

#### **Open Access**

Crescent Journal of Medical and Biological Sciences Vol. 10, No. 1, January 2023, 2-10 eISSN 2148-9696

# Evaluating the Indices of Diagnosing Uterine Temperament in Persian Medicine: A Review Study



doi 10.34172/cimb.2023.02

Review

Maryam Mashhadi<sup>1</sup>, Atefeh Saeidi<sup>1</sup>, Mojgan Tansaz<sup>1</sup>, Soodabeh Bioos<sup>2</sup>, Malihe Tabarrai<sup>2</sup>, Zahra Darvish-Mofrad-Kashani<sup>3</sup>, Ali Montazeri<sup>4</sup>, Mohsen Saberi<sup>5</sup>, Morteza Mojahedi<sup>6</sup>, Roshanak Mokaberinejad<sup>1\*</sup>

#### Abstract

**Objectives:** According to Persian medicine (PM), the uterus is an important organ in women, responsible for purifying the blood and nourishing the fetus. Each organ has a specific temperament distinct from the whole-body temperament based on PM. Dystemperament occurs when body or organ Mizaj (Persian word for temperament) deviates from what is considered normal, resulting in malfunction. Many gynecological disorders described in PM and conventional medicine, including infertility, recurrent miscarriage, oligomenorrhea/amenorrhea, hypermenorrhea, vaginitis, cervicitis, urinary incontinence, and pelvic pain, are considered to be associated with uterine dystemperaments. Hence, proper management of such disorders requires precise diagnosis and treatment of uterine dystemperaments. Accordingly, this review study aimed to collect and categorize these symptoms from PM texts and other relevant articles.

**Methods:** In this study, we reviewed 10 well-known PM references, including Canon in Medicine (*Al-Qanun Fi al-Teb*), the Great Panacea (*Exir-e A'zam*), the Treasure of Kharazmshah (*Zakhireh Kharazmshahi*), the Perfect Book of the Art of Medicine (*Kamel al-Sana'a al-Tebbiya*), Akbari's Medicine (*Tebb-E-Akbari*), Gharshi's Commentary on Canon of Medicine (*Sharh-e Qarshi bar Qanun*), Commentary on Hippocrates' Aphorisms (*Sharh-e Fosul-e Boqraat*), Summary of Experiences (*Kholasa-tut Tajarob*), Description of Signs and Symptoms (*Sharh-e Asbab va Alamat*), and Aghili's Treatments (*Mo'alejat-e Aghili*). Moreover, Scopus, PubMed, Web of Science, SienceDirect, and Google Scholar databases were queried with the keywords 'mizaj', 'temperament', 'uterus', 'uterine', 'cold/hot or warm', and 'dry/wet', while Persian databases of Magiran, Iran Medex, and SID were searched using keywords '*mizaj'*, '*rahem'*, 'garm', 'sard', 'tar', and '*khoshk'* to extract signs and symptoms associated with uterine temperament and dystemperament. **Results:** Five indicators were specified in the articles and PM sources for determining the temperament and dystemperament of the uterus as follows: 1) Menstrual blood characteristics (including amount, temperature, color, odor, flow rate, and consistency); 2) Uterine discharge characteristics (including infertility, abortion, etc.); 4. Other characteristics of the female reproductive system (including pubic hair, menarche age, sexual desire and quality of intercourse, and vaginal and cervical condition on vaginal examination); and 5) General symptoms (including the ten PM indicators of whole-body Mizaj).

**Conclusions:** PM sources have described the characteristics of uterine temperament and dystemperament in detail. These indices can be used for more effective diagnosis, treatment, and even prevention of gynecological diseases, as well as designing and validation of standard tools for determining uterine temperament and dystemperament.

Keywords: Uterus, Dystemperament, Temperament, Persian medicine, Traditional medicine, Iran

#### Introduction

Individual differences of human beings and the diversity of their abilities in performing various tasks has become a point of focus in recent years (1). Persian medicine (PM) ascribes these differences to Mizaj, which is a key concept in defining human health and disease and plays a key role in prevention, treatment, and lifestyle recommendations (2,3). Based on this viewpoint, each individual has unique physical, physiological, and psychological characteristics, the entirety of which is by virtue of Mizaj. Thus, as long as the temperament is in its defined limits of moderation, biological functions are in an optimum state. However, if the temperament deviates from what is considered moderate, the person is said to have a dystemperament. In addition to whole-body temperament (general temperament), each body organ has its own temperament (4,5).

According to Persian scholars, the uterus is one of the most important organs in a woman's body, which is responsible for purifying the blood and nourishing the fetus. The uterus is connected to vital body organs, including the brain, heart, liver, kidneys, and stomach.

Received 23 June 2021, Accepted 28 December 2021, Available online 7 December 2022

<sup>1</sup>Department of Traditional Medicine, School of Traditional Medicine, Shahid Beheshiti University of Medical Sciences, Tehran, Iran. <sup>2</sup>Department of Persian medicine, School of Persian medicine, Tehran University of Medical Sciences, Tehran, Iran. <sup>3</sup>Traditional Medicine Clinical Trial Research Center, Shahed University, Tehran, Iran. <sup>4</sup>Institute for Health Sciences Research, Academic Center for Education, Culture and Research, ACECR, Tehran, Iran. <sup>5</sup>Medicine, Quran and Hadith Research Center & Department of Community Medicine, Faculty of Medicine, Baqiyatallah University of Medical Sciences, Tehran, Iran. <sup>6</sup>Traditional Medicine and History of Medical Sciences Research Center, Health Research Institute, Babol University of Medical Sciences, Babol, Iran.



Hence, uterine disorders can spread throughout the body (6,7). Many uterine-related diseases in conventional medicine, such as menstrual disorders, increased uterine bleeding, infertility, recurrent abortion, preterm delivery, uterine and vaginal infections, cervicitis, and cervical ulcers, have been associated with uterine dystemperaments in PM (6,8). Accordingly, the health of the female reproductive system, especially the uterus, plays a key role in women's health. Therefore, determining the health and disease status of the uterus is of great importance.

The four main types of uterine temperament in PM include hot, cold, wet, and dry. Various indicators have been described for uterine temperament (9). So far, no comprehensive study has been conducted to recapitulate the symptoms described in different sources. Thus, this review study aimed to collect and classify the indicators of uterine temperament for clinical use and related research.

#### Methods

In this study, we reviewed ten well-known PM references, including Canon in Medicine (Al-Qanun Fi al-Teb)[Avicenna], the Great Panacea (Exir-e A'zam) [Mohammad Azam Nazem Jahan], the Treasure of Kharazmshah (Zakhireh Kharazmshahi)[Esmail Jorjani], the Perfect Book of the Art of Medicine (Kamel al-Sana'a al-Tebbiya)[Ali ibn Abbas Ahwazi], Akbari's Medicine (Tebb-E-Akbari) [Mohammad Akbar Arzani], Gharshi's Commentary on Canon of Medicine (Sharh-e Qarshi bar Qanun) [Ibn Nafis], Commentary on Hippocrates' Aphorisms (Sharh-e Fosul-e Bograat) [Ibn Nafis], Summary of Experiences (Kholasa-tut Tajarob) [Bahaod Dowleh Razi], Description of Signs and Symptoms (Sharh-e Asbab va Alamat) [Nafis ibn Ewaz Kermani], and Aghili's Treatments (Mo'alejat-e Aghili) [Mohammad Hossein Aghili]. Moreover, Scopus, PubMed, Web of Science, SienceDirect, and Google Scholar databases were queried with the keywords 'mizaj', 'temperament', 'uterus', 'uterine', 'cold/hot or warm', and 'dry/wet', while Persian databases of Magiran, Iran Medex, and SID were searched using keywords 'mizaj', 'rahem', 'garm', 'sard', 'tar', and 'khoshk' to extract signs and symptoms associated with uterine temperament and dystemperament.

#### Results

A total of seven articles (six English and one Persian) were directly related to uterine temperament/dystemperament. While two articles examined uterine temperament via self-made tools (10,11), four studies examined uterine temperament symptoms in gynecological diseases (vaginitis, oligomenorrhea, amenorrhea, and abnormal uterine bleeding) (3,12-14). Also, a qualitative study investigated the symptoms of hot and cold uterine dystemperament (8). The criteria for diagnosis of uterine dystemperaments in the articles were similar to those described in the PM textbooks.

Various indicators have been described to diagnose

uterine temperament/dystemperament in PM resources, the most important of which include:

- *Menstrual blood characteristics* (including amount, temperature, color, odor, flow rate, and consistency);
- Uterine secretion characteristics (including amount, consistency, color, odor, and accompanied symptoms, especially burning and itching);
- *Fertility and pregnancy status* (including infertility, abortion, etc);
- Other characteristics of the female reproductive system (including pubic hair, menarche age, sexual desire and quality of intercourse, and vaginal and cervical condition on vaginal examination);
- General symptoms including the ten PM indicators of whole-body Mizaj (skin characteristics on tactile examination, body weight status, hair characteristics, skin color, body dimensions, the rate of affectability by the four qualities, sleep and wakefulness, agility and speed performing tasks, characteristics of body wastes, and emotional and mental states).

After reviewing the literature and PM textbooks, all symptoms and indicators related to uterine temperament/ dystemperament were extracted and summarized in a table. The extracted information revealed that symptoms of uterine temperament/dystemperament are mainly the same. Four of the reference books (*Kholasa-tut Tajarob*, *Zakhireh Kharazmshahi, Al-Qanun Fi al-Teb, and Sharh-e Qarshi bar Qanun*) mentioned the symptoms of different uterine temperaments (Table 1) and six books discussed the symptoms. In general, the term dystemperament is used when dysfunction occurs, and thus treatment is necessary (6).

#### Wet/Dry Dystemperament

Symptoms and features of wet/dry dystemperament of the uterus were grouped into four categories, including menstrual blood characteristics, uterine secretion characteristics, pregnancy and fertility indicators, and general symptoms.

#### Menstrual Blood

*Wet dystemperament*: Increased menstrual blood volume (6,7,9,15-17), thinning of menstrual blood (6,7,9,18), and cold and pale menstrual blood (15).

*Dry dystemperament*: Decreased menstrual Blood (6,7,9,15,18), thick menstrual blood (6,15,18), and retention (cessation) of menstruation (6,7,9).

#### **Uterine Secretions**

*Wet dystemperament:* Excessive uterine discharge during non-menstruation days of the cycle (6,7,18,19), thin uterine discharge (18), and enlargement of the cervix (in severe cases) (9).

*Dry dystemperament*: Reduced uterine discharge during non-menstruation days of the cycle (6,7,18,19), dry vulva and uterus (7,1718), green-colored discharge (19), and

	Temperament			
symptoms	Hot	Cold	Wet	Dry
Menstrual blood	Decreased menstrual bleeding, Amenorrhea in severe cases, Increased uterine bleeding, Thick menstrual blood, Thin menstrual blood in cases of yellow-bile predominance, Foul-smelling menstrual blood, Warmth and burning sensation during menstruation, High menstrual flow rate in cases of yellow-bile predominance, Color spectrum of menstrual blood includes red, blackish-red, yellowish-red, and black	Oligomenorrhea/amenorrhea, Prolongation of menstruation, Prolongation of non-menstruation days, Increased menstrual bleeding, Coldness of menstrual blood, Thin menstrual blood, Thick menstrual blood in severe cases, Color spectrum of menstrual blood lies in a range of whitish or dark and dull, or pale red	Increased menstrual blood volume, Thinning of menstrual blood, Cold and pale menstrual blood	Decreased menstrual blood, Thick menstrual blood, Retention (cessation) of menstruation
Uterine secretions	Red-tinged discharge in cases of sanguine predominance and yellowish foul-smelling discharge in cases of yellow-bile predominance	White discharge in cases of phlegm predominance, Dark, blackish, thick discharge in cases of black-bile predominance	Excessive uterine discharge during non-menstruation days of the cycle, Thin uterine discharge, Enlargement of the cervix (in severe cases)	Reduced uterine discharge during non-menstruation days of the cycle, Dry vulva and uterus, Green-colored discharge, Dryness of the abdominal skin overlying the uterus
Fertility and pregnancy status	Infertility, abortion	Infertility, abortion	Abortion in the first trimester, Some books mentioned abortion beyond six months of pregnancy, Infertility, Weakness of uterine ligaments due to increased moisture and uterine prolapse	Infertility, Abortion, Uterine fissure
General symptoms	Dry lips, Dark urine color, Rapid pulse, Strong pulse, Large pulse, Dilated vessels, Anxiety and palpitations, Thin body habitus, Liver pain, Dry stools, Deepness of breath, Yellow-tinted skin color in cases of generally increased body heat, Dense body hair in cases of generally increased body heat, Desire for cold-tempered foods	Pale urine, Dull-colored skin, White-colored skin in cases of general coldness, Pulse difference, Pulse stiffness, Cold extremities other than in cold environment, Coldness of skin to touch in cases of general coldness, Generalized sparse and white hair, General symptoms of coldness in cases of generalized cold dystemperament	Dullness of the eyes, Periorbital edema	Symptoms of generalized dry dystemperament, Thin body habitus, Excessive and thick hair, Dry skin, Stagnated blood flow resulting in lassitude and lack of energy
Other characteristics of the female reproductive system	Dense pubic hair, Presence of thick black hair on the pubic and inner thighs, Abdominal hair between pubis and umbilicus, Menarche much earlier than 14 years, Feeling of warmness of the vagina on internal examination, Burning sensation during intercourse, Complications of predominance of hot humors (yellow bile and sanguine) including infections and ulcers (e.g. cervicitis), Pruritus, Rashes, Warts	Sparse pubic hair, Thin pubic hair, Menarche much later than years of age, Numbness of the upper uterine area, Feeling of coldness of the cervix during intercourse, Feeling of coldness of the vagina on internal examination, Pneumo-uterus and accumulation of thick vapors in the uterus, Complications of predominance of cold humors (phlegm and black bile) including uterine prolapse in cases of accumulation of viscous laxating humors in the uterus, Firm swelling of the uterus (fibroids) in cases of black bile accumulation, Warts in cases of thick black bile, Uterine hemorrhoids caused by accumulation of black bile		

dryness of the abdominal skin overlying the uterus (17).

## Pregnancy and Fertility

*Wet dystemperament*: Abortion in the first trimester (6,7,9,16-19), abortion beyond six months of pregnancy (9), infertility (6,9,17,19-21), weakness of uterine ligaments due to increased moisture, and uterine prolapse (6,15),

*Dry dystemperament*: Infertility (6,7,9,15,16,20,21), abortion (9,16), and uterine fissure(6,7,16).

# General Symptoms

*Wet dystemperament*: Dullness of the eyes (6) and periorbital edema (15).

*Dry dystemperament*: Symptoms of generalized dry dystemperament (6,18), thin body habitus (6,7,9,16), excessive and thick hair (18), dry skin (7), and stagnated blood flow (15) resulting in lassitude and lack of energy.

# Hot/Cold Dystemperament

Symptoms and features of hot/cold uterine dystemperament were classified into five general categories, including menstrual blood characteristics, uterine secretion characteristics, pregnancy and fertility indicators, other gynecological symptoms, and general symptoms.

# Menstrual Blood

*Hot dystemperament*: Decreased menstrual bleeding (6,9,16-18), amenorrhea in severe cases (6,7,15,19), increased uterine bleeding (6,7,9,15,18), thick menstrual blood (7,9,16), thin menstrual blood in cases of yellowbile predominance (7,16,17), foul-smelling menstrual blood (6,9,18), warmth and burning sensation during menstruation (6,14-16,18), high menstrual flow rate in cases of yellow-bile predominance (7,9,16,17), and color spectrum of menstrual blood including red (6,9,19), blackish-red (17), yellowish-red (6,15,19), and black (6,7,9,16,18,19).

*Cold dystemperament*: Oligomenorrhea/amenorrhea (6,7,9,16-18), prolongation of menstruation (7,17), prolongation of non-menstruation days (6,9,16,18,19), increased menstrual bleeding (6,7,9,15,18), coldness of menstrual blood (15), thin menstrual blood (6,7,16-18), thick menstrual blood in severe cases (18,19), color spectrum of menstrual blood lies in a range of whitish or dark and dull (6,9,18,19), or pale red (7,16,17).

# **Uterine Secretions**

*Hot dystemperament*: Red-tinged discharge in cases of sanguine predominance and yellowish foul-smelling discharge in cases of yellow-bile predominance (6,7,9,15-17,21).

*Cold dystemperament*: White discharge in cases of phlegm predominance and dark, blackish, thick discharge in cases of black-bile predominance (6,7,9,15-17,21).

## Pregnancy and fertility

*Hot dystemperament*: Infertility (15,17,19,21,22) and abortion (6,7,9,19).

*Cold dystemperament*: Infertility (15,17,19,21,22) and abortion (6,7,9,15,19).

# *Other Gynecological Symptoms <u>Hot dystemperament</u>*

Pubic hair: Dense pubic hair (7,9,17), presence of thick black hair on the pubic and inner thighs (17,19), and abdominal hair between pubis and umbilicus (16).

Other: Menarche much earlier than 14 years (15), feeling of warmness of the vagina on internal examination (9,19), burning sensation during intercourse (15), complications of predominance of hot humors (yellow bile and sanguine) including infections and ulcers (e.g., cervicitis) (6,9,18,21), pruritus (7,9,16,17), rashes (16,17,21), and warts (17).

# Cold dystemperament

Pubic hair: Sparse pubic hair (6,7,9,16,17) and thin pubic hair (16).

Other: Menarche much later than 14 years of age (15), numbness of the upper uterine area (6,9), feeling of coldness of the cervix during intercourse, feeling of coldness of the vagina on internal examination (9), pneumo-uterus and accumulation of thick vapors in the uterus (5,6,8,14–16,18,20), complications of predominance of cold humors (phlegm and black bile) including uterine prolapse in cases of accumulation of viscous laxative humors in the uterus (9,21), firm swelling of the uterus (fibroids) in cases of black bile accumulation (21), warts in cases of thick black bile (9,21), and uterine hemorrhoids caused by accumulation of black bile (7,9,17,21).

# General Symptoms

*Hot dystemperament*: Dry lips (6,9,19), dark urine color (6,9,19), rapid pulse (6,9), strong pulse (19), large pulse (19), dilated vessels (19), anxiety and palpitations (9), thin body habitus (7,9,16,17), liver pain (6,9), dry stools (19), deepness of breath (19), yellow-tinted skin color in cases of generally increased body heat (7,17), dense body hair in cases of generally increased body heat (6), and desire for cold-tempered foods (19).

*Cold dystemperament*: Pale urine (6,9), dull-colored skin (6,9,19), white-colored skin in cases of general coldness (7,17), pulse difference (9,17), pulse stiffness (17), cold extremities other than in cold environment (19), coldness of skin to touch in cases of general coldness (7), generalized sparse and white hair (17), and general symptoms of coldness in cases of generalized cold dystemperament (16).

The frequency of each of the symptoms of uterine dystemperament mentioned in the ten reviewed reference books is listed in Table 2.

#### Discussion

The fundamental principle of temperament (Mizaj) is an essential part of PM, so that it is impossible to diagnose and treat the diseases without considering it. According to this principle, no two human beings have the same temperament, and individuals in each society have decisive differences from each other, which are defined in terms of hotness, coldness, wetness, and dryness. Correspondingly, even individuals with a moderate temperament are different, each having a specific degree of moderation (23,24).

Considering the recent trend in using personalized

medicine as an approach to suggest specific prevention and treatment methods for each individual, physiological differences in the framework of PM theory of temperament can be considered as potential effective approach (25,26).

The uterus plays an important role in maintaining the overall health and fertility of the female body (6,7,9). Since many uterine disorders are a subset of uterine temperament disorders (9), careful assessment of the symptoms and features of uterine temperaments/ dystemperaments is essential for precise diagnosis and appropriate treatment of gynecological disorders in PM and conventional medicine.

Table 2. Signs and Symptoms of Uterine Dystemperaments Along With Frequency of Description in Persian Medicine Sources

Symptom Category	Dystemperament	Signs and Symptoms	References Mentioning This Symptom (%)	Dystemperament	Signs and Symptoms	References Mentioning This Symptom (%)
		Increased volume	50	Wet	Increased volume	70
		Thin menstrual blood	40		Thin menstrual blood	40
		Decreased volume/ amenorrhea	90			
		Thick menstrual blood	30			
Menstrual blood		Red-colored	30	•		
	Hot	Blackish-red	10			
		Yellowish-red	30		Cold pale-colored	10
		Black-colored	60			
		Foul-smelling	30	-		
		Warmth and burning sensation	50			
		High flow rate	40			
	Cold	Decreased volume/ amenorrhea	60	Dry	Decreased volume/ amenorrhea	60
		Prolongation of menstruation	20		Thick menstrual blood	30
		Prolongation of non- menstruation days	50		Amenorrhea	30
		Increased volume	50			
		Coldness of menstrual blood	10			
		Thin menstrual blood	50			
		Thick menstrual blood	20			
		Pale-red and whitish colored	70			
		Dark- or dull-colored	40			
Uterine secretions	Hot	Red-tinged or yellowish	70	Wet	Increased discharge on non-menstruation days	40
					Thin uterine discharge	10
					Large cervix	10
	Cold		70	Dry	Decreased discharge on non-menstruation days	50
					Vulva/vaginal dryness	40
		White/dark and thick			Green-colored	10
					Dryness of the abdominal skin overlying the uterus	10
		Abortion	40	Wet	First-trimester abortion	70
Fertility and pregnancy status	Hot	Infertility	50		Abortion beyond six months of pregnancy	10
					Infertility	60
					Uterine prolapse	20
		Abortion	50	Dry	Infertility	70
	Cold			Diy	Abortion	20
		Infertility	50		Uterine fissure	30

Symptom Category	Dystemperament	Signs and Symptoms	References Mentioning This Symptom (%)	Dystemperament	Signs and Symptoms	References Mentioning This Symptom (%)
		Dry lips	30	Wet	Dullness of the eyes	10
		Dark-colored urine	30			
		Rapid pulse	20			
		Strong pulse	10			
		Large pulse	10			
		Dilated vessels	10			
		Anxiety and palpitations	10			
		Thin body habitus	40			
	Hot	Liver pain	20		Periorbital edema	10
		Dry stools	10			
		Deepness of breath	10			
General symptoms		Yellow-tinted skin color	20			
		Dense body hair in cases of generally increased body heat	10			
		Desire for cold-tempered foods	10			
		Pale-colored urine	20	Dry	Lassitude and lack of energy	10
		Dull-colored skin	30		Thin body habitus	40
		Whitish-colored skin	20		Dense thick hair	10
		Slow (different) pulse	20			
	Cold	Firm pulse	10			
		Cold extremities other	10		Davakin	10
		than in cold environment			Dry skin	10
		Coldness of skin to touch	10			
		Generalized sparse and white hair	10			
		Dense pubic hair	30	Wet		
Other characteristics of the female reproductive system	Hot	Thick black hair on the pubic and inner thighs	20			
		Abdominal hair between pubis and umbilicus	10			
		Menarche much earlier than 14 years	10			
		Feeling of warmness of the vagina on internal examination	20			
		Burning sensation during intercourse	10			
		Uterine infections and ulcers	40			
		Vaginal pruritus	40			
		Rashes	30			
		Warts	10			
	Cold	Sparse pubic hair	50	Dry		
		Thin pubic hair	10			
		Menarche much later than 14 years of age	10			
		Numbness of the upper				
		uterine area	20			
		Feeling of coldness of the cervix during intercourse	10			
		Feeling of coldness of the vagina on internal examination	10			
		Pneumo-uterus and accumulation of thick vapors in the uterus	70			
		Uterine prolapse	20			
		Firm swelling of the uterus	10			
		Warts	20			
		Uterine hemorrhoids	40			

So far, limited studies have examined the temperamental symptoms of different organs. Tansaz et al examined the relationship between uterine temperament and infertility in infertile women via self-made tools. In order to design a questionnaire for uterine temperament, this study started by extracting symptoms of uterine temperament/ dystemperament from several PM sources. Subsequently, the questionnaire items were designed and validated on a 7-point Likert scale. According to the results, the most common uterine dystemperament in infertile women included cold, wet, and cold-wet dystemperaments (10).

In another study, Sultana and Khaleequr investigated general body temperament and uterine dystemperament in 80 women with amenorrhea of greater than or equal to 60 days. A standard instrument was used to assess general temperament, whereas diagnosis of uterine dystemperament was based on clinical signs. According to the results, the most common general temperament in these women was cold-wet, while the most common uterine temperament was cold-dry (13).

A qualitative study by Saeedi et al examined the indicators for determining hot and cold uterine dystemperaments and provided major and minor criteria for diagnosing these two disorders (8).

In two qualitative studies by Hakimi et al, based on the hybrid model, the researchers examined the symptoms of liver disorders as described in PM. In the first study, reported in Persian, major and minor diagnostic criteria were presented after examining the signs and symptoms of liver disorders. These included six major and six minor criteria for hot/cold liver dystemperaments, and eight major criteria and ten major criteria for dry/wet liver dystemperaments (27). The second study, reported in English, described wet liver dystemperament from the perspective of PM (28).

Moreover, a review study by Parsa et al on indicators of stomach temperament, extracted and categorized relevant symptoms from both PM sources and current literature, and identified the most important and frequent symptoms (29). Another study by the same author in 2020 examined the indicators of gastric dystemperament in PM by examining reliable sources (30).

In a study by Alizadeh et al, a diagnostic protocol was presented for gastric dystemperaments. Symptoms associated with gastric dystemperaments were extracted from traditional textbooks and the most important ones were presented as major and minor criteria based on the frequency of repetitions in the references, expert opinions, and the importance of symptoms in practice (2).

A review study by Salmannejad et al evaluated and categorized indicators of brain temperament based on PM sources and current literature (24).

In 2021, Fattahi Masoom et al examined indicators for diagnosis of brain temperament/dystemperament and designed diagnostic tools to determine brain temperament (25). Review of PM literature in the present study revealed that symptoms of uterine temperament and dystemperaments are largely common.

One of the most important symptoms in diagnosing uterine temperament is "characteristics of menstruation". Some of these symptoms are exclusive to one dystemperament, while others overlap. For instance, both hot and cold uterine dystemperaments can reduce or increase menstrual bleeding. In some cases, dystemperaments can cause conflicting symptoms. For example, hot dystemperament can both increase (hypermenorrhea) and decrease (oligomenorrhea and amenorrhea) menstrual bleeding. Overall, a wide range of symptoms are mentioned in PM texts for dystemperaments of any organ. This is because any of the dystemperaments can range from mild to severe, and the symptoms vary depending on severity and also the individual's physical condition. The explanation provided by some commentaries, which have explained main important books (such as Canon in Medicine), is that at the mild side of the spectrum, hot uterine dystemperament, causes menstrual blood to increase and become thinner, while at the other end of the spectrum (severe hot dystemperament) menstrual blood reduces and becomes thicker and can even manifest as spotting. In such cases, other diagnostic indices, general symptoms, and observing the process and severity of the dystemperament via a detailed history and examination can help in diagnosis.

An increase in the amount of menstrual bleeding in wet uterine dystemperament and a decrease in the amount and duration of menstrual bleeding or its cessation in dry uterine dysfunction were common in all the reviewed sources.

Other important features of menstrual blood included black color and burning sensation for hot uterine dystemperament, oligomenorrhea, amenorrhea, and increased non-menstrual days for cold uterine dystemperament. These symptoms were mentioned in many sources (6,7,9,15-19).

Regarding the category of "uterine discharge characteristics", yellowish discharge with a pungent odor was mentioned for hot uterine dystemperament, while whitish discharge was considered a symptom of cold uterine dystemperament.

According to PM references, wet uterine dystemperament was associated with an increase in the amount of uterine discharge during non-menstrual days of the cycle, whereas decreased amount of uterine discharge and cervical dryness were frequently mentioned as symptoms of dry uterine dystemperament.

In the "pregnancy and fertility" category, abortion and infertility were mentioned as the complications of all four uterine dystemperaments, which are caused by a variety of dysfunctions in the uterus and female reproductive system induced by dystemperaments.

In "vaginal examination", the temperature of the uterus

and vagina felt by the examiner can help determine the hot/cold status of the uterus. A large and soft cervix indicates uterine wetness, whereas vaginal dryness and decreased discharge indicate uterine dryness.

The mentioned general symptoms may also be of significant help in diagnosing uterine dystemperaments. In addition, they demonstrate that uterine dystemperament may not be limited to the uterus but affect the whole body. The opposite is also true, meaning that any of the general dystemperaments of the body can affect the organs, including the uterus.

One of the important diagnostic indices that was not directly mentioned in the texts was "any changes in the previous conditions of the patient". This is a good guide for diagnosing the type of dystemperament, because in the cases where symptoms are not typical, a careful history may reveal that the patient has deviated from the previous healthy condition to one or more types of dystemperament.

The findings of this study demonstrated that many of the symptoms and complications of uterine dystemperaments are consistent with equivalent disorders in conventional medicine. Disorders such as amenorrhea, hypomenorrhea, dysmenorrhea, leukorrhea menorrhagia, (vaginal discharge), cervical ulcers, uterine infection, miscarriage, and infertility are among these diseases (31,32). Some of the symptoms and complications are not yet fully explained and have no equivalent in conventional medicine. The results of the present study can be used as a basis for more accurate description of uterine dystemperaments and for attributing this dystemperaments to equivalent diseases in conventional medicine. Accordingly, the wide range of symptoms and features presented in this study can be the missing link in the diagnosis and treatment of gynecological diseases.

#### Conclusions

This study presented the diagnostic symptoms and characteristics for different types of uterine temperament/ dystemperament based on PM sources and existing literature. Findings were classified into five categories, including menstrual blood characteristics, uterine discharge characteristics, fertility and pregnancy status, other characteristics of the female reproductive system, and general symptoms. The results of this study can be used in the clinic as a basis for diagnosis and treatment of various gynecological disorders associated with uterine dystemperaments. Further research might design standard tools for diagnosing uterine temperament/ dystemperament.

#### Acknowledgements

This article was extracted from two dissertations in Persian Medicine entitled "Design and clinical evaluation of a diagnostic tool for hot/cold uterine dystemperament in Persian Medicine" by Atefeh Saeedi (project number 182) and "Design and clinical evaluation of a diagnostic tool for wet/dry uterine dystemperament in Persian Medicine" By Maryam Mashhadi (project number 189) at Shahid Beheshti University of Medical Sciences, Tehran, Iran.

We would like to express our gratitude to the School of Traditional Medicine, Shahid Beheshti University of Medical Sciences for support in conducting these studies.

#### **Authors' Contribution**

Conceptualization: Morteza Mojahedi. Methodology: Ali Montazeri, Mohsen Saberi.

Validation: Roshanak Mokaberinejad.

Formal Analysis: Ali Montazeri, Mohsen Saberi.

Investigation: Maryam Mashhadi, Atefeh Saeidi.

Resources: Maryam Mashhadi, Atefeh Saeidi.

Data Curation: Mojgan Tansaz, Roshanak Mokaberinejad.

Writing—Original Draft Preparation: Maryam Mashhadi, Atefeh Saeidi. Writing—Review and Editing: Mojgan Tansaz, Roshanak Mokaberinejad. Visualization: Soudabeh Bioos, Malihe Tabarrai, Zahra Darvish-Mofrad-Kashani.

Supervision: Soudabeh Bioos, Malihe Tabarrai, Zahra Darvish-Mofrad-Kashani, Morteza Mojahedi.

Project Administration: Roshanak Mokaberinejad. Funding Acquisition: Roshanak Mokaberinejad.

#### **Conflict of Interests**

The authors have no conflict of interest to declare.

#### Ethical Issues

Not applicable.

#### **Financial Support**

Shahid Beheshti University of Medical Sciences (Tehran, Iran) supported the study.

#### References

- Setooni M, Razeghi M, Jaladat AM, Soleimani A. The comparison of genetic factors influences on physical activity and health between classical medicine and Iranian traditional medicine. Iran J Med Sci. 2016;41(3 Suppl):S61.
- Alizadeh M, Khadem E, Aliasl J. Diagnosis protocol of stomach distemperament for clinical practice in Iranian traditional medicine: a narrative review. Iran J Public Health. 2017;46(7):877-881.
- Adhami S, Tansaz M, Saki Malehi A, Javadnoori M. The relationship between uterine temperament and vaginitis from Iranian traditional medicine point of view. Indo Am J Pharm Sci. 2017;4(10):3589-3595.
- Salmannejad H, Mojahedi M, Mozaffarpur S, Saghebi R. The review of indices of mizaj-e-Damagh (temperament of brain) identification in Persian medicine. J Babol Univ Med Sci. 2016;18(11):71-79. doi:10.22088/jburs.18.11.71
- Shirooye P, Adhami S, Hashem-Dabaghian F, Mokaberinejad R. General temperament and uterine temperament in patients with primary dysmenorrhea. Iran J Obstet Gynecol Infertil. 2022;25(4):35-42. doi:10.22038/ijogi.2022.20712
- Ibn Sina (Avicenna) H. qanoon fi al-tibb (The Canon of Medicine). Beirut, Lebanon: Ehyaol Toras al-Arabi Press; 2005.
- 7. Arzani M. Teb-e-Akbari [Akbari's Medicine]. Ehya Teb e Tabiee, editor. Qom, Iran: Jalaleddin; 2008.
- Saeidi A, Tansaz M, Saberi M, et al. Evaluation of uterine warm and cold distemperament (sue-mizaj) in Persian medicine: a qualitative study. Crescent J Med Biol Sci. 2020;7(2):177-185.
- A'azam khan Chashti M. Exir-e-Azam [Great Elixir]. Tehran, Iran: Research Institute for Islamic and Complementary Medicine (RICM); 2008.
- Tansaz M, Sohrabvand F, Adhami S, et al. Evaluation of uterine temperament in Iranian infertile women using a quantitative instrument for uterine temperament detection. Int J Prev Med. 2020;11:39. doi:10.4103/ijpvm.IJPVM\_64\_17
- 11. Sohrabvand F, Nazem E, Tansaz M, et al. Investigation of the

personal and uterine humor in infertile women referred to Vali-e-Asr hospital of Tehran, Iran in 2012. Iran J Obstet Gynecol Infertil. 2014;17(94):10-18. doi:10.22038/ijogi.2014.2773

- Moradi F, Alizadeh F, Zafarghandi N, Jafari F, Alizadeh Vaghasloo M, Karimi M. Symptoms of uterine dystemperament in abnormal uterine bleeding from perspective of Persian medicine. Tradit Integr Med. 2019;4(3):109-116.
- Sultana A, Rahman K. Evaluation of general body temperament and uterine dystemperament in amenorrhoea: a cross-sectional analytical study. J Complement Integr Med. 2022;19(2):455-465. doi:10.1515/jcim-2020-0334
- Bahman M, Bioos S, Hajimehdipoor H, Hashem-Dabaghian F, Afrakhteh M, Tansaz M. A study on the frequency of common symptoms of humors excess and uterine temperament in patients with oligomenorrhea. Indo Am J Pharm Sci. 2018;5(1):592–599. doi:10.5281/zenodo.1164895
- 15. Jorjani E. Zakhireye Kharazm Shahi (Treasure of Kharazm Shah). Ehyae tebe tabiei, editor. Qom, Iran: Jalaoddin; 2012.
- Samarghandi N. Sharh-olasbab va alamat (Explaining the causes and signs). Ehya Teb Tabiee Institute, editor. Qom, Iran: Jalaladdin; 2008.
- 17. Aghili Shirazi M. Moalejat-e Aghili. Tehran: Iran University of Medical Sciences; 2008.
- Ibn Nafis Ali Ibn Abi Hazm. Sharh qanon Ibn Sina (A commentry on Avicenna's canon). Library of Islamic Consultive Assembly, Tehran, Iran.
- Baha Al-Doleh, Kholaseye Tajareb. Volume 1. University of Medical Sciences of Iran, Tehran; 2003.
- Ibn Nafis Ali Ibn Abi Hazm. Sharh fosool boqrat (A commentry on Boqrat's fosool book). Tehran, Iran: Library of Islamic Consultive Assembly; 2008.
- Majusi Ahwazi A. Kamel-al-Sanaat al-Tibbiah (The Perfect Art of Medicine). Ehya Teb Tabiee Institute, editor. Qom, Iran: Jalaladdin; 2008.
- 22. Hippocrates- Shareh, Hippocratic Corpus. Volume 1. Egypt Movement, Egypt; 2008.

- 23. Rajabzadeh F, Fazljou SM, Khodaie L, Sahebi L, Abbasalizadeh S, Hemmatzadeh S. The relationship between temperament and primary dysmenorrhea from Persian medicine point of view. Crescent J Med Biol Sci. 2019;6(1):115-122.
- Salmannegad H, Mojahedi M, Mozaffarpur SA, Saghebi R. The Review of Indices of Mizaj-e-Damagh (Temperament of Brain) Identification in Persian Medicine. J Babol Univ Med Sci. 2016;18(11):71–9.
- 25. Fattahi Masoom SM, Ebadi A, Choopani Zanjani R, et al. Design and validation of a diagnostic tool for distinguishing temperament of brain (mizaj-e Demagh) in Iranian traditional medicine. Crescent J Med Biol Sci. 2021;8(1):35-41.
- Mojahedi M, Naseri M, Majdzadeh R, et al. A review on identification mizaj (temperament) indices in Iranian traditional medicine (ITM). Hist Med J. 2013;4(12):37-76.
- 27. Hakimi F, Yaghmaei F, Zareiyan A, et al. Major and minor diagnostic criteria of liver dystemperament in Iranian traditional medicine: a qualitative study. Complement Med J. 2019;9(2):3668-3682.
- Hakimi F, Yaghmaei F, Alipour A, et al. Explanation of the concept of wet liver dystemperament (sue-mizaj) in Iranian traditional medicine (Persian medicine): a hybrid concept analysis. Crescent J Med Biol Sci. 2022;9(4).
- Parsa E, Mojahedi M, Chaichi Raghimi M, et al. A review of the indices of mizaj-e-Meda (temperament of stomach) identification in Persian medicine. J Babol Univ Med Sci. 2018;20(7):63-70. doi:10.18869/acadpub.jbums.20.7.63
- Parsa E, Khodadoost M, Mokaberinejad R, et al. Gastric dystemperament (sue-mizaj) in Iranian traditional medicine. Curr Nutr Food Sci. 2020;16(6):884-890. doi:10.2174/157340131566 6190821112354
- 31. Kazemeini SK, Emtiazy M, Owlia F, Khani P. Causes of infertility in view of Iranian traditional medicine: a review. Int J Reprod Biomed. 2017;15(4):187-194.
- 32. Miraj S, Kiani S. Menstrual diseases as stated in canon fil-Tibb. Der Pharm Lett. 2016;8(6):261-268.

**Copyright** © 2023 The Author(s); This is an open-access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.