

A Study of Polycystic Ovarian Disease with Curative Role of Therapeutic Herbs with Future Prospects

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ABSTRACT

Polycystic Ovarian Disease (PCOD) is a common health problem that affects many women during their reproductive age. In this condition, there is a hormone imbalance in the body. As a result periods may become irregular, small cysts can form in the ovaries, and the body may produce more male hormones than normal. Modern treatment of PCOD usually includes hormone medicines and healthy lifestyle changes like proper diet and regular exercise. But using strong medicines for a long time can sometimes cause side effects. Because of this, many people are now interested in herbal and natural treatments as safer or supportive options for managing PCOD. These herbs may also help in reducing blood sugar levels, controlling weight, and restoring regular menstrual cycles.

Keywords- Polycystic ovarian disease / herbs.

I. INTRODUCTION

Polycystic Ovarian Disease (PCOD) is a common hormonal disorder affecting women of reproductive age, especially between 18–45 years. It is characterized by enlarged ovaries containing multiple small cysts due to hormonal imbalance. PCOD mainly occurs because of excess production of androgens (male hormones) in females, which interferes with the normal release of eggs from the ovaries (ovulation). Polycystic Ovarian Disease (PCOD) is mainly caused by hormonal imbalance and insulin resistance. High insulin levels increase male hormones (androgens), which disturb ovulation and cause cyst formation. Genetic factors, obesity, and inflammation also contribute to its development (Diamanti-Kandarakis & Dunaif, 2012; Teede et al., 2018).

Polycystic Ovarian Disease (PCOD) commonly causes irregular or missed periods due to improper ovulation. Women may develop acne, excessive facial or body hair and thinning scalp hair because of high androgen levels. Weight gain, especially around the abdomen, is also common. Many women face difficulty

in conceiving. Ultrasound may show enlarged ovaries with multiple small cysts (Azzizet al., 2004; Rotterdam ESHRE/ASRM, 2004).

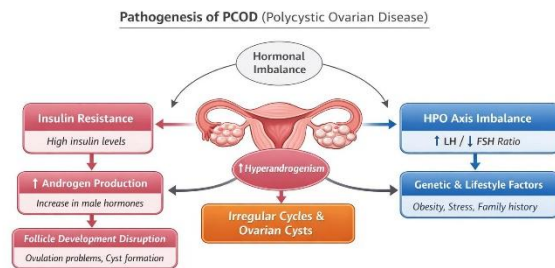
To better understand this condition, a survey was done on 30 women between 18–35 years of age. The survey asked about their symptoms, daily lifestyle habits, and how much they know about PCOD. The results help us understand how common PCOD is in young women and show why early diagnosis and healthy lifestyle changes are important. In recent years, herbal medicine has gained attention as a supportive and potentially curative approach in managing PCOD. Certain medicinal plants are believed to help regulate hormones, improve ovulation, reduce insulin resistance, and lower inflammation. Herbal therapy may also assist in reducing symptoms such as acne, hirsutism, and weight gain. Therefore, studying the curative effects of herbs on PCOD is important for developing safe and natural treatment strategies (Teede et al., 2018)

Tulsi (*Ocimum sanctum*), **Spearmint** (*Mentha spicata*), **Alovera** (*Aloe barbadensis*), **Turmeric** (*Curcuma longa*), **Ajwain** (*Trachyspermum ammi*). In Polycystic Ovarian Disease (PCOD), several medical

herbs show supportive therapeutic potential. *Ocimumsanctum*(Tulsi) helps reduce stress and improve metabolic balance (Jamshidi & Cohen, 2017). *Mentha* (Spearmint) may lower androgen levels and reduce hirsutism (Grant, 2010). *Aloe vera* (Alovera) supports insulin sensitivity and ovarian function (Maharjan et al., 2010). *Curcuma longa* (Turmeric) and improve insulin resistance and reduce inflammation (Heshmati et al., 2021; Daily et al., 2015). *Phyllanthus emblica* acts as an antioxidant and helps regulate blood glucose (Akhtar et al., 2011). These herbs may aid in natural management of PCOD symptoms.

Pathogenesis of Polycystic Ovarian Disease (PCOD)

The pathogenesis of PCOD involves hormonal and metabolic disturbances. One of the key mechanisms is insulin resistance, where the body's cells do not respond properly to insulin. This leads to increased insulin levels, which stimulate the ovaries to produce excess androgens (male hormones). High androgen levels interfere with normal follicle development and prevent proper ovulation, resulting in irregular menstrual cycles and multiple small ovarian cysts.



• Diamanti-Kandarakis & Dunaif, 2012
• Rotterdam ESHRE/ASRM, 2004

Fig 1: (PATHOGENESIS OF PCOD)

Additionally, disruption of the hypothalamic–pituitary–ovarian (HPO) axis causes an increased luteinizing hormone (LH) to follicle-stimulating hormone (FSH) ratio, further promoting androgen production. Genetic predisposition and lifestyle factors such as obesity also contribute to disease progression (Diamanti-Kandarakis & Dunaif, 2012; Rotterdam ESHRE/ASRM, 2004).

1. RECORD OF PCOD (SAMPLE DATA)

During the survey of Polycystic Ovary Syndrome (PCOD), information was collected from women of different ages to understand common problems and causes. They answered questions about their periods, food habits, exercise, stress, and use of herbs. Many women said they had irregular periods, acne, weight gain, and hormone problems. The survey also showed that unhealthy food and lack of exercise can make PCOD worse.

Title: A study to understand PCOD in women between 18 and 35 years of age.

SAMPLE SIZE: 30 WOMEN

AGE GROUP: 18- 35 years

II. STUDY AREA: POPAI (GARHMUKTESHWAR)

1. Age distribution:

Category	Number of women	Percentage
Age 18- 25	12	40%
Age 26- 30	11	36.6%
Age 30-35	7	23.3%

2. Marital status

Category	Number of women	Percentage
Married	20	66.6%
Unmarried	10	33.3%

3. Menstrual patterns:

Menstrual cycle	Number of women	Percentage
Regular period	3	10%
Irregular period	18	60%
Heavy period	9	30%

4. Common symptoms Reported:

Symptoms	Number of women	Percentage
Weight gain	20	66.6%
Acne	18	60%
Excess hair growth	19	63.3%
Hair fall	15	50%
Mood swings	16	53.3%

5. Lifestyle habits:

Lifestyle factors	Number of women	Percentage
Sedentary (no exercise)	20	66.6%
Regular exercise	10	33.3%
Frequent junk food intake	16	53.3%
Mixed diet(Home+ outside)	9	30%
Healthy balanced diet	5	16%

6. Stress level and sleep duration:

High	17	56.6%
Moderate	10	26.6%
Low	5	16.6%
< 6 hours	16	53.3%
6-8 hours	10	33.3%
>8 hours	4	13.3%

III. RESULT OF SURVEY

The present survey study was done on 30 women between 18 and 35 years of age. The survey on Polycystic Ovary Syndrome (PCOD) showed that many women had problems like irregular periods, acne, weight gain, and hormone imbalance. It also found that eating unhealthy food, not doing enough exercise, and having high stress can make PCOD worse. Many women did not have full knowledge about how to manage PCOD.

Polycystic Ovary Syndrome (PCOD) can be helped with some natural herbs that support hormone balance and improve metabolism. Herbs like tulsi and spearmint may help reduce excess male hormones and support hormonal balance. Turmeric helps reduce inflammation and may improve insulin resistance. Aloe vera may help regulate metabolism and support menstrual cycles. Ajwain improves digestion and may help with weight management.

Curative Role of Selected Herbs in Polycystic Ovarian Disease (PCOD)

1. TULSI (*Ocimum sanctum*)

Family: Lamiaceae

Tulsi (*Ocimum sanctum*), also called Holy Basil, is a well-known medicinal plant in Ayurveda that may help in managing PCOD symptoms naturally. Tulsi has antioxidant and anti-stress properties. Tulsi may help regulate blood glucose levels and improve insulin sensitivity, which are important in reducing hyperinsulinemia-related androgen excess. Its stress-reducing effects may also support hormonal balance by influencing cortisol levels. Additionally, Tulsi's anti-inflammatory action may contribute to improved ovarian function and menstrual regularity. Due to these metabolic and endocrine benefits, Tulsi is considered a supportive herbal option in the management of PCOD symptoms (Jamshidi & Cohen, 2017).



Fig: 2 (TULSI)

2. SPEARMINT (*Mentha spicata*)

Family: Labiatae

Spearmint (*Menthaspicata*) has shown potential benefits in managing PCOD due to its anti-androgenic properties. Studies suggest that spearmint tea may reduce free testosterone levels, which helps decrease

symptoms such as hirsutism (excess facial hair) and acne. By lowering androgen levels, spearmint may also support improved hormonal balance and menstrual regularity. Some evidence indicates that regular consumption can positively influence the endocrine profile in women with PCOD. Therefore, spearmint is considered a supportive herbal therapy for reducing hyperandrogenism and improving quality of life in affected women (Grant, 2010).



Fig: 3 (SPEARMINT)

3. ALOVERA (*Aloe barbadensis*)

Family: Liliaceae

Aloe vera is known for its anti-inflammatory and antidiabetic properties, which may be beneficial in managing PCOD. Research suggests that Aloe vera may improve insulin sensitivity and help regulate blood glucose levels, thereby reducing hyperinsulinemia associated with PCOD. Improved insulin function may indirectly lower excess androgen production and support normal ovarian activity. Some experimental studies also indicate that Aloe vera may help restore ovarian steroid balance and improve follicular development. Due to its metabolic and hormonal effects, Aloe vera is considered a supportive natural therapy in the management of PCOD symptoms (Maharjan et al., 2010).



Fig :4 (ALOEVERA)

4. TURMERIC (*Curcuma longa*)

Family: Zingiberaceae

Turmeric (*Curcuma longa*) contains an active compound called curcumin, which has strong anti-inflammatory and antioxidant properties. In PCOD, chronic inflammation and insulin resistance play important roles in disease progression. Studies suggest that curcumin supplementation may improve insulin

sensitivity, regulate blood glucose levels, and reduce androgen levels in women with PCOD. It may also help improve lipid profile and support hormonal balance. By reducing inflammation and metabolic disturbances, turmeric may contribute to better menstrual regularity and overall reproductive health. Therefore, turmeric is considered a supportive herbal option in PCOD management (Heshmati et al., 2021).



Fig: 5 (TURMERIC)

5. AJWAIN (*Trachyspermum ammi*)

Family: Apiaceae

Ajwain (*Trachyspermum ammi*) is known for its antioxidant, anti-inflammatory, and digestive properties. Although direct clinical studies on Ajwain in PCOD are limited, its active compound thymol has shown potential in improving metabolic function and reducing inflammation. Since insulin resistance and chronic inflammation play key roles in PCOD, Ajwain may indirectly support hormonal balance and weight management. It may also aid digestion and improve metabolism, which can help control obesity-related

symptoms of PCOD. Therefore, Ajwain is considered a supportive herbal option in the natural management of PCOD, though more clinical research is needed (Bairwa et al., 2012).



Fig: 6 (AJWAIN)

IV. OUTCOMES

In this one-month study, herbs were used to help manage PCOD symptoms in women. Herbs such as Tulsi (*Ocimum sanctum*), Spearmint (*Mentha spicata*), Alovera (*Aloe vera*), Turmeric (*Curcuma longa*), Ajwain (*Trachyspermum ammi*). The use started from the beginning of the menstrual cycle and continued for 30 days. After one month, many women showed improvement such as less acne, more regular periods, and slight weight control. Some also felt better digestion and less stress. Herbal remedies work better when you also eat healthy food, do regular exercise, and follow a good daily routine. Overall, using herbs for one month helped in reducing PCOD symptoms and improving hormone balance naturally.

Table 1: The specification of the herbs:

Common Name	Botanical Name	Family	Active compounds	Main effect in PCOD	Reference
Tulsi	<i>Ocimum sanctum</i>	Lamiaceae	Withanolides	Reduces stress, improves hormonal balance	Cohen, 2014
Spearmint	<i>Mentha spicata</i>	Labiatae	Flavonoids	Reduces excess testosterone	Grant, 2010
Alovera	<i>Aloe barbadensis</i>	Liliaceae	Anthraquinones	Supports ovarian function	Agarwal, 2010
Turmeric	<i>Curcuma longa</i>	Zingiberaceae	curcuminoids	Helps improve insulin resistance	Jamilian et al., 2019
Ajwain	<i>Trachyspermum ammi</i>	Apiaceae	Thymol	Reduce oxidative stress	Bairwa et al., 2012).

V. CONCLUSION

Polycystic Ovarian Disease (PCOD) is a significant hormonal disorder affecting women of reproductive age. In the present study, a survey was conducted among 30 women aged 18–35 years to assess

the prevalence, symptoms, and lifestyle factors associated with PCOD. The findings revealed that irregular menstruation, weight gain, acne, and excessive hair growth were the most commonly reported symptoms. The present study highlights the potential supportive role of medicinal herbs such as *Ocimum tenuiflorum* (Tulsi),

Mentha spicata, *Aloe vera*, *Curcuma longa*, *Phyllanthus emblica*, *Zingiber officinale*, and *Trachyspermum ammi* in managing PCOD symptoms. These herbs may help improve insulin sensitivity, reduce inflammation, regulate hormones, and support menstrual regularity.

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