

Case report

Effect of unani formulation in PCOS: A case report

Afifa Naaz*

* National institute of unani medicine

ABSTRACT

PCOS is the most common endocrine pathology in females of reproductive worldwide. The prevalence ranges between 5% and 15% depending on the diagnostic criteria applied. Its etiology involves both genetic and environmental factors. Typically, women with PCOS show clinical and biochemical hyperandrogenism, oligoanovulation, and micropolycystic morphology of the ovaries. Unani formulation containing *Nankhwah*, *Badiyan* and *Wajturki* possessing the properties of *Mudirr-i-Bawl-o- Hayd*, *mujaff -i-Balgham*, *Munaffis-i- balgham*, *Muhallil*, *Muqawwi-i-Jigar* were used in the form of *Joshanda* 6gm BD Starting from 5 days prior to expected period date to 5 days during menses for 3 cycles, which led to regain regularity of menses, correcting the amount of flow and reducing the ovarian volume on US. Thus unani medications have the potential to treat the symptoms of PCOS and improve the quality of life of women.

Keywords Polycystic ovarian syndrome, *Ihtibas al-Tamth*, unani formulation, *Nankhawah*, *Badiyan*, *Wajturki*, *Mudirr-i-Bawl-o- Hayd*, *Joshanda*

INTRODUCTION

Polycystic ovary syndrome (PCOS) is a heterogeneous endocrine disorder that impacts many women of the reproductive age worldwide. This syndrome is often associated with enlarged and dysfunctional ovaries, excess androgen levels, resistance to insulin, etc.¹ It is also referred to as syndrome "O" that is over nourishment, overproduction of insulin, ovarian confusion and ovulatory disruption. The major endocrine gland that is involved in the PCOS are hypothalamus, pituitary gland, ovaries and adrenal gland and peripheral adipose tissue that together contribute to create a general imbalance.² PCOS falls among the most prevalent endocrine disorders affecting about 8–13% of women of reproductive age.³ Depending on diagnostic criteria, this disorder affects ~6% to 20% of reproductive aged women. Typical clinical features include hirsutism, irregular menses, chronic anovulation, and infertility. The persistent hyperandrogenism is associated with impaired hypothalamic–pituitary feedback, LH hypersecretion, premature granulosa cell luteinization, aberrant oocyte maturation, and premature arrest of activated primary follicles.⁴

Moreover, PCOS is associated with psychological issues such as anxiety, depression, and disturbed bodily images as well as reduced self-esteem. With increasing age, the syndrome evolves from a reproductive disease to a more metabolic disorder. The metabolic features include insulin resistance, impaired glucose tolerance, type 2 diabetes mellitus (DM2), dyslipidemia, and cardiovascular risk factors.⁵

PCOS is not a disease; rather, it is a disorder causing the female ovaries to become enlarged with a large number of cysts

(more than 10). These cysts are undeveloped follicles. As the disorder progresses, thickening of the ovary wall occurs, which prevents the release of the ripened follicles known as anovulation.⁶ Mounting evidence suggests that PCOS might be a complex mutagenic disorder with strong epigenetic and environmental influences, including diet and other lifestyle issues. The diagnosis of PCOS is uncomplicated, requiring only the careful application of a few well-standardized diagnostic methods.⁷

PCOS increases the short-term and long-term risk of endometrial cancer, psychological problems (anxiety, depression), pre-eclampsia, recurrent abortion, perinatal mortality and possibly breast cancer and long-standing risk of obesity, type 2 diabetes, metabolic syndrome, hypertension, foetal macrosomia or anomalies, dyslipidemia, cardiovascular diseases, thyroid and hyperplasia.³

Owing to the intricacy of this condition, various sets of diagnostic criteria have been initiated for the confirmation of PCOS which are listed below in fig 1.⁸

Currently, the most preferred and better serving regimen of PCOD is opting for allopathic medicines like Clomiphene citrate, Metformin, Tamoxifen, and Troglitazone.⁹ But these agents have some side effects. Although these pharmacological agents are well effective but their long term use not only develops some adverse effects but also leads to more out of pocket expenses. Thus, we need safer treatments with lower risks that will not have long-term side effects on patient that arises a need for safer alternatives like herbal medicines.

The Unani term coined for PCOD is *Marz Akyas Khusyatur Rehm*; is in fact an Arabic translation of PCOD. Unani physicians mentioned the description of PCOD under the headings of amenorrhoea, obesity, phlegmatic diseases and liver disorders.¹⁰

Ibn-e-Rushed described that *Marz Akyas Khusyatur Rehm* is a disease of cold and moist nature and arises due to change in quantity and quality of balgham.¹¹

*Correspondence: Afifa Naaz

E-mail: afifanaaz97@gmail.com

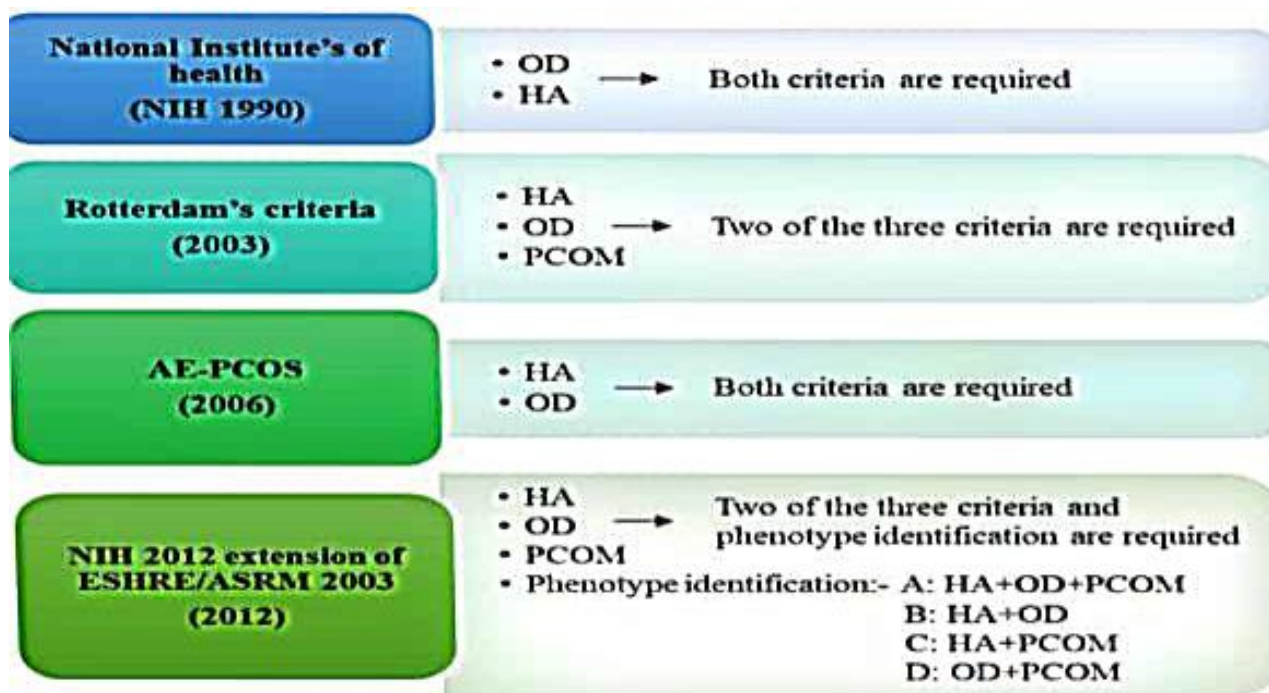
Received Jan 31, 2024; Accepted Feb 28, 2024; Published Feb 29, 2024

doi: <http://dx.doi.org/10.5667/CellMed.2024.005>

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Most of the eminent Unani physicians included *Marz Akyas-e- Kjustyatur Rehm* among the disorders caused by the *Sue mizaj Kabid* (Liver dysfunctions) and *balgham*. According to them, the matter contained in *Akyas* (cyst) is thought to be *balgham* (*Balgham Maii*) of an abnormal consistency. The cyst is also one of the forms of *warm* or swelling.¹²

Several drugs are prescribed for *Ihtibās al-Ṭamth* in *unani* system of medicine which can be used for treatment. The drugs possessing the properties of *Mudirr-i-Bawl -o-Hayd*, *mujaʿffif balgham*, *Mundij-i-Balgham*, *Kāsir-i-Riyāh*, *Muqawwī-i-Bah*, *Muhallil -i-Awrām*^{13,14} etc. are used and which are easily available, safe and cost effective

It is to present a cause of bilateral PCOS in which the efficacy of unani formulation was evaluated.

Case presentation

A 25 year old married nulligravida came to gynec OPD of NIUM with complaints of irregular menses since 2 years. She also complained of heavy menstrual flow whenever she bleed since 2 years. Woman was not sexual active as she was living separately from her partner. She attained menarche at 13 years of age. Her previous cycles were regular. Her current cycle duration was 7-8 days with PBAC score 283 and menstrual cycle interval was 90 days. Her LMP was 2 months ago. She was non diabetic, euthyroid and non hypertensive with no relevant surgical or medical history. History of hormonal intake for regularity of menses was present one year ago. She had no complaint of abnormal discharge from breast or gain in weight or visual disturbances or vasomotor symptoms.

She was an house maker living with her sister belonging to upper lower socioeconomic status. She had no addiction of alcohol or cigarette smoking or drug intake. There was no relevant family history.

On examination her BMI was 33.77 kg/cm², waist

circumference was 90 cm. Her vitals were stable with BP 120/70 mmhg and pulse rate 95/m. There were no signs of PICKLE. Acne was not present. Blackening of nape of neck and arm pit was present with AN score grade 2. Facial hair were present with Mfg Score 10(mild).

Systemic examination was within normal limits. Pelvic examination revealed normal external genitalia. On per speculum examination vulva was healthy with healthy vaginal walls and cervix with mild to no discharge. On per vaginum examination, cervix was soft mobile and non-tender, both the fornices were free and uterus was anteverted with normal surface and mobile with firm consistency, non-tender on movement and appendages not palpable.

Investigations were recommended UPT, Hb, FBS, TSH, LFT, RFT and USG Pelvis. UPT was negative, Hb was 12.6 gm/dl, FBS was 72 mg %, TSH was 3.38 microIU/ml, LFT and RFT were within normal limits. USG pelvis showed bilateral polycystic ovaries with right and left ovarian volume 10.8 and 14.7 cc and ET 7.0 mm.

Materials and methods

The unani formulation comprising *Nankhwah*, *Badiyan*, *Wajturki* in the form of *joshanda*, in was advised 6gm BD for 10 days starting from 5 days prior to expected LMP for 3 months. She was advised lifestyle modification which includes exercise like walking daily for 30 mins and restricts junk, fatty and fried diet. Informed consent was taken and posttest after 3 months was also done.

The herbs were purchased from local market, Bengaluru. They were prepared in crude form in the pharmacy of NIUM as per standard preparation guidelines.

Patient was asked to take 6gm of crude drugs formulation by boiling it in 1 liter of water until it gets half, before meal in morning and evening for 10 days.

The description of single drugs is as follows:

Nankhwah : *Trachyspermum ammi* (L.) Sprague from the family *Apiaceae*, is an old herb with various medical properties and widely used as spice. It is commonly known as bishop's weed, carom seed and *ajowan* or *ajwain*. In Indian system of medicine, *ajwain* is administered for disorders of stomach. *Ajwain-karak* (aqueous extract) is popular remedy for diarrhoea. *Ajwain* is widely used as stomachic, carminative, expectorant, antiseptic, amoebiasis and is prescribed to treat dipsomania, hysteria, sore throat, flatulence, dyspepsia, spasmodic disorders, bronchitis, diarrhoea, cholera, common cold, acute pharyngitis, sore and congested throat, abdominal tumor, abdominal pains and piles and infections with worms. *. ammi* contained was reported for the presence of terpenoids, carbohydrates, tannins, glycoside and fats. It has been reported to possess many pharmacological bioactivities like antimicrobial, antioxidant, hypo-lipidaemic, antihypertensive, antispasmodic, anti-asthmatic, antitussive, and abortifacient actions. The total phytoestrogen content of dry TA seed was 473 ppm which was the second highest in the list of eight herbs tested.¹⁵

Badiyan

Foeniculum vulgare Mill. is commonly known as "Fennel" in English, "Sounf" in Hindi. Fennel is used medicinally since ancient times, the Greek physicians Hippocrates and Dioscorides declared fennel as a diuretic and its juice was used for treating the eyesight [5], and according to the Indian traditional medicines, fennel is known for its aromatic, stimulant, stomachic, carminative, galactagogue, and emmenagogue properties. Different parts of *F. vulgare*, including seeds, leaves, aerial part and fruits, has been found to contain diverse phytochemicals, such as anethole, fen-chone, limonene, estragole, and p-coumaric acid. In particular, anethole and fenchone as the chief isolated from *F. vulgare*, have been proven to possess notable antioxidant, antitumor, carminative, diuretic, and galactagogue effects and is useful in amenorrhoea, dental decay and irritable bowel syndrome.¹⁶

Waj turki

Acorous calamus L. member of *Araceae* family popularly known as Vacha. It is one of the traditional medicine having semi-evergreen perennial herb. It is commonly known as sweet flag. Recent studies on this plant shows its tranquilizing, antimicrobial, anti-diarrhoeal, antioxidant, anti-helminthic, anticonvulsant, anti-inflammatory effects. The dried rhizome of Vacha *Acorous calamus* contain the yellow aromatic volatile oils having asarone as a main constituent which contains the small quantity of sesquiterpenes and its alcohols; this rhizome also contains the choline, flavone, acoradin, galangin, acolamone, isocolamone and aerial parts of plant contains lutcolin-6,8 c-diglucoiside.¹⁷

Follow up end results

The patient was keenly observed during the trial. Patient was advised for follow up once in a month for 3 months and one month after post-test. In each month PBAC score, Mfg score, AN score and weight were assessed. On 8th day of intervention patient commenced periods which lasted for 7 days with PBAC score 19. The improvement was observed throughout the trial and she started regular cycles with an interval of 28-30 days with PBAC score 100 and 70 in subsequent 2 cycles. In post-test USG was repeated along with safety profile. Ovarian volume reduced to 6 and 5.8 cc and LFT, RFT were within normal limits. One

month post-test follow -up without intervention was also done where woman had periods at 28th day with PBAC score 25. There were no significant reduction in weight, Mfg score and AN score.

Discussion

A young nulligravida woman came to gynec OPD with complaints of irregular menses and heavy menstrual flow since 2 years. Her previous cycle were regular her current cycle was of 7-8 days duration with an interval of 90 days with PBAC score 283. She had taken hormonal treatment for the same but was disappointed. On examination her BMI was 33.77 kg/cm², waist circumference was 90 cm. Her vitals were stable. AN score was grade 2, Mfg Score was 10. Local examination revealed nothing. Investigations were carried out which revealed polycystic ovarian syndrome with right and left ovarian volume 10.8 and 14.7cc. She had negative family history for PCOS. Family history becomes relevant as PCOS has genetic relevance and can run in families.

In present scenario, PCOS has become common because of lifestyle, stress and other factors. The first and foremost thing to treat PCOS is to advice lifestyle management, healthy diet and stress free life. As this was advised in this woman along with potent unani formulations the woman was able to regain her menstrual regularity with moderate amount of flow. Various single and compound drugs have been mentioned in classical Unani literature for amenorrhoea, obesity and phlegmatic disorders. As the disease is considered to be phlegmatic and *barid mizaj* , *Ilaj bi'l didd* is applied where opposite temperament drugs are used like *Nankhwah*, *Badiyan* and *Wajturki*. As these medications are of hot temperament and also possess properties like emmenagogue, antioxidant, anti-inflammatory, anti-hyper-lipidemic, anti-obesity, hepato-protective and have phytoestrogens in it, which might have helped in regaining the regularity of menses, amount of blood flow and reducing ovarian volume on US within 3 Cycles.

Conclusion

Based on the information provided above it can be concluded that unani formulations have the potential to treat PCOS and regain menstrual regularity with amount of flow without any observable side effects and it may be helpful as complementary treatment along with lifestyle modifications to treat the symptoms of PCOS. However long term follows up and comparative clinical studies are needed with good sample size to validate the efficacy of these drugs.

Informed consent

Taken

ACKNOWLEDGEMENT

National Institute of Unani Medicine And Dept of Ilmu Qabalat Wa Amraz Niswan

CONFLICT OF INTEREST

There are no competing financial interests of the authors.

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Funding

National Institute of Unani Medicine

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