

CONCEPT AND MANAGEMENT OF POLYCYSTIC OVARIAN SYNDROME IN GRECO ARABIAN MEDICINE: A REVIEW STUDY

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ABSTRACT

The Polycystic Ovarian Syndrome is one of the most common causes of oligo-ovulatory infertility and it is the most common endocrinopathy affecting premenopausal women. It is a condition that has likely affected women for all of time as it is documented in the oldest medical literature. It starts appearing at 15 to 25 years of age & it may take years for its clinical presentation to appear. It is characterized by oligomenorrhoea, obesity, hyperandrogenism and infertility. Over all incidence of Polycystic Ovarian Syndrome is 4% to 22% in women & 50% of women seen at infertility clinics. It is an incompletely understood enigmatic disease of heterogeneous nature. The main aim of this paper is to provide the brief history of Polycystic Ovarian Syndrome in Unani system of medicine.

KEYWORDS: Polycystic Ovarian Syndrome, Unani system, , Marz Akyas Khusyatur Rehm.

INTRODUCTION

This special issue provides gynecologists with the opportunity to explore recent advances that have and will continue to propel our subspecialty forward. Simultaneously, it provides us with the opportunity to look back and appreciate the landmark moments that have led us to our current state of affairs. It is with this spirit, mindful of Goethe's words, that this paper will focus its attention on a brief history of Polycystic Ovarian Syndrome and its management.

Polycystic Ovarian Syndrome is an ailment that has seemingly affected women for all of time. Infact, the problem of Polycystic Ovarian Syndrome and its potential treatment is described in the oldest documented medical literature, there is little in the Egyptian papyri (Kahun, Smith and Ebers) regarding the antiquity of Polycystic Ovarian Syndrome, an examination of later ancient medical records provides clues. Some quotes relating to Polycystic Ovarian Syndrome are mentioned below:

Hippocrates (460-377B.C) noted, "that those women whose menstruation is less than three days or is meager, are robust, with a healthy complexion and a masculine appearance, yet they are not concerned about bearing children nor they become pregnant."^[1]

Soranus of Ephesus (98-138 A.D) postulated that women who are masculine type donot menstruate and are sterile.^[2]

Musa Ibn Maimon or Maimonides (1135-1240 A.D) noted that there are women whose skin is dry and hard, and those natures resemble the nature of man. However, if any women's nature tends to be transformed to the nature of a man, this does not arise from medications, but is caused by heavy menstrual activity.^[3]

Ambroise pare (1510-1590 A.D) observed that "many women, when their flowers or tearmes be stopped, degenerate after a manner into a certain manly nature, when they are called viragines, that is to say stout, or manly women; therefore their voice is loud and harsh, like unto a mans and they become bearded."^[4]

Abu Bakr bin Mohammed Zakaria Razi or Rhazes (860-925AD) Postulated that amenorrhea usually occurs in those females with fair complexion and phlegmatic temperament.

He mentioned that once a multiparous women, who widowed suddenly become amenorrhic for long duration and during this, her body fat diverted towards the male pattern, excessive growth of hairs all over body, her voice become hoarsened and later she died probably due to the complication of this disease.^[5]

He also stated that the cessation of menstruation occurs due to *Zoffae Kabid* (weakness of liver) and sometime due to involvement of other organs.

He also mentioned the views of different Atibba about *Marz Akyas Khusyatur Rehm* (PCOS). Some views are as under.

- a) According to Jalinus or Galen: - If you see a female having characteristics of male then there is nothing which can stop this, and it occurs in such females which resembles male seldom. They have decreased bleeding vaginum and decreased body mass.
- b) According to Buqrat or Hippocrates: - Once it came to my observation to see such women, i tried to bring menstruation but not effective and no milk was released and she died.^[6]

Shaikhur Rayees Abu Ali Husain bin Abdullah bin Sina (980-1037 A.D.) mentions: “If the menstruation blood is *motadil* (balanced) in quality and quantity and the cycles are regular. It preserves health and prevent from diseases. If the menstruation is irregular and abnormal it causes many disease like *Ahetabase Tams* (Amenorrhea) and *Qillate Tams* (Oilgomenorrhea)”. He also stated that cessation of menstruation occurs due to *Zoffae kabid* (Weakness of the liver), *Samn-e- mufarat* (obesity), amalgamation of phlegm in the blood and deficiency of *madda* (substance), this deficiency can be of diet. If there is ample amount of diet and even then there decreased amount then it is possible that there is no waste in the diet. All the food becomes the part of the body this type of women resembles to male. The digestion is good, and her body would be able to keep the digested food in the body properly and remove the waste like the male counterpart. These women develop good and heavy biceps and muscle tone increases. Among these women’s there are some which develops male temperament. The pelvis become short and narrow and there chest becomes broaden.^[7]

Shareef Sharfuddin Ismaeel Jurjani (died in 1140 A.D.) Stated that amenorrhea occurs due to *Samn-e -mufarat* (obesity) and *Zoffae Kabid* (hepatic weakening). There are two reasons due to which obesity leads amenorrhea. First it causes narrowing of blood vessels due to which the flow of blood become reduced and second the blood is consumed for the nutrition of

excess muscular mass and hence no excreta (menstrual blood) is left to be expelled out through menstruation.^[8]

Maseehul Mulk Hafiz Hakeem Ajmal Khan(1864-1927A.D.) Cessation of menstruation occur either from the beginning or ceases after sometime of normal menstruation or comes in decreased amount than normal or occur in a little amount with a gap with pain.

He mentioned that the excessive use of ghaleez aghzia causes the formation of Balgham and Sauda in excess quantity. With Excessive quantity of *Balgham* and *sauda* results in viscosity of blood, viscous blood doesn't passes from small vessel fluency. So, during menstruation blood doesn't expel out in adequate quantity.^[9,10]

Ibn-e- Hubal Baghdadi (1122-1213A.D):- He stated that cessation of menstruation occurs due to weakness of *Quwwate mumayza* and *Quwwate dafi'a*.

He mentioned that due to complete utilization of blood as a corrective agent (generalized) in such a way that it leaves behind no excreta as it is commonly seen in obese and chubby women whose temperament corresponds with masculine.

He also stated that amenorrhea may be secondary to pathology of other viscera's like *Zoffae Kabid* (hepatic weakening) which is unable to saggregate waste part of blood(menstrual blood) or it doesn't produce the menstrual blood efficiently.^[11]

Hakim Mohammed Kabir-al-din (1894-1967 A.D):- While describing amenorrhea he mentioned that the cause of amenorrhea is obesity and *Zoffae kabid* (hepatic weakening).

He also mention the views of different *Atibba* about *Marz Akyas Khusyatur Rehm(PCOS)*.Some views are as under.

- a) **According to Shaikhur Rayees:** When women suffered from congenital amenorrhea, she is well built and appears like a man, hairs developed all over body and her voice become low pitched and hard.
- b) **According to Jalinus or Galen:** if a women gets transferred towards the masculine nature then its menstrual cycle ceases and this condition occur in those females who are similar to males, and their vessels are hidden and filled with blood.

Ali bin Abbas Majusi (930-994 A.D):- mentioned in his book that amenorrhea may result from the obesity and the liver disorder. He prescribed if women are obese then do strenuous exercise, fasting, taking less and light diet and purgative should be used to expel the *Balgham* (phlegm).

Hakim Mohd Akber Arzani (Died in 1721 A.D.) stated that amenorrhea occurs when the blood becomes viscous due to cold or due to amalgamation of some other fluids (*Akhlat*), and obesity due to which the way of uterus get pressed and closed.

Allama Qarshi (1900-1990): Stated that amenorrhea occur due to cold exposure which results into increased viscosity of blood, even mixing of two humors renders enhanced viscosity of blood. In such condition there is greenish white discoloration of the body, polyurea, steatorrhea, sleepiness and if the cause of amenorrhea is ill temperament of cold variety then patient looks milky white, pulse is slow and irregular and with the cold sensation of blood.

Shifa-ul-Mulk Hakim Muhammad Hasan Qarshi (1896-1938 A.D.): Mentioned that the cause of amenorrhea are increased viscosity of blood, use of cold temperament products, obesity, and exposure to cold .He recommended that, if the cause of amenorrhea is phlegmatic dominance, obesity then use purgative 2-4 days prior to expected date of menstruation. This should be accompanied with sitz bath of mustard seed(20grams).

Ghulam Jeelani (1873-1926A.D): He stated that amenorrhea occur because of two reasons one is use of *ghaleez aghzia* which causes the formation of *Balgham* and *Sauda* in excess quantity. Excessive quantity of *Balgham* and *sauda* results in viscosity of blood. viscous blood doesn't pass from small vessel with fluency and second is obesity.

Nafis ibn Iwad Kirmani: He stated that cessation of menses occur when blood becomes viscous due to cold or due to amalgamation of some other fluids (*Akhlat*) like amalgamation of phlegm in blood leads to increase the viscosity of blood, hence the viscous blood doesn't pass from blood vessels.

Abul Mansoorul Hassan Qamri (1980) mentioned the views of different Atibba about Marz Akyas Khusyatur Rehm. Some views are as under.

According to Yunus: Amenorrhea occur because of *Zoffea Kabid* (hepatic weakening).

Hakim Mohmamed Azam Khan (1813-902 A.D.): While explaining the treatment of amenorrhea, he mentioned that the amenorrhea occurs due to *Samn-e -mufarat* (obesity) which leads to obstruction in blood vessels.

Hakim Abdul Hamid (1908-1999) mentions that amenorrhea occurs because of amalgamation of *Balgham* (phlegm) in the blood or due to *baroodat* (excessive coldness) which leads to increase the viscosity of blood.

PATHOPHYSIOLOGY

The history of disease is as old as the mankind. During the prehistoric era, the disease and maladies were considered as the cure and evil spirit inflicted by the God and Goddess. The primitive benighted people use to exorcise their patients to get rid of the suffering of the diseases and used to implore and knell down in supplication for their deliverance from the curses and evil spirits. It was the Hippocrates (460-377BC) who firstly postulated the concept of disease due to the imbalance of humors and hence emphasized on natural knowledge and hence freed Medicine from the realms of superstition and magic, and gave it the status of science. In Unani Medicine, the pathophysiology of general diseases has been attributed to three factors viz. *mizaj* (temperament), *tarkeeb* (structure) and *ittesal* (continuity of tissues). Abnormalities of these factors are considered as: *Sue Mizaj* (dyscrasia), *Sue Tarkeeb* (dyscomposition) and *tafarruq-e- Ittesal* (discontinuity in tissues) respectively. *Mizaj* is a specific and distinct state of an individual reflecting neuro-endocrinal, genato-metabolic and somato-environmental equilibrium at the optimum functional level of adjustment. The harmony of Specific *mizaj* results in proper and healthy functioning of the body and derangement in this distinct state consequently becomes the cause of ill-health. The derangement of *mizaj*, results from the shift in the equilibrium of four qualities (*kaifiyate arba*) i.e. *haraarat* (hotness), *baroodat* (coldness), *ratoobat* (moistness) and *yaboosat* (dryness) is considered as *sue mizaj sada* and if this imbalance is at the level of *Akhlat* (body fluids/humors), it will be considered as *sue mizaj maddi*^[109] in Unani medicine, as is well known, based on the Hippocratic humoral theory. This theory supposes the presence of four humors in the body viz: blood, phlegm, yellow bile and black bile. The *mizaj* of individuals are expressed by *damwi* (sanguine), *balghami* (phlegmatic), *safrawi* (choleric) and *saudawi* (melancholic) according to the dominance of the humour. Every person is supposed to have a unique humoral constitution which represents his state of health and

any change in this state result in disease. The severity of the disease depends directly upon the deviation of mizaj from normal.

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.

Ibn-e- Rushd stated that qualitative or quantative change of phlegm result into cold and moist temperament pathologies. Common examples include phlegmatic swelling and phlegmatic fever. Despite this, some of the phlegmatic swellings are the result of excessive diluted form of the phlegm i.e. *Balghm -e-raqeeqi*, that exhibits gaseous nature, mostly seen in hands and legs of ascites patient. Such types of swellings are enclosed in a membrane to form cyst (*keesa*).

From the above description, it is evident that *Marz-e-Akyas-e-khusyat-ur-Rehm* (Polycystic Ovarian Syndrome) is a phlegmatic swelling of honey comb pattern of ovaries and is a result of excessive diluted phlegm (*Balgham-e- Raqeeqi*). It can be summarized that according to Unani concept, *Marz-e-Akyas-e-khusyat-ur-Rehm* (Polycystic Ovarian Syndrome) is a phlegmatic swelling of ovaries. As they are soft in nature, so can be dissolved by drugs which are *Mushil-e-balgham* or have temperament just opposite to that of Phlegm i.e. *Har Yabis*.

CLINICAL FEATURES

Different Unani physicians mentioned different signs and symptoms of *Marz-e-Akyas-e-khusyat-ur-Rehm* (Polycystic Ovarian Syndrome). Brief description of them is as follows:-

Zakariya Razi mentioned the following clinical picture of *Marz-e-Akyas-e-khusyat-ur-Rehm*(Polycystic Ovarian Syndrome)

- Fatigue
- Obesity
- Hirsutism
- Hoarseness of voice
- Loss of appetite
- Aches in back and head

Ehtebas-e-Tams (ammenorrhea), if persists for a longer period may cause the accumulation of *ratoobat* (moisture) in the women's body making her flaccid. Such women become vulnerable to develop ascites.^[6]

Ibn-e-Hubal Baghdadi postulated that hirsutism, hoarseness of voice and beard moustache are main signs of *Marz-e-Akyas-e-khusyat-ur-Rehm* (Polycystic Ovarian Syndrome). He mentioned that if a women experiences long gap between two menstruation cycles, she has intense pain due to excessive loss of blood within less time. He further stated that, if amenorrhea occurs due to hepatic involvement, there is an abnormal pattern of menses right from the beginning associated with change in skin colour and heaviness in right hypochondrium. Urine is white in colour, often there is a complaint of haematuria.^[11]

As per Allama Qarshi, main clinical features of *Marz-e-Akyas-e-khusyat-ur-Rehm* (Polycystic Ovarian Syndrome) are; patient looks milky white, her pulse is slow and irregular and cold to touch.

Ibn-e-Sina and Kabir-ud-din stated that women who have *ehtebas-e-tams* are likely to deviate towards the masculinity and develop features of hirsutism, virilisation and deepening of voice. As it is an untreatable condition, ultimately women may die. If the cause of *ehtebas-e-tams* (amenorrhea) is *baroodat* (coldness) then, patient has deep sleep, her body becomes white, vessels appear whitish green, her pulse is slow, sweat is very cold along with increased volume of urine and frothy stool.^[7]

Hakeem Azam Khan, Raban Tabri and Hakim Akber Arzani and M.A Israili stated that the clinical picture of ammenorrhic women includes: white complexion, white greenish appearance of vessels, laziness, *tafawat-e-nabz*, increased frequency of mictruition and phlegmatous stool.

All of these clinical features are same as present in dominance of *khilt-e-balgham* which is in accordance with the pathophysiology of the disease.

COMPLICATIONS

Views of Atibba about the complications of *Marz-e-Akyas-e-khusyat-ur-Rehm* (Polycystic Ovarian Syndrome) are described below:

Razi mentioned that amenorrhea can result in several complications which can be attributed to

- Closure of uterus
- Obstruction of those vessels in which menstrual blood flows
- Increased viscosity of blood
- Increased coldness
- Closure of mouth of vessel

And if these causes persist for a long duration, then certain diseases of uterus occur like Warm rehm haar aur sulb, saqiroos can occur.^[6]

Hakim Kabir-ud-din and Ibn-e-Sina stated that when the menstrual blood goes down to the uterus and does not find an outlet, it returns back to the body and this gets repeated, which result in many diseases. Most common of them are leucorrhoea, hysteria, infertility, hot and hard swelling, inflammation of viscera, loss of appetite, improper digestion, headache, epilepsy, melancholia, paralysis, disorder of chest like asthma and liver disorder like ascites etc. Apart from this, the colour of body changes, there is difficulty in urination, back ache and neck pain, boil formation in pelvis and difficulty in speech.^[7]

Ibn-e -Hubal Baghdadadi mentioned that when amenorrhoea occurs, the body becomes disfigured. Hysteria is complained and *Sue mizaj kabid* proceeds along with the *Auram-e-kabid*, ascites, gastric weakness, anorexia, polydipsia, hyperemesis, palpitation, cardiac weakness, giddiness, headache, epilepsy and paralysis.^[11]

Ismail Jurjani stated following complication can occur due to cessation of menstruation.^[8]

- Paralysis
- Headache
- Gastric weakness
- Cough
- Breathlessness
- Ascites

DIAGNOSIS

Ibn-e -Sina, Akber Arzani, Hakim Azam Khan and Kabir-ud-din postulated that, if the cause of cessation of menses is *Sue Mizaj Barid*, then diagnosis can be made by considering following points.

- Symptoms of deep sleep

- Body becomes white
 - Whitish green appearance of vessels
 - Pulse is slow
 - Sweat is very cold
 - Increased volume of urine
 - Frothy stool
2. Ibn-e- Hubal Baghdadi stated that if the cause of amenorrhea is hepatic weakening (*Zof-e-Kabid*), then following points will be helpful in making the diagnosis.^[11]
- Irregular periods
 - Pain and heaviness in right hypochondric region
 - Anorexia
 - Pallor and puffy face
3. Assessment on the basis of Dominance of phlegm with the menstrual blood^[7] White and diluted menstrual blood indicates the dominance of phlegm.
4. Assessment can be made on the basis of presence of nature of pubic hairs Soft and scanty pubic hair as they indicate *baroodat* and *ratoobat* i.e. barid temperament similar to phlegm.^[7]

Management of PCOS

Unani system of medicine has described a well organized line of treatment in the management of diseases. The fundamental principle in the treatment is to restore the normalcy of patient, correction of imbalance of *mizaj* and to restore the balance of humors in the body by evacuation of excessive and deranged/ abnormal humors. Eminent Unani physicians managed Ehtebas-e-Tams differently based on the Usool-e-Ilaj. Some descriptions are noted below.

Razi mentioned that if amenorrhea occurs due to dominance of viscous or cold humour, then it is better to do venesection and expel the humour, & if cessation of menstruation occur due to increased viscosity of humour, then the patient is asked to sit on decoction of afaweena and mulatif diet and drugs should be given. He also mentioned that if the menstrual blood is concentrated and not so much black but it is phlegmatic in nature then evacuate (tanqia) the phlegm and if water content is more in the menstrual blood then watery phlegm (Balgham

Mahi) should be evacuated. He also stated that if the cause of amenorrhea is obesity then advice exercise, less intake of food, hot enema and massage with roghen natroon and zuft followed by hammam to reduce body fat and weight He also stated that the cessation of menstruation occurs due to weakness of liver (*Zoffae Kabid*) and sometimes due to involvement of other organs. It's diagnosis and investigation should be done and treatment is done by venesection of related vein.^[6]

Ibne Hubhl Baghdad described that use initially mild and then high power emmenogauge drugs to evacuate all those humors that causes viscosity of blood or produced obstruction.^[11]

Hakim Ghulam Hassan Quarish and Hakim Ajmal Khan postulated that if the cessation of menses occurs due to phlegmatic dominance, obesity and cold exposure, then purgatives should be used 2-4 days prior to the expected date of menses. This should be accompanied with sitz bath of mustard seed (20grams).^[9]

Raban Tabri stated that use of hot and lateef advia that decrease the viscosity of blood, venesection of saphenous vein and use emmemogauge drugs for menstruation. He also said that once the diagnosis of disease is made then Ilaj biz zid should be applied. If the disease is hot in nature then cold drugs should be used but if there is coldness in the body then hot drugs should be given.

Ismail Jurjani described that if the cause of ceasation of menses is farhabhi (obesity), viscosity of blood and coldness of temperament, then her body should be cleaned from the viscous humor by applying the method of emesis or purgation. After evacuation of viscous humor hot fomentation should be given, so that menstrual blood is expelled towards it way. After hot fomentation, vensection of sephenous vein should be done.^[8]

Hakim Akber Arzani and Ibne Nafees stated that if amenorrhea occurs due to viscosity of blood and obesity, then its treatment should be done with mulatif drugs and exercise respectively.

Hakim Kabeerudin postulated if menses stops due to coldness, viscosity of blood and obesity then hot temperament diuretic drugs along with *Ma-ul-usool* (beverage of roots) should be given. If it is due to phlegmatic dominance then it should be expelled by using the method of emesis and purgatives. Mulatif drugs should be given.

Mohd Tabri said that Barid ratab sue mizaj of liver should be treated with hot and dry method but it should be of moderate level only.

Majoosi stated that if menses stop due to viscosity of blood and sue mizaj barid and then use Haar temperament adiva and mulatif advia is advisable.

Treatment

In Unani system of medicine, the basic principle is *Ilaj Bil Zid* i.e. treatment is in contrast to nature and *Mizaj* of the disease and is adopted in two ways i.e. observational and rational methods which are employed through diet, drugs, regimes, manipulation techniques and operations. The management of *Marz Akyas Khusyatur Rehm* (Polycystic Ovarian Syndrome) comprises the treatment of phlegmatic diseases, amenorrhea and obesity. The treatment is categorized under three heading

- *Ilaj Bit Tadbeer* (Regimental Therapy)
- *Ilaj Bid Dawa* (Pharmacotherapy)
- *Ilaj Bil Yad/Jarahat* (Surgery)
- *A. Ilaj Bit Tadbeer* (Regimental Therapy):

Galen was the first to establish scientific method to treat morbid obesity such as modification in diet, exercise, and modification that are valuable till today.

Zakaria Razi in his book *Al- Hawi Fit-Tibb* and *Kitabul Mansoori* mentioned specific treatment of obesity, including *Ilaj bil ghiza* (dietotherapy), drugs, exercises, and massage, hydrotherapy, and lifestyle changes, in the light of his own experience and practice. He advice to take saltish eatables of laxative nature.

Ibn Sina advocates seven important points and regimen to counter and manage obesity.

1. Procure rapid descent of food from the stomach and intestines, in order to prevent completion of absorption by the mesentery.
2. Bulky but feebly nutritious food.
3. Take bath before food.
4. Hard exercise,
5. Massage with Resolvent oils.
6. Electuaries; the lesser myrobalan electuary; electuary of lacca; “theriac”

7. Take vinegar and salt, while fasting.

B. Ilaj Bid Dawa (Pharmacotherapy)

As per Raban Tabri the diagnosis of disease is made then Ilaj biz zid should be applied. If the disease is hot in nature then cold drugs should be used but if there is coldness in the body then hot drugs should be given.

Ilaj Bil Yad/Jarahat (Surgery)

It should be only used when Ilaj bid Dawa is impossible.

DISCUSSION

Though *Greeco Arab medicine* has been in practice since centuries to treat various types of metabolic disorders, this review paper is a concerted attempt to bring it to medical domain for the larger benefit.

In the study of Abur Rasheed^[12], *Kalawnji* has effect on almost all parameters but statistically significant result was only on total cholesterol and HDL cholesterol. While in other studies, extract of *Nigella sativa* has effect on lipid profile, it decreases intracellular cholesterol due to an upregulation of LDL receptors, mentioned by Inayatullah Bhatti *et al* (2009)^[13] Supplimentation of *Nigella sativa* seed has favourable effect on lipid profile this may be due to possible choloretic activity. The choloretic function of *N. sativa* is either by reducing the synthesis of cholesterol through hepatocytes or by decreasing or its fractional reabsorption through small intestine Mohammad Anwar Buriro, Mohammad Tayyab (2007)^[14] *N. sativa* is effective in lowering the cholesterol level and improving the lipid profile, possible mechanism may be either inhibit cholesterol synthesis or stimulates bile acid excretion. It is known that both effects would leads to a decrease in serum cholesterol. Another mechanism that was proposed that *N. sativa* increases the production of LDL receptors (Ahmad Najami 2008)^[15] Another study is suggested that *N.sativa* has slight anorexic effect causes hypolipidemic effect by Ashish S Fhadekar (2007).^[16]

The normal ratio of cholesterol and HDL is ≥ 4.5 , recommended by Harrison's Internal medicine.^[17]

CONCLUSION

Greeco Arab Medicine plays important role in the management of PCOS, provided that the drug should be used judiciously with all the facts taken into consideration. Besides the

fundamental importance of this pharmacotherapeutic methodology there is a problem of lack of uniform standardisation. It therefore apparently seems essential to standardize it and to develop certain scientific parameters for evaluation of the efficacy of this drug as it is cost effective, user friendly devoid of adverse effects. Hence scientific studies are being undertaken to validate this age old drug in different Unani research institutions of India so that the benefits may be reaped by large section of society. This therapy must also be evaluated for prophylactic use so that some of the impending attacks / bouts of disease can be averted.

List of abbreviations

PCOS Polycystic Ovarian Syndrome et al Et alii or et alia (and others) *N.*

atiba Nigella sativa p P value

HDL	High density lipoprotein	<	Lesser than,
LDL	Low density lipoprotein	>	Greater than
VLDL	Very low density lipoprotein	≤	Lesser or equal to
GIT	Gastrointestinal tract	≥	Greater or equal to
BC	Before Christ	AD	Anno Dominiaand

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