. The risks for diabetes, cardiovascular disease, hypertension, metabolic syndrome, and endometrial cancer among PCOS patients are significantly increased in past years.<sup>[2]</sup>

### PREVALENCE OF PCOS

Other names for PCOS includes polycystic ovary disease, functional ovarian hyperandrogenism, ovarian hyperthecosis, sclerocystic ovary syndrome,

and Stein-Leventhal syndrome. PCOS is a common endocrine disorder in female patients with prevalence ranging from 2.2% to 26%. Most reports have studied that adult women with age ranged from 18 to 45 years in India.<sup>[3]</sup>

### SIGNS AND SYMPTOMS OF PCOS

#### Menstrual Disorders

PCOS mostly produces oligomenorrhea which means fewer than nine menstrual periods in a year or with amenorrhea where there are no menstrual periods for 3 or more consecutive months. With this other types of menstrual disorders may also occur. The majority of women with PCOS has ovarian dysfunction, with studies stating that 70–80% of women diagnosed with PCOS present with oligomenorrhea or amenorrhea.<sup>[4]</sup>

#### Infertility

Nearly 60% of women with PCOS are fertile (defined as the ability to conceive within 12 months), although time to conceive is often increased. In patients diagnosed with PCOS and infertility, 90% are found to be overweight. Hence, obesity independently exacerbates infertility and reduces the efficacy of

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Website: [jprsolutions.info](http://jprsolutions.info)

ISSN: 0975-7619

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Received on: 12-09-2018; Revised on: 22-11-2018; Accepted on: 17-01-2019

infertility treatment and induces a greater risk of miscarriage.<sup>[5,6]</sup>

### Hyperandrogenism

The clinical and biochemical signs of androgen excess in PCOS result from increased synthesis and release of ovarian androgens. Elevated luteinizing hormone and insulin synergistically increase androgen production. Insulin resistance leads to hyperinsulinemia, reduces sex hormone binding globulin, and raises free circulating testosterone, and together, hyperandrogenism and hyperinsulinemia impairs ovarian follicle development. Clinical hyperandrogenism primarily includes hirsutism, acne, and male pattern alopecia.<sup>[7,8]</sup>

### Insulin Resistance

Insulin resistance occurs in around 50–80% of women with PCOS which is primarily more severe and in those who are overweight. Light weighing women diagnosed with PCOS appear to have less severe insulin resistance. Mechanisms involved in insulin resistance are likely to be complex with genetic and environmental contributors. Specific abnormalities of insulin metabolism identified in PCOS include reductions in secretion, reduced hepatic extraction, impaired suppression of hepatic gluconeogenesis, and abnormalities in insulin receptor signaling.<sup>[9,10]</sup>

### Psychological Symptoms of PCOS

Most of the studies have focused on the biological and physiological aspects of the PCOS. The challenges to feminine identity and body image which are due to obesity, acne, and excess hair in cases of hirsutism, as well infertility and long-term health-related concerns, compromise the quality of life and have an adverse impact on the mood and psychological well-being of the patient. Women who have diagnosed with PCOS are more prone to depression, anxiety, low self-esteem, negative body image, and psychosexual dysfunction.<sup>[11,12]</sup>

### Cardiovascular Risk in PCOS

Insulin resistance, metabolic syndrome, IGT and Diabetes Mellitus Type 2 is common among women with PCOS. PCOS has increased the possible cardiovascular risk factors such as inflammation, oxidative stress, and impaired fibrinolysis. There is an increased early clinical and subclinical markers of atherosclerosis seen in PCOS such as endothelial dysfunction, impaired pulse wave velocity, increased carotid intima-media wall thickness, the presence of carotid plaque, and increased coronary artery calcification which are further exacerbated by obesity.<sup>[13]</sup>

### Dyslipidemia

Dyslipidemia is common in cases of PCOS with higher triglycerides and lower high-density lipoprotein cholesterol. Etiology of dyslipidemia in PCOS is multifactorial. The dyslipidemia occurs independently of body mass index; however, there is a synergistic deleterious effect of obesity and insulin resistance in PCOS analogous to that seen in Diabetes Mellitus type 2. Insulin resistance appears to have a pivotal role mediated in part by stimulation of lipolysis and altered expression of lipoprotein lipase and hepatic lipase.<sup>[14]</sup>

### CONCLUSION

Therefore, PCOS is a disorder which is a threat to a woman of the modern world. The sedentary lifestyle and modified food habits are the most common reason. Hence, it is advised to have an active lifestyle and to consume proper and nutritious food which contains vitamins, minerals, and proteins. The occurrence of regular periods is for the wellness of the woman, and no pill is necessary for that, or else it can be regulated by contraceptive pills. The acne and facial hair can be treated by consuming mineral rich food and obesity can be controlled by enhancing an active lifestyle. “A healthy life is a wealthy life.” Therefore, it is our prime duty to take of our general body health.

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Source of support: Nil; Conflict of interest: None Declared