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Review Article

**UTERINE ASTHMA: A TYPE OF ASTHMA DESCRIBED IN
TRADITIONAL PERSIAN MEDICINE**Sohrab Dehghan¹, Seyyed Shamsadin Athari², Saeed Sadr³, Zahra Gorji¹, Rasool Choopani^{1*}¹ Department of Traditional Medicine, School of Traditional Medicine Shahid Beheshti
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University of Medical Sciences**Abstract:**

Background: Asthma is becoming a major health issue globally. Despite a range of short and long acting agents for the management of acute and chronic asthma, these are not effective on all patients. This encouraged us to find other mechanisms for the treatment of this disease. The aim of this study was to present the uterine conditions which can play a role in development of asthma. Traditional Persian Medicine (TPM) describes a type of inter-organ relationship in the form of uterine asthma, in which the asthma symptoms are a result of uterine ailments. Hence, the management of uterine asthma depends on controlling the uterine problem first.

Methods: In this review, we searched the major TPM manuscripts and compared our findings with modern studies by searching databases such as PubMed, Scopus, and Google Scholar.

Results: Two uterine ailments can show symptoms of asthma. These are 'Ehtebase tams' (amenorrhea, oligomenorrhea, and hypomenorrhea), and 'Ekhtenaghe rahem' (uterine strangulation or respiratory and neuropsychiatric symptoms of uterine origin). Each of these has its own set of symptoms. Through the association mechanism described in TPM, they can result in symptoms of asthma.

Conclusion: New medical studies support the relationship between menstrual irregularity and asthma symptoms. In addition, there is new evidence to suggest that distant organs in the body are connected to each other through a special network, a concept that is mentioned in TPM manuscripts. Further investigations in the near future can help us better understand these relationships, especially in the field of asthma.

Keywords: Asthma, Traditional Persian Medicine, Menstruation, Uterus

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INTRODUCTION:

Asthma is an airway disease of a chronic nature, which is the result of complex environmental and genetic factors [1]. An estimated 300 million people worldwide suffer from asthma. It is believed that by 2025, this figure will rise to 400 million [2, 3]. The symptoms of asthma include wheezing, cough, dyspnoea, and pain or heaviness in the chest [4]. Currently, management of acute asthma involves the use of beta-2 agonists alone or in conjunction with quaternium agents plus corticosteroids in oral, inhalational, intravenous or intramuscular form [5]. For the long-term control of asthma, corticosteroids, long-acting beta agonists, mast cell stabilizers and leukotriene antagonists are considered [6-9]. Despite recent advancements, the medical community still faces some difficulties in controlling asthma. A major concern is that the current therapeutic approach is not effective for all patients [10]. This encourages us to look for other possible mechanisms in the development of asthma. One way of finding these mechanisms is to investigate other systems of medicine, such as Traditional Persian Medicine (TPM).

In TPM references, we encounter the term '*rabv*', a disease of the respiratory system in which the pattern of irregular breathing resembles a person who is suffocating. It has a periodic nature with occasional attacks. The origin of its pathology can be in the chest wall, the lungs or the airways [11]. The phlegmatic type of this disease, '*rabv balghami*', which is the most common one, is characterized by the presence of thick sputum along with narrowing, obstruction and inflammation of airways. This is close to asthma in current medicine [12-14].

TPM also has its unique view on body organs and the way they function together. Ancient Persian scholars also highly emphasized this functional relationship. The description of body organs starts with three principal organs that are most important to the whole body—the heart, the brain, and the liver. These serve the whole body as well as each other by providing the vital energy necessary for survival. For reproduction, there is a fourth principal organ, which is the ovary in females and the testicle in males [15, 11]. Interestingly, there is a two-way relationship between the principal organs and the rest of the body. That is, dysfunctions in other organs can influence the heart, the brain, and the liver. For example, the heart, as a principal organ, is affected by the two other principal organs plus the stomach, the lungs, the uterus, and the intestines. The brain is affected by the heart and the liver, plus the lungs, the spleen, the kidneys, the bladder, and the stomach. Similarly, the liver is

affected by the heart and the brain, plus the stomach, intestines, lungs, uterus, kidneys, and the bladder [16]. Moreover, non-principal organs are also related to each other, especially when an ailment is concerned. This kind of relationship is called association ('*mosharekat*').

Associative diseases hold a special place in TPM. This term is often used when a certain organ has an ailment due to its association with another organ in the body [16].

There are several mechanisms through which the association can happen:

- a- One organ being in the way of transmission of the disease to another for example the groin located in the way of disease transmission to the foot
- b- One organ being adjacent to another organ for example the association between heart and the lungs.
- c- One organ being essential for the stimulation by another organ for example the stimulation of nerves by the brain
- d- Two organs being parallel to each other (*Muhadhi*) for example the association between the stomach and the brain
- e- One organ being the recipient of the wastes of another organ for example axilla receiving the wastes from the heart [17].

The importance of knowing about associative diseases is that by identifying and treating the organ in which the pathology has first started, we can manage the second organ [16]. By searching the section of associative diseases in TPM references, we come across a remarkable subject, which is uterine asthma. It refers to diseases of uterus as a causative factor for the development of asthma. Persian physicians regard the uterus as an 'honourable' organ [18, 11, 19, 20]. Its importance is not limited to its role in menstruation and reproduction. Many ailments related to the brain, stomach, liver, kidneys, eyes, ears, and lungs can originate from uterine dysfunctions through the mechanism of association [20]. *Ibn Sina* (Avicenna), the most recognized Persian physician, has highlighted this subject by stating that 'if, due to any reason, the menstrual discharge finds no way out of the uterus, it can leak back. If this process continues, the waste material can diffuse through the body, creating a range of diseases in various organs'. Uterine asthma is one of them, in which the lungs are involved [11]. *Hakim Arzani* has put it in this way: 'If any dystemperament involves the uterus, its effects can appear in the whole body because the uterus is an honourable (sharif) organ

and its dystemperament can be transmitted to the entire body' [20].

In this article, we have discussed the role of uterine ailments in the development of asthma according to TPM, hoping that understanding this association will help us manage asthma better in future.

MATERIALS AND METHODS:

With the help of the Noor digital library, we looked in major references of TPM with focus on the diseases of respiratory system and uterus, including the '*Qanun fi al-teb*' (Canon of medicine) by *Ibn Sina* (Avicenna), '*Tebbe Akbari*' by *Hakim Arzani*, '*Zakhireye Kharazmshahi*' (Treasure of the Khwarazm Shah) by *Jorjani*, and '*Eksire Azam*' (Great Elixir) by *Hakim Azam Khan*. We used the keywords '*rahem*', '*rabv*', and '*zigh-ol-nafas*'. At the same time, we searched the PubMed and Scopus using the keywords '*asthma*', '*uterus*', '*menstruation*', and '*oligomenorrhea*' up to September 2016 to find the related evidence in current medicine. Our search resulted in 12 articles from which full texts of 5 articles were studied. Among them the contents of 2 articles were relevant to our subject.

RESULTS:

The importance of uterus not only covers the concepts of menstruation and reproduction but also the role of uterus as a causative factor for ailments of other organs through the mechanism of association. Considering this association between uterus and development of asthma, our investigation through TPM references led us to two uterine problems: '*Ehtebase tams*' (amenorrhea, oligomenorrhea, and hypomenorrhea) and '*ekhtenaghe rahem*' (uterine strangulation). Knowing these conditions can clarify the pathology and even management of some types of asthma that are resistant to conventional treatments.

Ehtebase tams

This condition in Persian medicine is equivalent to amenorrhea, oligomenorrhea, and hypomenorrhea in current medicine. While the normal quality and quantity of menstrual bleeding at regular intervals are crucial for a woman's health, its untimely cessation can be harmful, according to TPM [21]. Several factors are responsible for the development of '*Ehtebase tams*', such as obstruction in different parts of the reproductive system, obesity, emaciation, and anaemia due to malnutrition or liver weakness (*Jorjani*). If the excretory matter cannot find a way out in the form of menstrual blood, it can leak back to the uterus and other organs [11]. *Hakim Jorjani* believes that a change in the colour of face, headache,

and a sense of heaviness in the tongue are usually the first symptoms [16]. Later on, complications like dropsy of uterus, uterine strangulation, and ailments of the stomach, liver, and brain are developed. Interestingly, another major organ that is affected is the lungs in the form of uterine asthma and cough [20].

Ekhtenaghe rahem

This disease, which can be translated to uterine strangulation, may be described as the presence of neuropsychiatric and respiratory symptoms of uterine origin. Patients suffering from this condition can have vertigo, headaches, convulsions, coldness of limbs, a weakened pulse, dyspnoea, and asthma [20, 16]. Generally, two groups are prone to this condition: women suffering from '*Ehtebase tams*' (amenorrhea, oligomenorrhea, hypomenorrhea) and women in the reproductive age group with a lack of sexual activity [20]. Scholars of Persian medicine believe that while the uterus is the origin of this condition, neuropsychiatric and respiratory symptoms occur due to a special association and connection of the uterus with the brain, heart, and lungs [16]. When amenorrhea, oligomenorrhea or hypomenorrhea happen, the vessels of the uterus become overloaded. Accumulation of waste materials in the channels of the uterus can lead to the development of obstruction. This can lead to two scenarios: first, spasm of uterus with a resultant loss of consciousness, syncope or asthma attack; second, distribution of waste material through the body and the appearance of symptoms like fever, inflammation, painful limbs, headache, vertigo, and melancholia [16, 14]. Avicenna considered a periodic nature of '*ekhtenaghe rahem*' occurring more often in autumn [11]. The sequence of events leading to attacks are well documented by Persian physicians: At first, mental derangement, negative thoughts, headache, weakening of the eyesight, moisture in the eyes, discoloration of the face, weakness of limbs, especially the legs, appear. Then, the patient senses the movement of something vague from the genital region towards the heart along with involuntary movements of the lips and the nose. Finally, the patient loses consciousness [20].

DISCUSSION:

In a study in 2005, Svanes *et al.* investigated the relationship between asthma and irregular menstruation among women of a general population by using the European Community Respiratory Health Survey (ECRHS). It was conducted using a postal questionnaire in Denmark, Estonia, Iceland, Norway, and Sweden with the participation of 8,588 women. The questionnaire included items covering both asthma symptoms and the hormonal status of

women. They found that the prevalence of asthma and allergy was higher in women experiencing menstrual irregularities in the age group of 25 to 42 years. Therefore, they suggested the possibility of a pathological condition linking asthma and allergy to irregular menstruation, mentioning that insulin resistance could have a likely role in this association [22].

In another study in 2007, Real *et al.* conducted a cross-sectional analysis of the ECRHS II, a follow-up to the ECRHS. To evaluate the association of menstrual irregularity and lung function, they used an interviewer-led questionnaire, lung function measurement, bronchial hyper-responsiveness, and serum IgE. In all, 4,259 women in the 28–44 age group were included in the study. The results showed that women with irregular or long menstrual intervals had more asthma symptoms and lower Forced vital capacity (FVC). Real *et al.* concluded that oligomenorrhea, BMI, and physical activity were independently related to asthma, suggesting that a metabolic component in addition to a hormonal component may be responsible for asthma pathophysiology [23].

The disease of '*Rabv*' in TPM texts has various types. Of those, the '*Rabv balghami*' is the most common type. '*Rabv balghami*' is, in fact, the term closest to modern asthma that we have in TPM. In terms of etiology, '*Rabv balghami*' happens due to the presence of excessive '*balgham*' or phlegm in the body. It is caused by a sedentary lifestyle and lack of physical activity, along with obesity and overeating [17]. It is interesting to know that these are the associated risk factors of insulin resistance as well [24, 25]. Therefore, we can conclude that '*rabv balghami*' possesses the risk factors of insulin resistance. This is in line with the suggestion of Svanes *et al.* and Real *et al.* that insulin resistance is responsible for the development of asthma.

In their study, Svanes *et al.* showed the relationship between asthma and irregular menstruation. Real *et al.* revealed the association of oligomenorrhea with asthma and the decline in FVC. The view of the Persian scholars on this subject is similar to these recent findings in the sense that both conditions can exist together at the same time. But the traditional physicians went one step further and mentioned that '*Ehtebase tams*' (oligomenorrhea, amenorrhea, hypomenorrhea) and '*ekhtenaghe rahem*' (uterine strangulation) could be the cause of asthma. Moreover, Persian scholars believe that the management of uterine asthma depends, first of all, on the management of the particular uterine ailment. This idea points to a hormonal origin for uterine

asthma, which is still not fully supported by modern research.

Recently, the emergence of the concept of Inter-organ Communication Network (ICN) has given us amazing information about how the distant organs of the body are connected. Inspired by the research on mammals and fruit fly (*Drosophila melanogaster*), scientists have identified a group of peptides, proteins, and metabolites secreted from various organs, which function in an inter-organic manner and influence the organismal activity for better coordination. This connection is performed at many levels, including aging, protein homeostasis, uptake of nutrients, cell division and movement, and so on [26]. In their review, Droujinine *et al.* mentioned the known secreted factors acting in ICN through their research on *Drosophila*. They mentioned the physiological inducers, origins, and destinations of these factors [27]. We believe these findings can further support the concept of the association developed centuries ago by TPM scholars.

CONCLUSION:

Asthma management is a major health issue and its conventional management is not effective in all patients. Traditional Persian Medicine believes that due to the association of the uterus and the lungs, ailments of uterine origin can result in asthma. This can be seen in two diseases known as '*Ehtebase tams*' which covers the spectrum of amenorrhea, oligomenorrhea and hypomenorrhea and '*ekhtenaghe rahem*' which is the presence of respiratory and neuropsychiatric symptoms related to a uterine ailment. Recent findings also support the relation between irregular menstruation and asthma. We hope to see more researches into the mechanism of this relation and possible new therapeutic approaches in the near future.

Conflict of interest:

None declared.

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