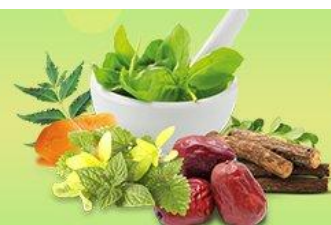


INTERNATIONAL JOURNAL OF UNANI AND INTEGRATIVE MEDICINE



E-ISSN: 2616-4558
P-ISSN: 2616-454X
www.unanijournal.com
IJUIM 2025; 9(3): 173-177
Impact Factor (RJIF): 6.59
Peer Reviewed Journal
Received: 06-08-2025
Accepted: 10-09-2025

Dr. Ruqaya Qayoom
Ex-Assistant Professor,
Department of Moalajat,
Regional Research Institute of
Unani medicine, Naseem Bagh
campus, University of
Kashmir, Srinagar, Jammu
and Kashmir, India

Clinical study to find the cause of PCOS (polycystic ovarian syndrome) and research on temperament (*Mizaj*) in Unani medicine

Ruqaya Qayoom

DOI: <https://www.doi.org/10.33545/2616454X.2025.v9.i3c.396>

Abstract

Introduction: PCOS is commonest endocrine syndrome characterized by combination of reproductive, metabolic and psychological features. Its global prevalence is estimated between 5 and 21%. In India it varies in urban region (9- 22%) and rural region (2-8%). The prevalence according to Rotterdam's criteria is 11.33%. In Kashmir the prevalence of PCOS is 28.9% by NIH criteria and 34.3% by AE-PCOS criteria. The prevalence of PCOS is high among Kashmiri women and is probably the highest in a published series globally. polycystic ovarian syndrome (PCOS) was originally described in 1935 by Stein and Leventhal as a syndrome manifested by amenorrhoea, hirsutism, and obesity associated with enlarged polycystic ovaries. This heterogenous disorder is characterised by excessive androgen production by the ovaries mainly. PCOS is a multifactorial and polygenic condition. Diagnosis is based upon the presence of any two of the following three criteria. (ASRM/ ESHRE).

1. Oligo- anovulation
2. Hyperandrogenism (clinically or biochemically)
3. Polycystic ovaries on ultrasound.

Aim of the study: To find the cause of PCOS based on *Mizaj* (temperament)

Materials and Method: The Study was carried out in the regional research of Unani medicine Naseem bagh campus, University of Kashmir from December 2018 to August 2019 after approval of BOS and IEC. The total number of patients screened for PCOS were 89 and 77 were enrolled in the study after obtaining written informed consent. The data of 77 patients were document in the case record form meant for the study. They were divided into two groups test group n=33 and control group n=33. The dropout number of patients was 11. The cause of the syndrome is keenly observed for the period 2 months.

Observation and Result: The cause that is mentioned in our classical literature is same that reveals in this study. For statistical analysis data was compiled and exported to data editor of SPSS version 20.0 and graph pad prism software.

Financial support: The financial support was provided by Central Council of Unani Medicine, (CCRUM), New Delhi, I am highly thankful to them.

Keywords: *Mizaj*, temperament, PCOS, *Balgham*, Phlegm

Introduction

The Unani system of medicine has divided the whole population into four groups depending on the temperament (*Mizaj*). These four groups have distinct features and characteristics. These are

***Damvi* (sanguine) people** [10, 11, 12, 13, 14, 15, 16]

The characteristics features of *damvi* people are

1. ***Mizaj* (temperament):** *Har wa Rath* (hot and moist)
2. ***Nabz* (pulse):** *Azim and Qawi* (70 -80b/m)
3. **Colour:** Red
4. **Complexion:** Rosy complexion
5. **Built:** Muscular and Broad
6. **Touch:** Hot and soft
7. **Hair:** Black, rapid growth
8. **Movement:** Active
9. **Diet most liked:** Cold and dry

Corresponding Author:
Dr. Ruqaya Qayoom
Ex-Assistant Professor,
Department of Moalajat,
Regional Research Institute of
Unani medicine, Naseem Bagh
campus, University of
Kashmir, Srinagar, Jammu
and Kashmir, India

10. Weather most suitable: Spring**11. Sleep:** Normal (6-8hours)**12. Emotions:** Normal

A Unique concept was given in our classical literature that is metaphorically deeply connected if I can explain it. The *damwi* people have given a resemblance to air. They are energetic, lively, always active like air. They can't sit idle, they like to move and socialize, they are friendly, open-minded, easily connect with others like air. They are full of vitality, enthusiasm, responsible for cheerfulness, courage. They are adaptable, adjust easily to new environments or people. They are generally optimistic, humorous and flexible like air.

Balghami (Phlegmatic) people [10, 11, 12, 13, 14, 15, 16].

The characteristics features of *Balghami* (Phlegmatic) people are

1. *Mizaj* (temperament): *Barid wa Ratb* (cold and moist)
2. *Nabz* (pulse): *Bati* (60 -70b/m) Slow and weak pulse
3. Colour/ Complexion: Whitish
4. Built: Soft, flabby body, tendency to get weight
5. Skin Touch: cool and moist to touch
6. Appetite: poor or irregular appetite, slow digestion
7. Hair: Black, thin slow growth
8. Movement: Slow and dull
9. Diet most liked: hot and dry
10. Sleep: excessive sleep, lethargic
11. Memory: weak memory, forgetfulness
12. Mental traits: calm, quiet, shy, introverted
13. Speech: Slow and less talkative
14. Emotions: emotionally stable, calm and quiet
15. Weather mostly suitable: tolerant to hot climate, dislikes cold weather
16. Disease prone to cold, cough, asthma, indigestion, joint stiffness

The *Balghami* (phlegmatic) people have given resemblance to water. The quality of these people is just as water acts as a medium of connection and creates links, these people due to their softness, also tend to form connections and prefer to stay bonded with others. These people are not aggressive they like to stay quiet. They are calm, composed and emotionally stable. These are leadership qualities. They are proven to be good leaders. Due to this calmness, they are not reactive; they are responsive, naturally cooperative and good listeners. They don't judge others quickly, which makes people feel comfortable and trust them as leaders. their speed is slow, and their movement are slow as compare to *Safravi* people. Just like water makes its own path and takes the shape of whatever glass it is poured into, phlegmatic (*Balghami* people also adapt themselves wherever they go. They blend in with their surroundings and adjust according to the situation. This is a special characteristic of phlegmatic individuals. Just as water carves its path through stone and conforms to the shape of any vessel it enters, so they change themselves to their surroundings with grace. They do not resist; instead, they blend, absorb, and bring calm. Their strength lies not in force, but in their quiet ability to harmonize with whatever environment they are placed in. This is the essence of the phlegmatic nature.

Safravi (Choleric) people [10, 11, 12, 13, 14, 15, 16]

The characteristics features of *Safravi* (Choleric) people are

1. *Mizaj* (temperament): *Garam -o- Khushk* (hot and dry)
2. *Nabz* (pulse): *Rapid* (80- 100 b/m)
3. Colour: yellowish
4. Complexion: Pale
5. Built: Muscular and thin
6. Touch: Hot and dry
7. Hair: Brown & thin, rapid growth
8. Movement: hyperactive
9. Diet most liked: cold and moist
10. Weather most suitable: winter
11. Sleep: Inadequate
12. Emotions: Angry

The *Safravi* (Choleric) people have resemblance to fire. Fire possesses heat, intensity, brightness and power- these same qualities are found in people with a choleric temperament. Fire is both beneficial and destructive. If used properly, within limits and with discipline, it becomes extremely useful- it gives light, provides warmth, cooks food and sustains life during cold. But if fire is not controlled or is used improperly, it becomes dangerous- capable of burning, destroying and spreading chaos. Similarly, *Safravi* individuals- when their energy anger, impulsiveness, and decision making are well regulated- become successful, strong leaders and beneficial to society. However, if these traits go unchecked, they can turn into aggressive, short-tempered, and even harmful individuals. The core qualities are different and totally opposite to *Balghami* people. They are highly energetic, ambitious, quick witted, bold and courageous but irritable and short tempered. They have sharp memory, alert but restless and always busy and in hurry. Just like fire, *Safravi* people have brilliance (ability). Heat (passion), and power (leadership). The key difference lies in how they use these qualities.

The other characteristic feature of these people is that they have tendency to cut/ break conversations, friends, relationships. This tendency to cut comes from their sharpness, high energy, and hyperactivity. Their nature is swift, intense and reactive. They are fuelled by a fire-like energy that makes them hyperalert and impulsively expressive. The *Balghami* people act as *glu* makes *Rabt* (connection) bond to others and nourishes the roots of relationships in contrast to *Safravi* people they break the *Rabt* (bond) due to their aggressiveness like the fire.

Saudavi (Melancholic) people [10, 11, 12, 13, 14, 15, 16]

The characteristics features of *Saudavi* (Melancholic) people are

1. *Mizaj* (temperament): *Barid -o- Yabis* (Cold and dry)
2. *Nabz* (pulse): thin and Slow (60- 80 b/m), thready pulse.
3. Colour: Blackish
4. Complexion: dark
5. Built: Skeletal, lean and thin
6. Touch: cold and dry
7. Hair: Brown & coarse, curl with slow growth
8. Movement: Less active
9. Diet most liked: hot and moist
10. Weather most suitable: Autumn
11. Sleep: Insomnia
12. Emotions: Nervous

The *Saudavi* (Melancholic) people have given resemblance to earth. These people are silent on the outside, yet carrying immense depth and hidden strength within. Just as the earth holds immense potential energy but shows little kinetic activity, *Saudavi* (melancholic) individuals too carry deep inner strength and calmness, rarely displaying outward excitement. Just as earth remains still and composed, so do they - quiet, reflective, and rooted. Their kinetic energy may seem zero - they don't rush or react quickly, but their potential energy is too high just like earth. They are opposite to *Safravi* people whose kinetic energy is too high. They are full of motion, heat and restlessness. Like fire, they burn with passion, move fast, react quickly, and rarely stay still - full of visible energy but less hidden depth. But the *Saudavi* people hold deep thoughts, intense emotions, and quiet resilience, waiting for the right moment to express or move. They are deep thinkers with analytical minds, often absorbed in deep thoughts, they are quiet nature, introverted, serious and reserved. They possess melancholic mood, often feel sadness, hopelessness, or emotional heaviness. They are doubtful, tend to be suspicious and cautious about trusting others. They have strong memory, remember past events very well. They have obsessive thinking, get stuck in thoughts; overthinking is common. They are introverted prefer solitude over social gatherings. They possess cautious attitude, think before speaking or engaging; take time to trust. They are hardworking and determined; once they begin a task they don't rest until it is complete. They have artistic taste, often inclined toward poetry, philosophy, painting, or music.

Methodology

The temperament theory gives me inspiration to find the cause of PCOS in the terms of *Mizaj*. The Clinical study is framed; the synopsis is submitted to institutional ethical committee (IEC) and board of research Studies. After approval of the IEC and BOS. The case record form was framed along with the scale of *Mizaj* (temperament) (*Ajnas - e- Ashara*) [10, 11, 12, 13, 14, 15]. The study is conducted from dec 2018- Aug. 2019, at Regional Research Institute of Unani Medicine, University of Kashmir Srinagar over 66 patients over by randomly dividing them into two groups of 33 each viz Group A: Test group and Group B Control group, after obtaining ethical clearance from Institutional Ethical Committee. A total 89 Patients were screened, 77 were enrolled for the study, 10 were dropout, one had adverse

effect and 66 diagnosed cases of PCOS, based on symptoms and patients' history were subjected to analyse their temperament based on scale *Ajnas Ashara* (Annexure I) [10, 11, 12, 13, 14, 15].

Material and Methods

Source of data

Patient's attending OPD/IPD, Department of *Mo'ālajāt* Regional Research Institute of Unani Medicine (RRIUM), Srinagar.

Method of collection of data

Inclusion criteria

1. Patients 14 - 43 years of females.
2. Menstrual disturbances oligomenorrhoea and secondary amenorrhea.
3. Central obesity - waist circumference > 88 cm.
4. BMI < 35 kg/m².
5. Acne.
6. Hirsutism.

Exclusion criteria

1. Patients below 14 and above 43 years of females.
2. Males and transgender.
3. Pregnancy and Lactation.
4. Systemic illness, such as liver, kidney, cardiac, pulmonary disease, hypertension.
5. On oral contraceptives.
6. Patients with hypermenorrhea (menorrhagia), polymenorrhoea (epimenorrhoea).
7. Body Mass Index (BMI) > 35 kg/m².

Study design: Open, randomized, comparative clinical study with standard control.

Sample size: 66 patients: 33 in each group.

Duration of protocol: 60 days

Follow ups: On 15th, 30th, 45th & 60th day (4 follow ups with baseline).

Duration of study: 18 months.

Observations and Results

Distribution of patients according to *Mizaj*

Table 1: Showing the type of *Mizaj* among test group and controls

<i>Mizaj</i>	Test group		Control		P value
	No	%age	No	%age	
<i>Balghami</i>	26	78.8	22	66.7	0.53
<i>Damwi</i>	6	18.2	9	27.3	
<i>Safrawi</i>	1	3.0	2	6.1	
<i>Saudawi</i>	0	0.0	0	0.0	
Total	33	100.0	33	100.0	
Chi-Square = 1.267, Df=2					

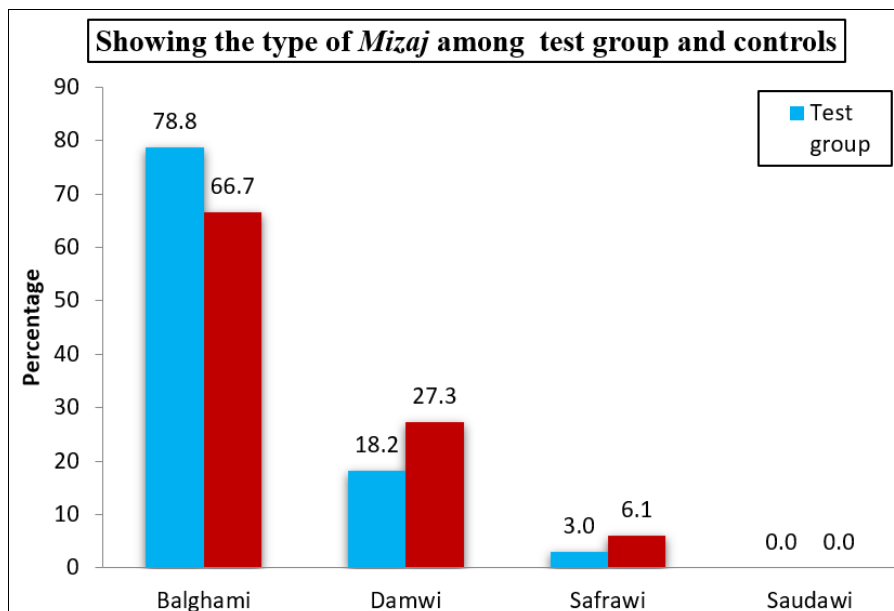


Fig 6: Distribution of patients according to Mizaj

Out of 66 patients, a maximum of 48 (72.72%) patients were found *Balghami*, followed by 15 (22.72%) *Damwi* and 3 (4.54%) patients were found of *Safrawi Mizaj*.

Discussion

In this study out of 66 patients, 48 (72.72%) patients were found of *Balghami*, followed by 15 (22.72%) patients were found of *Damwi*, and 3 (4.54%) patients were found of *Safrawi*. (Table No.1) This finding favours the description of *Zakariya Razi* mentioned in the book *Alhawi* that masculine features appear in fair and the girls whose temperament is phlegmatic who had secondary amenorrhoea [17]. The observation was accordance with the observation of the study done by Bhat. S that most of these patients had *Balghami* (phlegmatic) temperament [18]. There are various Classical literature books which supports the finding that the cause of PCOS is *Ghalba Balgham*; that the people with *balghami mizaj* are more likely to develop PCOS in comparison to other humours. Following are the evidences through classical literature.

1. *Zakariya Razi* mentioned in his book *Kitab ul Hawi* Vol. 9 that Amenorrhoea occurs due to *Ghalba* of viscous and cold *khilt* (humour) [17].
2. *Ibn- Zhur* mentioned in his book *Kitab ul teeser fil madawat -e- wa Tadbeer* that sometimes secondary amenorrhea occurs due to *ghaleez wa viscous klilt* [19].
3. *Alama Hakeem Muhammad Kabir u din* mentioned in his book *Al- Akseer* that *ghalba baroodat* or *kasrat* fat (obesity) is one of the causes of increase in viscosity of dam (blood) results in secondary amenorrhoea [20].
4. *Jalinoos* statement "If a woman's temperament shifts towards that of a man, her menstruation ceases. This shift in temperament is observed in women who develop masculine features, and whose veins become dilated and prominent [20, 21, 22].
5. *Abu ul Mansoor* mentioned in his book *Ghina Muna* that in women, excessive adiposity or obesity is considered a contributing factor to the suppression or cessation of menstrual flow [21].
6. *Hakeem Mohammad Azam Khan* mentioned in his book *Aksee-re- Azam*, that the secondary amenorrhoea is caused due to thickening of the blood, which is caused

by an excess of body fat, cold temperament, or an overproduction of viscous (glairy) bodily humours. All of these factors make the blood too thick to flow properly, which can prevent menstruation from occurring [22].

7. *Ibn Sina* mentioned in his book *Al Qanoon fi tib* that the viscosity (thickness) of blood increases due to coldness (*barudat*). This increased viscosity is caused by the admixture of glairy phlegmatic humour (*Balghami Akhlat*) with the blood. This could be explaining, cold temperament (*barudat*) slows down the circulation and metabolism. Due to this, phlegmatic substances (especially thick and sticky phlegm- like humours) mix with the blood. This makes the blood thick and sluggish reducing its flow and potentially affecting natural functions like menstruation or detoxification [23]. A woman suffering from this condition, if she is physically strong (*Qawi - ul - Khilqat*), may sometimes begin to resemble a man. Eventually she may develop excessive body hair and her voice may become deep and coarse. This happens because of hormonal changes. Due to an increase in male hormones (androgens), hair growth may increase on the face or body, a condition known as hirsutism. The voice may become deep or coarse. These symptoms are commonly seen in PCOS. The Unani physicians have described this disease in classical literature. This is linked to the dominance of *Balghami* (phlegmatic) humours, has proven in this clinical study [21].

Conclusion

According to the available classical literature and this clinical research it is suggested that one of the causes of PCOS may be cold temperament i.e. *Balghami mizaj* (phlegmatic temperament) [17].

Acknowledgement

All Praises to almighty Allah, All Praises to almighty Allah, All Praises to almighty Allah, who is alone sufficient for me. The Author is highly thankful to CCRUM New Delhi for financial support and RRIUM, Srinagar for smooth functioning of the research.

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Annexure-I

Assessment of Mizaj (temperament) [10, 11, 12, 13, 14, 15]

Name of the patient with age & gender

Parameters	Damwi (Sanguine)	Balghami (Phlegmatic)	Safrawi (Bilious)	Saudawi (Melancholic)
Complexion	Ruddy (Reddish/wheaty/brown)	Chalky (Whitish)	Pale (Yellowish)	Purple (Blackish)
Built	Muscular & Broad	Fatty & Broad	Muscular & Thin	Skeletal
Touch	Hot & Soft	Cold & Soft	Hot & Dry	Cold & Dry
Hair	Black & lusty thick. Rapid Growth.	Black & thin. Slow Growth.	Brown & Thin. Rapid Growth.	Brown & Thin. Slow Growth.
Movement	Active	Dull	Hyperactive	Less Active
Diet (Most Liked)	Cold & Dry	Hot & Dry	Cold & Moist	Hot & Moist
Weather (Most Suitable)	Spring	Summer	Winter	Autumn
Sleep	Normal (6-8 hrs.)	In excess	Inadequate	Insomnia
Pulse	Normal (70-80/min)	Slow (60-70)	Rapid (80-100)	Slow (60-70)
Emotions	Normal	Calm & quiet	Angry	Nervous

Total =

Range of temperament in numbers:

Sanguine: 7.5-10; Phlegmatic: 5.10-7.50; Bilious: 2.51-5.00;

Melancholic: 0.00 - 2.50

Damwi (Sanguine)

Balghami (phlegmatic)

Safrawi (Choleric)

Saudawi (Melancholic)

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How to Cite This Article

Qayoom R. Clinical study to find the cause of PCOS (polycystic ovarian syndrome) and research on temperament (*Mizaj*) in Unani medicine. *International Journal of Unani and Integrative Medicine*. 2025;9(3):173-177.