

# Polycystic Ovarian Syndrome and Its Management in Unani System of Medicine – A Comprehensive Review

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## Abstract

*Polycystic ovarian syndrome (PCOS) is a prevalent endocrine disorder that significantly impacts women's reproductive and metabolic health. It often leads to anovulation and infertility, creating distress for those affected. Additionally, PCOS increases the risk of developing diabetes and other long-term health complications. Recognizing and addressing PCOS is crucial, as early intervention can improve quality of life and prevent serious health issues. Common symptoms are polymenorrhea, oligomenorrhea, amenorrhea, hirsutism, acne, weight gain, and infertility. Its diagnosis is based on the presence of two of the following three criteria: oligomenorrhea and or anovulation, hyperandrogenism (clinical or biochemical), and polycystic ovaries on ultrasound. According to the World Health Organization, PCOS affects 8–13% of women of reproductive age globally, with an estimated 70% remaining undiagnosed. In India, prevalence rates range from 5.8% to 10%, with some regions, such as Maharashtra, reporting rates as high as 22.5%. In Unani medicine, PCOS is viewed as a phlegmatic condition, with treatment focusing on detoxifying the body and balancing humors is addressed holistically. Unani therapies aim to strengthen the female reproductive system, regularise menstrual cycles, and correct hormonal imbalances. The Unani system of medicine has a detailed description of several effective and safe drugs that can be used successfully to address PCOS. The treatment has been recommended holistically, and the drugs that have been mentioned usually are emmenagogue, aphrodisiac, uterine tonic, and general tonic in action, and possess concoctive and phlegm-expulsive properties. An extensive search was carried out using Unani classical texts and literature available in the Jamia Hamdard.*

**Keywords:** Polycystic ovarian syndrome, PCOS, Unani, Marz-E-Akyas Khusyat-Ur-Rehm, hyperandrogenism

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## INTRODUCTION

Polycystic ovarian syndrome (PCOS) “*Marz-e-Akyas Khusyat-ur-Rehm*” is a common endocrine disorder that has reproductive and metabolic disturbances and includes anovulation, infertility, and an increased prevalence of diabetes mellitus. PCOS is the most common cause of anovulation and a leading cause of infertility, and it is associated with a variety of long-term health problems that affect physical and emotional well-being. Polycystic Ovarian Syndrome (PCOS) is a complex and heterogeneous condition characterised by ovarian dysfunction and androgen excess [1]. PCOS is a multifaceted disorder influenced by genetic, environmental, and epigenetic factors, with lifestyle and dietary habits playing a significant role in its manifestation. Common associations include obesity, metabolic disorders, insulin resistance, abdominal adiposity, and increased cardiovascular

risk [2–6]. Additionally, PCOS has been linked to a higher likelihood of developing endometrial cancer [7]. Symptoms of PCOS vary widely among individuals, can evolve, and often present without a clear underlying cause. The possible symptoms are menstrual irregularities (polymenorrhea, oligomenorrhea, and amenorrhea), acne, hirsutism, acanthosis nigricans, alopecia, hoarseness of voice, weight gain, mood swings, and infertility.

The diagnosis of polycystic ovary syndrome (PCOS) is established based on the presence of two out of three key criteria: oligomenorrhea or anovulation, hyperandrogenism (clinical or biochemical), and polycystic ovaries identified via ultrasound [1, 8–10].

According to the World Health Organization (WHO), PCOS affects 8–13% of women of reproductive age globally, with an alarming 70% of cases remaining undiagnosed. In India, data on PCOS prevalence are limited, but studies indicate a high prevalence rate, ranging from 5.8% to 10%. Notably, the National Health Portal of India reports a prevalence of 22.5% in Maharashtra, reflecting the significant health burden among Indian women [9, 11, 12].

Although there is no definitive cure for PCOS, effective management strategies can alleviate its symptoms. Lifestyle modifications, including a balanced diet and regular exercise, have been shown to improve issues, such as irregular periods, infertility, acne, and hirsutism, offering hope for improved quality of life.

Conventional therapies include oral contraceptive pills for menstrual regulation, clomiphene citrate and assisted reproductive techniques for infertility, and medications like cyproterone acetate and spironolactone for acne and hirsutism. Weight loss can improve metabolic issues and reduce the risk of heart disease, while insulin sensitizers, like metformin, address obesity and related conditions. It's important to note that some treatments may have side effects, including liver toxicity with Flutamide and gastrointestinal issues with metformin and clomiphene [1, 13].

## METHODOLOGY

The aim of this review is to explore the holistic management of PCOS in the Unani system of medicine by analysing classical Unani literature and available scientific research. The review seeks to identify the Unani treatment that can effectively manage PCOS and improve reproductive health outcomes. This review aims to integrate classical Unani wisdom with contemporary scientific findings to provide a holistic understanding of PCOS management. By evaluating traditional Unani practices through the lens of modern research, this study seeks to highlight the potential of Unani medicine as a natural, effective, and safe alternative for managing PCOS.

A thorough and extensive search was conducted using classical Unani texts, literature available in the central library of Jamia Hamdard, and relevant scientific research. This review integrates traditional Unani knowledge with modern findings to provide a comprehensive understanding of PCOS management in Unani medicine.

A thorough and extensive literature search was conducted to gather relevant information on the holistic management of PCOS in the Unani system of medicine. The sources included:

- *Classical Unani Texts:* Classical Unani manuscripts and books authored by renowned Unani scholars were examined to understand historical perspectives on PCOS-like conditions. Unani medical treatises, such as those written by Ibn Sina (Avicenna), Al-Razi (Rhazes), and Hakim Ajmal Khan, were reviewed for descriptions of gynaecological disorders resembling PCOS, their pathophysiology, and suggested treatments. The study focused on Unani principles related to humoral imbalances, particularly the role of Balgham (phlegm) in PCOS development and how Unani formulations address these imbalances.
- *Library and Institutional Resources:* The Central Library of Jamia Hamdard, a premier institution for Unani research, was utilized to access rare and classical Unani literature. Unani

pharmacopoeias, research monographs, and case studies related to PCOS management were critically analyzed to extract relevant treatment protocols. Existing Unani formulations used in contemporary Unani practice were evaluated based on historical records and clinical applications.

- *Scientific and Modern Research Databases:* To bridge traditional knowledge with modern evidence, scientific research databases, such as PubMed, Scopus, Google Scholar, and AYUSH research repositories were searched for studies related to Unani medicine and PCOS. Peer-reviewed journal articles, clinical trials, and experimental studies on Unani herbal interventions for PCOS were analyzed. The efficacy and safety of commonly used Unani herbal formulations were reviewed based on modern pharmacological studies and clinical trials.

## UNANI PERSPECTIVE ON PCOS

PCOS was first described by Stein and Leventhal in 1935, introducing a newly recognised condition absent from the documented ancient medical knowledge. In classical Unani literature, it is not mentioned as PCOS. However, the clinical picture mimics the description mentioned in ancient Unani classics, which is a combination of symptoms, such as amenorrhea (absence of menstruation), oligomenorrhea, infertility, obesity, hirsutism (excessive hair growth), acne, and hoarseness of voice, very much suggestive of polycystic ovary syndrome (PCOS). According to the eminent Unani physicians, “*Marz-e-akyas khusyat-ur-rehm*” (polycystic ovarian syndrome) is considered a phlegmatic condition since the alteration of the normal temperament and the predominance of phlegm (Sue Mizaj Balgham) in the body of females is a central dogma for symptoms, such as amenorrhea, infertility, cyst formation in ovaries, hirsutism and obesity, which are associated with PCOS [14–20].

The treatment of PCOS in the Unani system of medicine is addressed holistically and is discussed under the heading of Amraz Raham. The Unani system of medicine has a detailed description of several effective and safe drugs that can be used successfully to address PCOS. The treatment has been recommended holistically, and the drugs that have been mentioned usually are emmenagogue, aphrodisiac, uterine tonic, and general tonic in action, and possess concoctive and phlegm-expulsive properties. The primary goal of Unani treatment for women with PCOS is to detoxify the body and balance its humors and temperament through Munzij Mushil therapy. This approach aims to strengthen and rejuvenate the female reproductive system while regularizing menstrual cycles. Additionally, Unani medicines are used to correct hormonal imbalances [14–17].

## UNANI TREATMENT APPROACHES

In the Unani system of medicine, several Unani drug preparations have been found useful, particularly in those cases of PCOS that are difficult to manage by allopathic medicine. A variety of single Unani drugs are commonly used in the management of amenorrhea and infertility which include, Abhal (*Juniperus communis*), Satawar (*Asparagus racemosus*), Alsi (*Linum Ussitatissimum*), Darchini (*Cinnamomum zeyanicum*), Methi dana (*Trigonella foenum-graceum*), Tukhm Kasus (*Trigonella foenum-graecum*), Tukhm-e-Kasni (*Cichorium intybus*), Badiyan (*Foeniculum vulgare*), Aspand (*Peganum harmala*), Hab Balsan (*Cinnamomum verum*), Rewand Chini (*Rheum emodi*). These single drugs, when used individually or in combination, target different aspects of reproductive health, helping to regulate menstrual cycles, balance hormones, and enhance fertility in women suffering from conditions like amenorrhea and infertility. Compound Unani formulations, such as *sharbat ersa*, *sharbat sikanjabeen asli*, *Majoon Dabeedulward*, *Majoon muqavi raham*, etc. [21–26]. Their holistic approach makes Unani medicine a valuable system for managing these health concerns.

Despite the availability of various medications for managing the symptoms of polycystic ovary syndrome (PCOS), effective and comprehensive treatment options remain limited. The treatment options available in modern medicine can only improve the symptoms, and the safety and promising effects of herbal treatments in PCOS management have led researchers to further explore the potential of these drugs in the management of PCOS. It is necessary to revisit this ancient science and evaluate the effectiveness and safety of the Unani system of Medicine in the treatment of PCOS. Hippocratic humoral theory serves as the foundation for Unani medicine, which posits that the body is governed by

four essential humors: blood, phlegm, yellow bile, and black bile [27, 28]. The balance or predominance of these humors determines an individual's *mizaj* (temperament), which can be classified into four types: *damwi* (sanguine), *balghami* (phlegmatic), *safrawi* (choleric), and *saudawi* (melancholic). Each temperament reflects the dominance of a specific humor and influences a person's physical, emotional, and mental state. Each person is thought to have a distinct humoral constitution that reflects their current state of health [29, 30]; any alteration to this state leads to sickness. The degree to which the disease deviates from normal is closely correlated with *mizaj* [31, 32].

Several Unani doctors have given a detailed description of PCOD within the framework of the Unani medical system under the headings of *ehtebase tams* and *uqr* [22]. Individuals with a *sue mizaj barid* (abnormal cold temperament) of the liver may experience excessive phlegm production, which can disrupt normal bodily functions [27]. An imbalance in *khilte balgham* (phlegm) can contribute to the formation of ovarian cysts, as phlegm accumulation affects the reproductive organs [28]. In Unani medicine, infertility in females due to obesity and polycystic ovary disease (PCOD) shares similarities with the condition of *uqr*, which is characterized by similar causes and symptoms [33]. This connection highlights the relevance of Unani principles in understanding and addressing modern reproductive health issues.

In addition to irregular menstruation symptoms, including amenorrhea, oligomenorrhea, and DUB, Unani doctors observed several symptoms suggestive of PCOD, including hirsutism, obesity, acne, hoarse voice, and infertility. It also says that if a woman's *mizaj* begins to lean toward masculinity, she may have amenorrhea, grow her hair in a male way, speak harshly, etc. [34, 35].

According to Ibn-e-Rushd, variations in the type or amount of phlegm are the root cause of illnesses associated with a cold and wet temperament. Typical manifestations include phlegmatic swelling and fever. Still, some phlegmatic swellings, called *Balghm-e-raqeeqi*, or excessively diluted phlegm, are a common sight in ascites patients' hands and legs and are caused by gaseous, diluted phlegm. When these enlargements are encased in a membrane, they develop into cysts, or *keesa* [36].

In summary, the Unani notion of polycystic ovarian syndrome, also known as *Marz-e-Akyas-e-khusyat-ur-Rehm*, describes the condition as a phlegmatic enlargement of the ovaries. Because they are soft, medications, like *Mushil-e-balgham*, can dissolve them, which may possess a temperament opposite to Phlegm. Therefore, it is evident from the description above that *Marz-e-Akyas-e-khusyat-ur-Rehm* (polycystic ovarian syndrome) is caused by excessively diluted phlegm and manifests as a phlegmatic enlargement of the honeycomb pattern of the ovaries (*Balgham-e- Raqeeqi*) [37, 38].

## CLINICAL PRESENTATION

PCOS manifests through a spectrum of symptoms, including polymenorrhea, oligomenorrhea, amenorrhea, hirsutism, acne, weight gain, insulin resistance, and infertility. The variation in symptoms makes individualized diagnosis and treatment essential.

Obesity, particularly abdominal obesity (affecting 50% of cases), and menstrual abnormalities (up to 70%), such as oligomenorrhea, amenorrhea, or dysfunctional uterine bleeding (DUB), are common in individuals with PCOS. Other symptoms include infertility, hirsutism, acne, alopecia, hoarseness of voice, and in rare cases, virilism. *Acanthosis nigricans*, characterized by darkened, thickened skin, is also commonly observed. Additionally, *HAIR-AN* syndrome, seen in some PCOS patients, is marked by hyperandrogenism, insulin resistance, and *acanthosis nigricans* [39–42]. Severe insulin resistance, particularly in teenagers approaching puberty, can lead to more pronounced and often irreversible symptoms, such as *acanthosis nigricans*, hirsutism, acne, and obesity, significantly impacting quality of life.

## DIAGNOSIS OF PCOS

According to Rotterdam's criteria, fulfilling any two of the menstrual irregularities or oligo/anovulation, hyperandrogenism (clinically or biochemically), and polycystic appearance on ultrasound [39–42].

### Sonography

Transvaginal sonography (8 MHz) is particularly valuable for evaluating obese patients with a BMI of  $\geq 25/23$ . In such cases, the ovaries typically appear enlarged, with a volume of  $\geq 10$  cm<sup>3</sup>. The sonographic image often reveals an increased number of peripherally arranged follicles ( $\geq 20$ ) in each ovary, ranging from 2 to 9 mm in size, a hallmark feature of conditions like PCOS.

- LH (Luteinizing Hormone) levels are typically elevated, with an LH: FSH (Follicle-Stimulating Hormone) ratio greater than 3:1.
- There is often an elevation in estradiol and estrone levels, with estrone showing a particularly marked increase.
- SHBG (Sex Hormone-Binding Globulin) levels are commonly reduced, which can contribute to increased free androgens in the body.
- Serum testosterone levels are typically elevated, with values greater than 1.5 ng/mL being common in PCOS.
- Approximately 31% of women with PCOS exhibit impaired Oral Glucose Tolerance (OGT), and 7.5% develop diabetes over time.
- Fasting insulin levels are often elevated, with levels exceeding 25  $\mu$ IU/mL, indicating insulin resistance [29, 41, 42].

### Complications

Diabetes mellitus, dyslipidemia, non-alcoholic fatty liver disease (NAFLD), hypertension, endometrial cancer, breast and ovarian cancer, psychological disorders [15, 39–42].

## MANAGEMENT IN THE UNANI SYSTEM OF MEDICINE

### Usool-E-Ilaj of Marz-e-Akyas-E-Khusyat-Ur-Rehm (Polycystic Ovarian Syndrome)

The Unani system of medicine has described an organized treatment plan for disease management. The main goals of treatment are to return the patient to normal, rectify the imbalance of mizaj (temperature), and stabilize the body's humoral balance by eliminating excess aberrant or disordered humours [22, 38, 42].

Eminent Unani physicians have approached the management of *Ehtebas-e-Tams* (retention of menstruation) in varied ways, depending on the underlying principles of treatment (*Usool-e-Ilaj*). The following are some notable descriptions of their approaches:

Razi stated that venesection and humour expulsion are preferable if amenorrhea results from the predominance of viscous or cold humour. If the patient's increased viscosity of humour causes their menstruation to stop, they should be prescribed medication and instructed to sit on an *afaweena* and *mulattif* diet [43].

Additionally, he said that if menstrual blood is concentrated and phlegmatic rather than predominantly black, it will evacuate (*tanqia*) the phlegm, and if there is a greater amount of water in the menstrual blood, it will evacuate (*Balgham Maii*) the watery phlegm [44].

Razi also mentioned that if obesity is the underlying cause of amenorrhea, weight loss and body fat can be achieved by exercise, a reduced diet, hot enemas, massages with *rogheh-e-natnoon*, and *zuff* followed by a hammam session. He indicated that the weakness of the liver (*Zof-e-Kabid*) and occasionally, the involvement of other organs, can lead to the cessation of menstruation. In such cases, venesection of the affected vein is considered an effective treatment.

Ibn-e-Hubal Baghdadi wrote about using emmenagogues, first moderate and subsequently strong, to remove any humours that thicken blood or cause blockages [44].

Hakim Ghulam Hassan Quraish and Hakim Ajmal Khan proposed that purgatives should be taken 2–4 days before the anticipated menstrual date if the cessation of menses is caused by phlegmatic

dominance, obesity, or exposure to cold weather. In addition, a sitz bath with 20 grams of Mustard seed should be taken [18, 45].

Raban Tabri mentioned using emmenagogue medications during menstruation, as well as the usage of hot and lateef advia, which reduce blood viscosity. Additionally, he stated that Ilaj-biz-zid ought to be used as soon as a diagnosis of the illness has been made. Cold medications should be utilized for diseases with a hot nature; hot pharmaceuticals should be administered for diseases with a cold nature [14].

Ismail Jurjani explained that the woman's body should be cleansed of the viscous humour by using the emesis or purgation procedure if farhabhi (obesity), blood viscosity, and cold temperament are the root causes of her menstrual stoppage. Hot fomentation should be administered after the viscous humour has been evacuated to encourage the expulsion of menstrual blood in that direction. Venesection of the saphenous vein should be performed following heated fomentation [46].

According to Hakim Akber Arzani and Ibn-e-Nafees, mulattif medicines and exercise should be used as treatments for amenorrhea if it results from blood viscosity or obesity, respectively [47, 48].

According to Mohd Tabri, a hot and dry approach should be used to treat barid ratib sue mizaj of the liver, but it should only be applied moderately [20, 49].

Majoosi advised using har temperament adiva and mulattif advia if the cessation of menses is caused by blood viscosity and sue-e-mizaj barid [50].

According to Hakim Hafiz Jaleel, venesection of the saphenous vein along with the purgative advia can be utilized if blood viscosity and coldness are the root causes of amenorrhea [51].

According to Hakim Kabir-ud-din's theory, hot temperament diuretic medications should be used along with Ma-ul-usool (beverage of roots) if menstruation stops because of coldness, blood viscosity, or obesity. If phlegmatic dominance is the cause, emesis and purgatives should be used to get rid of it. It is best to provide Mulattif medicines [52].

## ILAJ (TREATMENT)

The main aim of Unani treatment for women with polycystic ovary disease (PCOD) is:

1. *Detoxification of the Body:* Unani therapies focus on cleansing and detoxifying the body, particularly the liver, to remove excess humors and toxins that may contribute to hormonal imbalances and reproductive dysfunction.
2. *Strengthening and Revitalizing the Female Reproductive System:* Unani treatments aim to enhance the overall health and vitality of the female reproductive organs. This includes regularizing menstrual cycles, improving uterine health, and promoting fertility.
3. *Rectifying Hormonal Imbalances:* Unani medicines are used to restore hormonal balance by addressing both excess and deficient humors in the body. Herbal remedies, such as *Abhal* (*Nigella sativa*) and *Habb-ul-Qilt*, are often prescribed to regulate hormone levels, particularly androgens, and improve ovulatory function.

These goals are achieved through a holistic and individualized approach, focusing on both symptom relief and the restoration of overall health.

The fundamental principle of Unani medicine is Ilaj Bil Zid, which states that therapy should not coincide with the kind or severity of the illness. There are two approaches to this cause: observational and rational. These approaches are used in conjunction with diet, medication, and regimens. Phlegmatic illnesses, amenorrhea, and obesity are treated as part of Marz-e-Akyas-e-khusyat-ur-Rehm (polycystic ovarian syndrome) management.

The treatment of PCOD in Unani medicine is categorized under:

### **Ilaj bil Ghiza (Dietotherapy)**

In the Unani system of Medicine, dietotherapy focuses on using food to balance the body's humors and support overall health. Common recommendations include:

- *Taklil-e-Ghiza* [53]: This refers to the moderation of food intake to prevent overconsumption and to balance the humors, particularly in managing conditions like obesity or excessive phlegm.
- *Use of Mulattif Advia*: These are soothing or warming agents, such as *sirka* (vinegar) and *lukewarm water*, which help to balance cold humors and facilitate digestion [21].
- *Incorporating Warm, Easily Digestible Foods* to balance excess phlegm (*balgham*) and cold humors in the body.
- *Avoid Heavy, Oily Foods* that may increase the production of phlegm and worsen symptoms of PCOD.
- *Increasing The Intake of Fibre-Rich Foods* to improve digestion and manage obesity, which is often associated with PCOD.
- *Using Foods with Emmenagogue Properties*, such as certain fruits and herbs, to promote regular menstruation.

In his comprehensive works, Al-Hawi Fit-Tibb and Kitabul Mansoori, the eminent Unani physician Zakaria Razi shared his clinical experiences and treatments for obesity. He emphasized the importance of Ilaj bil Ghiza (dietotherapy), which included dietary modifications and lifestyle changes. Razi recommended consuming salty and laxative foods, believed to help stimulate digestion, balance humor, and promote weight management. His approach was holistic, incorporating dietary changes, herbal remedies, exercise, massage, hydrotherapy, and overall lifestyle modifications, underlining the importance of a balanced approach to health and wellness [23, 28, 54].

### **Ilaj Bit Tadbeer (Regimenal Therapy)**

In Unani medicine, Regimenal Therapy (*Ilaj Bit Tadbeer*) focuses on lifestyle modifications and physical treatments to restore balance and enhance the body's natural functions. It includes a variety of therapies that aim to support overall health and address specific conditions like PCOD.

- *Riyazat (Exercise)*: *Riyazat-i-qawi* refers to physical exercises aimed at reducing body weight and improving overall metabolic health. Regular physical activity is vital for managing conditions, like obesity, which is commonly associated with PCOD [28, 54].
- *Dalak (Massage)*: *Dalak* involves using medicinal substances, like *natrun* or *zift baloot*, followed by a *hammam* (steam bath), to help reduce fat accumulation and improve circulation, which aids in the removal of toxins and enhances the body's ability to regulate its functions [34].
- *Abzan (Herbal Decoctions)*: The use of *joshanda* (herbal infusions) or *mulattif* (soothing) drugs is employed to enhance digestion, regulate the humors, and provide overall relief to the body. These formulations help in improving metabolic processes [24, 52].
- *Takmid (Abdominal Treatment)*: *Takmid* involves applying heat or stimulating agents to the lower abdomen, primarily using *har advia* (warming herbs), like *advia-e-muhammira*, which helps stimulate blood flow towards the uterus and promotes menstrual regularity [24].
- *Zimad (Topical Therapy)*: *Zimad* refers to applying herbal infusions, such as *joshanda* of warming and soothing herbs, over the lower abdomen. This topical application helps relax the muscles, stimulate circulation, and improve uterine health [24].
- *Huqna (Enema Therapy)*: The use of *huqna* (medicated enemas) in Unani therapy aims to cleanse the body, especially the colon, which is believed to have a significant impact on overall health, including reproductive health [52, 54].
- *Fasd (Bloodletting)*: *Fasd* is a practice of bloodletting, particularly from the *rag-e-safin* (vein of the arm) and *mabiz* (vein of the lower abdomen). This technique is used to divert blood flow towards the uterus and promote menstruation, helping regulate menstrual cycles in women with conditions like PCOD [22, 52].

- *Hijama (Cupping Therapy)*: to improve circulation and detoxify the body On the calf muscles. Apply 2–3 days before menses [22, 25, 26, 52].

These treatments are combined to create a holistic approach to health, addressing both physical symptoms and underlying imbalances, ensuring the restoration of harmony within the body.

### **Ilaj Bid Dawa (Pharmacotherapy)**

The Unani drugs possess qualities to reverse this pathological condition and restore physiological function. The classical Unani literature revealed that the Unani drugs possess necessary properties, including Mudir-e-Haiz (menstrual promoter), Dafe ziabetus (anti-diabetic), Mushil-e-Balgham (expectorant), Mukhrij-e-Balgham (Phlegmagogue), and Muqawwi-e-Jigar (Hepatoprotective). All these drugs are classified as Har-yabbis (hot and dry), which counteract the *barid ratab* (cold and moist) nature of Balgham, the primary cause of PCOS according to Unani medicine. These Unani drugs, like Abhal (*Juniperus communis*), which is an emmenagogue; Alsi (*Linum usitatissimum*); Darchini (*Cinnamomum zeylanicum*); Methi dana (*Trigonella foenum-graecum*), known for its hepatoprotective and anti-diabetic properties; Tukhm-e-Kasni (*Cichorium intybus*); and Satawar (*Asparagus racemosus*), which is recognized for its aphrodisiac effects and ovulation induction properties.

- Use Ma'al-usul with mulattif and har mudirrat like joshanda post-e-khyarshambar, Mushkitramashi, parshiyaoshan, qand siyah kohna, etc.
- Majun having demulcent property, e.g., tiryaq-e-kabeer, majun-e-kamooni, majun-e-biladur.
- Use of munzij wa mushil-i-balgham advia [21, 55]
- Use of qawi mudirr-i-hayd advia
- Ayarij and loghaziya, afawiya, fuwwah [22, 50]
- Prepare tablets of muqil, mur, and abhal in equal quantity and use them in a dose of 10.5g [21, 56]
- Prepare tablets from the extract of majeeth, mushkitramashih, kardmana, sudab, abhal, and heeng, each 2g, and use them in a dose of 35g [22].

### **Single Drugs in Unani Treatment for PCOD [22, 28, 44, 52]**

Unani medicine utilizes a wide variety of single drugs that are believed to have therapeutic properties, particularly for conditions like PCOD. Some commonly used single drugs include:

- *Darchini*: Known for its warming properties, it helps balance cold humor and improve circulation.
- *Sakbeenaj (Ferula Persica)*: Used for its tonic properties to support overall health.
- *Sounf (Foeniculum vulgare)*: Known for its ability to regulate menstrual cycles and reduce inflammation.
- *Kibr (Capparis spinosa)*: Helps in balancing bodily humors, particularly for digestive health.
- *Karafs (Apium graveolens)*: Used to improve urinary health and support hormonal regulation.
- *Anisoon (Pimpinella anisum)*: A common remedy for digestive issues and improving menstrual health.
- *Sudab (Convolvulus pluricaulis)*: Known for its calming effects and use in balancing hormones.
- *Zarawand (Zingiber officinale)*: Acts as a digestive stimulant and improves circulation.
- *Irsa (Carthamus tinctorius)*: Used to regulate menstrual flow and improve reproductive health.
- *Asaroon (Asarum europaeum)*: Used to stimulate uterine health and improve circulation.
- *Jausheer (Coriandrum sativum)*: Known for its ability to alleviate digestive issues and hormonal imbalances.
- *Junbedaster (Cressa cretica)*: Used to reduce inflammation and promote hormonal balance.
- *Kardmana (Carthamus tinctorius)*: Known for its blood-purifying and menstrual-regulating properties.
- *Tukhm Marzanjosh (Origanum majorana)*: Used for its emmenagogue effects, helping to regulate menstrual cycles.

- *Mushkitramashi (Ocimum sanctum)*: Known for its anti-inflammatory properties and hormonal balancing effects.
- *Abhal (Nigella sativa)*: Helps improve reproductive health and balance hormones.
- Pudina Nehri (*Mentha arvensis*) and Pudina Kohi (*Mentha piperita*): Used for their calming and digestive effects.
- *Afsanteen (Artemisia absinthium)*: A digestive aid and menstrual regulator.
- *Izkkhar (Cymbopogon citratus)*: Known for its anti-inflammatory properties and digestive support.
- *Qust (Saussurea lappa)*: Used to strengthen the digestive system and promote uterine health.
- Javitri (*Myristica fragrans*): Known for its restorative properties for female reproductive health.
- *Ood Balsan (Aquilaria agallocha)*: Used for its calming and hormone-regulating effects.
- *Ushq (Alpinia galanga)*: Known for its digestive and anti-inflammatory properties.
- *Murmakki (Chondrus crispus)*: Helps in balancing bodily fluids and supporting reproductive health.
- *Farfiyoon (Daucus carota)*: Known for its digestive benefits and menstrual regulation.
- *Kalonji (Nigella sativa)*: A powerful herb with a range of medicinal benefits, particularly for hormonal balance and reproductive health.
- *Turmus (Lupinus albus)*: A legume used for its toning effects on the uterus and reproductive system.
- *Lobiya (Vigna unguiculata)*: Used to support hormonal regulation and overall reproductive health.

### Compound Formulations in Unani Treatment for PCOD

In Unani medicine, *compound formulations* are crafted by combining multiple herbs and ingredients that work synergistically to address the underlying causes of PCOD and its symptoms. These formulations are designed to balance the humors, regulate hormonal levels, and improve overall reproductive health. Some commonly used compound formulations for the management of PCOD include: [28, 44, 52].

- *Qurs Abhal*: A medicinal tablet formulation that supports uterine health, helps regulate menstrual cycles, and promotes reproductive balance.
- *Ma'jun Abhal*: A medicinal paste used to regulate hormones, improve uterine health, and correct menstrual irregularities associated with PCOD.
- *Sharbat Bazoori Bazoori*: A herbal syrup designed to improve digestive health, support hormonal regulation, and aid in detoxifying the body.
- *Sharbat Kasoos*: A soothing herbal drink used to regulate menstrual cycles, alleviate symptoms of PCOD, and balance the body's humors.
- *Sharbat Ja'ada*: A formulation that promotes reproductive health, detoxifies the body, and balances the menstrual cycle, commonly used in cases of PCOD.
- *Sharbat Biranjasif*: A tonic syrup made from specific herbs known to improve menstrual regularity, reduce symptoms of PCOD, and enhance overall reproductive health.
- *Sharbat Saleekha*: An herbal drink that helps restore hormonal balance, improve fertility, and regulate menstrual cycles in women with PCOD.
- *Naqu'buzur*: A powerful compound used to regulate menstruation, enhance reproductive health, and correct hormonal imbalances often seen in PCOD patients.
- *Dhamarsa*: A mixture of herbs used to improve digestive function, enhance hormonal regulation, and support overall reproductive health.
- *Ayarij Feeqra*: A compound formulation designed to balance the humors, regulate hormones, and improve metabolic function, commonly prescribed in cases of PCOD.
- *Aqras Mur*: A compound used to enhance fertility, regulate menstrual cycles, and improve the overall health of the reproductive system.

- *Sharbat Afsanteen*: An herbal syrup made from *Afsanteen* (wormwood), used to regulate menstrual cycles, promote uterine health, and support digestive health, especially for those with hormonal imbalances.
- *Ilaj Bil Yad/Jarahat (Surgery)*: Surgical interventions in Unani are considered as a last resort when other treatments have not provided sufficient relief.

These treatment categories provide a comprehensive and holistic approach to managing PCOD, combining diet, lifestyle changes, medication, and, if necessary, surgical interventions.

A review of modern databases reveals that limited studies have been conducted to evaluate the efficacy of AYUSH and Unani therapies in the management of PCOS. While preliminary research suggests potential benefits of traditional and Unani interventions, the current evidence remains insufficient. There is a pressing need for more rigorous, large-scale clinical trials to validate the effectiveness and safety of these alternative therapies. Future research should prioritize standardized protocols, well-defined outcome measures, and the integration of AYUSH systems with modern scientific methodologies to enhance credibility and clinical applicability.

## CONCLUSIONS

Polycystic ovarian syndrome (PCOS), known as “Marz-e-Akyas Khusyat-ur-Rehm” in Unani medicine, is a complex condition that significantly affects women’s reproductive and metabolic health. While modern medicine focuses primarily on providing symptomatic relief and management, the Unani system offers a holistic approach that addresses the underlying causes and seeks to restore the body’s balance through humoral theory. Unani medicine prioritizes individualized treatment, which includes detoxification, dietary modifications, regimental therapies, and pharmacotherapy. These interventions not only relieve symptoms but also strengthen and rejuvenate the reproductive system, presenting a valuable alternative or complementary option to conventional therapies. Given the safety, effectiveness, and affordability of Unani treatments, there is a need for further research and clinical trials to validate their efficacy and integrate them into broader healthcare strategies. The holistic principles of Unani medicine have the potential to meet the unmet therapeutic needs of women with PCOS, ultimately leading to improved health outcomes and a better quality of life for those affected.

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