

A Review on Awareness and Prevalance of PCOS Among Young Women

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ABSTRACT:

Polycystic Ovary Syndrome (PCOS) is one of the most common endocrine disorders affecting women of reproductive age. It is characterized by hormonal imbalance, irregular menstrual cycles, weight gain, acne, and infertility issues. The exact cause of PCOS is not fully understood, but factors such as insulin resistance, genetic predisposition, and unhealthy lifestyle habits play a major role [5,13,14].

This study aims to evaluate the impact of lifestyle and dietary habits on the prevalence and severity of PCOS among young women. A survey-based method was used to collect data from participants through questionnaires, including information on eating patterns, physical activity, stress levels, and menstrual health.

In conclusion, lifestyle modification plays a crucial role in the prevention and management of PCOS. Increasing awareness about healthy habits can significantly reduce the risk and complications associated with PCOS among young women.

KEYWORDS:

Polycystic Ovary Syndrome (PCOS,)Hormonal imbalance, insulin resistance, infertility, acne, obesity and anovulation

I. INTRODUCTION:

Polycystic Ovary Syndrome (PCOS) is a common hormonal disorder that affects women of reproductive age. It is characterized by an imbalance in reproductive hormones, which leads to problems in the ovaries. Women with PCOS may experience irregular menstrual cycles, excess androgen (male hormone) levels, and the formation of small cysts in the ovaries.

The exact cause of PCOS is still not clearly understood, but several factors such as genetic predisposition, insulin resistance, and lifestyle habits are known to contribute to its development. Among these, insulin resistance plays a key role, as it increases insulin levels in the body, which in turn

stimulates excess production of androgens. This hormonal imbalance affects normal ovulation and leads to symptoms like acne, weight gain, and infertility.

In recent years, the prevalence of PCOS has increased significantly due to changes in lifestyle, including unhealthy dietary patterns, lack of physical activity, and increased stress levels. Young women, especially college students, are more prone to developing PCOS due to sedentary habits and irregular routines.

PCOS not only affects physical health but also has a significant impact on psychological well-being. Many women experience stress, anxiety, and low self-esteem due to symptoms associated with the condition.

Lifestyle modification, including a balanced diet, regular exercise, and stress management, is considered one of the most effective approaches for managing PCOS [2,6,7,17]. Increasing awareness about the condition can help in early detection and prevention of complications.

furthermore, PCOS has a considerable impact on psychological health. Many individuals with PCOS experience emotional disturbances such as anxiety, depression, and low self-confidence due to physical symptoms and hormonal changes. This highlights the importance of a holistic approach to management, addressing both physical and mental health aspects.

Early diagnosis and proper management are crucial to prevent long-term complications associated with PCOS. Although there is no permanent cure, the condition can be effectively managed through lifestyle modifications, including a balanced diet, regular exercise, weight management, and stress reduction techniques. Medical treatment may also be required in some cases.

Therefore, increasing awareness about PCOS and promoting healthy lifestyle practices are essential steps in reducing its prevalence and

improving the quality of life among affected individuals. This study focuses on understanding the relationship between lifestyle and dietary habits and the occurrence of PCOS among young women.

PCOS is a heterogeneous condition, meaning its symptoms and severity can vary widely among individuals. Some women may experience mild symptoms such as irregular menstrual cycles, while others may present with more severe manifestations including infertility, obesity, excessive hair growth, and acne. The presence of multiple small cyst-like follicles in the ovaries, detected through ultrasound, is a common feature but not mandatory for diagnosis.

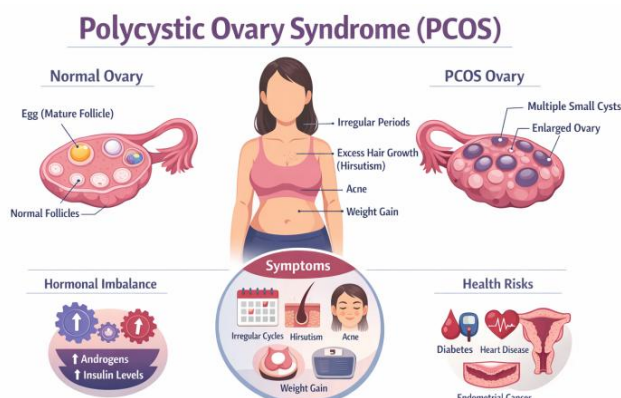
The exact cause of PCOS remains unclear, but it is believed to involve a combination of genetic, environmental, and lifestyle factors. Insulin resistance plays a crucial role in the development of the condition by increasing insulin levels, which in

turn stimulate excess androgen production from the ovaries. This hormonal imbalance disrupts the normal menstrual cycle and contributes to various clinical symptoms.

In addition to reproductive issues, PCOS is also linked with long-term health risks such as type 2 diabetes, cardiovascular diseases, and psychological disorders. Due to its complex nature and wide range of symptoms, early diagnosis and appropriate management are essential to prevent complications and improve quality of life.

DEFINATION:

Polycystic Ovary Syndrome (PCOS) is a common hormonal disorder in women of reproductive age, characterized by an imbalance of reproductive hormones, leading to irregular ovulation, increased levels of androgens (male hormones), and the presence of multiple small follicles in the ovaries.



ETIOLOGY OF PCOS:

The exact cause of **Polycystic Ovary Syndrome (PCOS)** is not completely understood. It is considered a **multifactorial disorder**, meaning it develops due to a combination of hormonal, genetic, metabolic, and environmental factors.

1. Hormonal Imbalance

One of the main causes of PCOS is an imbalance in reproductive hormones.

- The ovaries produce **excess androgens (male hormones)**
- This disrupts normal follicle development

2. Insulin Resistance

Insulin resistance plays a major role in the development of PCOS [5,20].

- Body cells do not respond effectively to insulin
- This leads to increased insulin levels in the blood

3. Genetic Factors

PCOS often runs in families, suggesting a genetic link [4,14].

- Women with a family history of PCOS are at higher risk
- Multiple genes may be involved in hormone regulation and insulin function

4. Ovarian Dysfunction

The ovaries do not function normally in PCOS.

- Follicles fail to mature properly
- Eggs are not released regularly

5. Chronic Low-Grade Inflammation

Many women with PCOS show signs of mild inflammation [12].

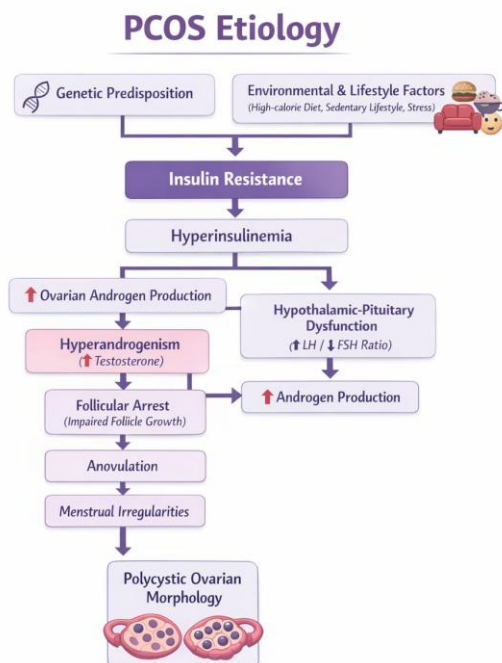
- Inflammation may stimulate androgen production
- It can worsen insulin resistance

6. Lifestyle and Environmental Factors

Certain lifestyle factors can increase the severity of PCOS:

- Sedentary lifestyle
- Unhealthy diet (high sugar and processed foods)

These factors do not directly cause PCOS but can worsen symptoms.



Types of PCOS:

PCOS is not the same in every individual. Based on symptoms and hormonal patterns, it can be classified into different types:

1. Insulin-Resistant PCOS

This is the most common type of PCOS.

- Caused by the body not responding properly to insulin
- Leads to high insulin levels, which increase androgen (male hormone) production

Symptoms:

- Irregular periods
- Weight gain (especially around abdomen)

2. Inflammatory PCOS

This type is associated with chronic low-grade inflammation in the body.

- Inflammation stimulates ovaries to produce excess androgens
- Often linked with poor diet, stress, or infections

Symptoms:

- Fatigue
- Skin issues (acne, redness)

3. Adrenal PCOS

This type is caused by excess androgen production from adrenal glands instead of ovaries.

- Triggered by stress or high cortisol levels
- Common in individuals with normal weight

Symptoms:

- High stress levels
- Sleep disturbances

4. Post-Pill PCOS

This occurs after stopping oral contraceptive pills.

- Birth control pills suppress ovulation; after stopping, hormone imbalance may appear
- Usually temporary

Symptoms:

- Delayed return of periods, Acne, hair fall

5. Non-Insulin Resistant (Lean) PCOS

Occurs in individuals with normal or low body weight.

- Not related to insulin resistance
- Often genetic or due to hormonal imbalance

Symptoms:

- Irregular periods
- Difficulty in ovulation

Causes of PCOS:

PCOS is a complex condition, and it does not have a single cause. It usually develops due to a combination of hormonal, genetic, and lifestyle factors.

1. Hormonal Imbalance

- The main cause of PCOS is disturbance in hormone levels
- Increased production of **androgens (male hormones)** interferes with normal ovulation

2. Insulin Resistance

- The body becomes less responsive to insulin
- This leads to higher insulin levels in the blood

3. Genetic Factors

- PCOS often runs in families
- If mother or sister has PCOS, the risk is higher

4. Chronic Inflammation

- Low-grade inflammation in the body is commonly seen
- It increases androgen production

5. Lifestyle Factors

- Sedentary lifestyle (lack of physical activity)
- Unhealthy eating habits (high sugar and processed foods)

6. Excess Androgen Production

- Ovaries produce higher-than-normal levels of male hormones
- This affects egg development and release

7. Stress and hormonal disturbance

- Chronic stress increases cortisol (stress hormone)
- This can disrupt reproductive hormones

Treatment of PCOS:

PCOS cannot be completely cured, but it can be effectively managed through lifestyle changes, medications, and supportive therapies. Treatment mainly depends on symptoms and individual health conditions.

1. Lifestyle Modifications

This is the first and most important step in managing PCOS.

- **Balanced diet:** Eating fibre-rich foods, fruits, vegetables, and reducing sugar intake

- Regular exercise: Helps in weight control and improves insulin sensitivity [17]

2. Medications

Doctors may prescribe medicines based on symptoms:

- **Hormonal contraceptives:** Help regulate menstrual cycles and reduce androgen levels
- **Insulin-sensitizing drugs:** Improve insulin resistance

3. Dietary Management

- Low glycaemic index (GI) foods help control blood sugar levels
- Avoid processed foods and sugary drinks

4. Exercise and Physical Activity

- Regular physical activity improves metabolism
- Helps reduce insulin resistance

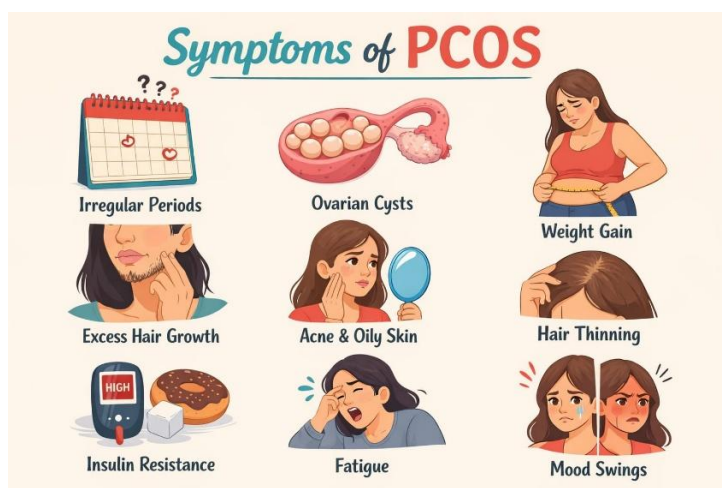
5. Fertility Treatment (if needed)

- Ovulation induction therapy
- Assisted reproductive techniques in severe cases

6. Psychological Support

- Counselling or support groups may help manage stress and emotional issues
- Important because PCOS can affect mental well-being

SYMPTOMS OF PCOS:



DRUGS USED IN PCOS:

Hormonal Contraceptives in PCOS:

Hormonal contraceptives are commonly prescribed to manage irregular periods and reduce excess

androgen effects in PCOS [2,15]. They mainly contain a combination of oestrogen and progestin.

1. Combined Oral Contraceptive Pills (COCs)

These are the most frequently used drugs in PCOS.

Examples:

- Ethinyl oestradiol+ Levonorgestrel
- Ethinyl oestradiol + progestin
- Ethinyl Oestradiol+progestin

Mechanism:

- Suppress ovulation
- Reduce androgen production
- Regulate menstrual cycle

Benefits:

- Regular periods
- Reduced acne
- Decreased excess hair growth

Anti-Androgen Drugs in PCOS:

Anti-androgen drugs are used to reduce the effects of excess male hormones (androgens) in PCOS. These drugs mainly help in improving symptoms like acne, unwanted hair growth, and scalp hair thinning.

1. Androgen Receptor Blockers

Example:

- Spironolactone

Mechanism:

- Blocks androgen receptors in target tissues
- Prevents the action of male hormones

Benefits in PCOS:

- Reduces facial and body hair growth
- Improves acne

Ovulation Induction Drugs in PCOS:

Ovulation induction drugs are used in individuals with PCOS who have difficulty conceiving due to irregular or absent ovulation. These drugs help stimulate the ovaries to release a mature egg.

1. Selective Oestrogen Receptor Modulators (SERMs)

Example:

- Clomiphene citrate

Mechanism:

- Blocks oestrogen receptors in the brain
- Increases release of hormones (FSH and LH)
- Stimulates follicle development and ovulation

Benefits in PCOS:

- First-line drug for ovulation induction
- Helps restore regular ovulation
- Improves chances of pregnancy

II. CONCLUSION:

The findings of this survey-based study highlight the increasing prevalence of Polycystic Ovary Syndrome (PCOS) among young women and emphasize the important role of lifestyle and dietary habits in its development and progression. Factors such as unhealthy eating patterns, physical

inactivity, obesity, and stress were found to be associated with a higher risk of PCOS. The condition not only affects reproductive health but also has significant metabolic and psychological consequences.

The study indicates that increasing awareness about PCOS can promote early diagnosis and timely management, thereby reducing long-term complications. Lifestyle modifications, including a balanced diet, regular physical activity, weight management, and stress reduction, remain the cornerstone of PCOS prevention and treatment. Overall, the findings support the need for health education programs and awareness campaigns among young women to improve knowledge about PCOS and encourage healthier lifestyle practices for better quality of life.

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