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Research Article

THE RELATIONSHIP BETWEEN UTERINE TEMPERAMENT AND VAGINITIS FROM IRANIAN TRADITIONAL MEDICINE POINT OF VIEW**Samira Adhami¹, Mojgan Tansaz², Amal Saki Malehi³, Mojgan Javadnoori^{4*}**¹ M.SC Midwifery, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran² Assistant Professor, Department of Traditional Medicine, School of Traditional Medicine Traditional Medicine and Material Medical Research Center, Shahid-Beheshti University of Medical Sciences, Tehran, Iran.³ Assistant Professor of Biostatistics. Health Research Institute, Thalassemia & Hemoglobinopathy Research Center, Department of Biostatistics and Epidemiology, School of Public Health, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.⁴ Associate Professor PhD in Reproductive Health, Department of Midwifery, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.**Abstract:**

Iranian traditional medicine is based on the concept of Mizaj (Temperament). Mizaj is the overall quality of body and any of its organs in terms of the amount and the proportion of combination of each of four elements, i.e. warmth, coldness, wetness, and dryness in it. If an organ or the whole body gets out of their natural temperament, a disease will be developed. Uterine infections are caused by the wet dys-temperament (Su'e Mizaj) of the uterus, from this perspective. This study was carried out to investigate the relationship between uterine temperament and vaginitis. This case-control study was conducted on 223 women aged 20-40 years living in Tehran who referred to two clinics affiliated with Shahid Beheshti University of Medical Sciences by matching the age and contraceptive method. In the case group (n=112) one kind of vaginitis was detected and the control group (n=111) were healthy in this regard. The data were analyzed using chi-square test, independent t-test, or Mann-Whitney test and logistic regression. Uterine compound temperament was cold-wet in most patients (62.5%). Uterine singular temperament was cold in 73.7% of the patient in terms of coldness and hotness and was wet in 74.6% of the patients in terms of dryness and wetness. There was a significant relationship between uterine singular and compound temperament and risk of vaginitis. It can be said that uterine dis-temperament is a predisposing factor to develop vaginitis and this finding validates the theory claimed in traditional medicine literature.

Keywords: Temperament; Vaginitis; Iranian traditional medicine; Uterine**Corresponding author:****Mojgan Javadnoori,**

Associate Professor PhD in Reproductive Health,

Department of Midwifery,

Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

Email: mojganjavadnoori@gmail.com

QR code



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INTRODUCTION:

Nowadays, there is a growing tendency to integrate complementary and conventional medicine to change them into integrative medicine. In recent decades, dissatisfaction with the poor consequences of modern medicine performance has led to the revival of traditional medicine [1], and the tendency of researchers to scientific evaluation of its teachings. Iranian Traditional Medicine (ITM) is one of the richest fields of complementary medicine [2], that its foundation is based on the concept of temperament [3]. According to Avicenna through the combination of these elements and their interaction with each other a new quality is generated called temperament (Mizaj)[5]. The amount and proportion of each of these elements determine the quality of the body. Individuals have their own unique temperament, and according to this temperament she/he shows exclusive reactions to internal and external stimuli such as medicine, weather, food and emotions [6]. To review more simply, all human beings are placed in one of the nine groups including four singular temperaments as warm, cold, wet, and dry and four compound temperaments as warm-wet, warm-dry, cold-wet, cold-dry and a moderate temperament [4]. Physical, mental, and physiological characteristics of human beings are affected by temperament [7, 8]. Every human being is born with a temperament in which the organs and systems do their functions properly [9]. In addition to the basic temperament of the body, a temperament is identified for each the key organs. Temperament changes through internal and external factors and results in dys-temperament which appears as a disease in an organ or the whole body [10]. Therefore, a disease is in fact disequilibrium in temperament [4]. Dys-temperament occurs when an organ or the whole body stays away from the moderate temperament that is suitable for them [11]. Temperament is a basic concept in defining health and diseases and a turning point in pathophysiology of disease in ITM [12], and plays a decisive role in diagnosis and treatment [13], prevention and even prognosis [11]. Accordingly it is supposed that there are four humors (khilt) in human body as dietary sources for organs: blood, phlegm, yellow bile, and black bile. Organs' function is depends on amount and harmony of these humors. Each humor has its own temperament, so that the aforementioned humors are warm-wet, cold-wet, warm-dry, and cold-dry respectively [14], and persons with domination of these humors are known as sanguineous, phlegmatic, bilious, and melancholic respectively [15]. Recent studies have also shown a relationship between dys-temperament and some diseases. For instance, stomach dys-temperament particularly

warm dys-temperament can cause painful dyspepsia [16]. The relationship between dys-temperament and diseases has been shown for obesity, depression [17], diabetes [18], Asthma, Hypertention [15], and heart palpitations [19]. In addition, a relationship between temperament and sympathetic system [20], as well as the rate of metabolism (21) has been reported. A study in India showed that there is a significant relationship between cold dys-temperament and the incidence of diseases [9]. In the study conducted by Elsagh, cold-dry dys-temperament was the most frequent type of dys-temperament in patients with constipation [12]. Mastan *et al.* showed that the frequency of sanguine and choleric (bilious) temperaments in patients with Dermatophytosis was respectively more than other temperaments [22]. The role of temperament in reproduction system has also been shown in several studies. For example, in women with excessive uterine bleeding, phlegmatic and black bile temperaments [23], in infertile women cold-wet uterine temperament, in women with polycystic ovarian disease cold-wet dys-temperament [6], and in women with symptomatic menopausal transition cold dys-temperament have been mainly reported. Most of them have clinical features of uterine coldness and all of them have melancholic dys-temperament [24]. Vaginitis is one of the most common problems in gynecology and millions of women develop the disease yearly [25, 26]. Most of the visited women in health centers are because of vaginitis [27]. Although it is not life threatening, vaginitis can cause physical and mental disorders and even can lead to the disruption of marital relations [26], and preterm delivery during pregnancy [28]. Vulvovaginal candidiasis, Trichomoniasis, and bacterial vaginosis are the most common causes of vaginitis [29]. The frequency of the most common causes of vaginitis in symptomatic women includes bacterial vaginosis (40-45%), vulvovaginal candidiasis (20-25%), and Trichomoniasis (15-20%) and 7-72% of the women with vaginitis may still remain undiagnosed [30]. The conventional treatment for different kinds of vaginitis is the use of antibiotics and antifungals which in addition to numerous cases of resistance to treatment and relapses sometimes have side effects in women [29]. So far, no study has been carried out to investigate the relationship between uterine temperament and vaginitis. The present study was conducted to evaluate such a relationship.

METHODS:

This is a case-control study conducted on women aged 20-40 years living in Tehran who referred to Traditional Medicine Clinic and Najmiyeh Hospital clinic in Tehran (educational centers affiliated with

Shahid Beheshti University). Thus, the effect of some confounding factors affecting the temperament, such as age and place of living, was removed because from the perspective of traditional medicine temperament changes by age and place of living so that younger people have warmer temperaments. Since vaginal examination by inserting a speculum was required for clinical diagnosis of vaginitis and uterine temperament, with regard to critical importance of virginity in culture and religion, all the selected patients were married. In order to determine uterine temperament the uterine temperament questionnaire was applied [2]. There are nine features associated with coldness and warmness in this questionnaire including menstrual blood odor, the amount of pubis hair, cold or warm thighs and buttocks, genital discharge color, sexual desire, consistency of genital discharge, and cervix feeling during intercourse as well as three features associated with wetness and dryness including the amount of genital discharge, cervix wetness and cervical consistency. The quality of the features is scored as 1 to 7 so that 1 indicates the lowest intensity and 7 indicates the highest intensity of the feature. Some questions are scored by the examined person, some by the examiner and some by both of them. For the first nine features the points range from 9 to 63 and 36 is considered as the moderate temperament. The closer is the point to 9, it indicates coldness intensity and the closer it is to 63, it indicates warmness intensity. Points 9-36 represent cold spectrum and 36-63 represent warm spectrum. The reliability and validity of the questionnaire has been confirmed (Kronbach's alpha more than 70%, $p=0.004$)[31]. According to the results of pilot study and considering the significance level of 0.05 and power of 80%, the sample size was obtained to be 50. In order to enhance the study power (due to the variety of temperamental classes) the sample size was considered to be doubled (i.e. for each group $n=100$) and through matching process the sample size changed from 100 to 112 in the case group and 111 in the control group. The data were collected by the first author (a midwife) under the supervision of a gynecologist and a traditional medicine specialist (second author) among the women who referred to the two centers and who met the inclusion criteria by considering the matching factors (age and contraceptive method). To follow the ethical considerations, the purpose of the study was explained to the patients and they were assured that their personal information will be kept confidential and the written informed consent was obtained consciously. No additional charge was imposed on subjects for participating in the study. The research proposal was confirmed in the Ethics Committee of

Ahvaz Jundishapur University of Medical Sciences under the code No: IR.AJUMS.REC.13940634. The case group was selected among the women referring to the clinics who were complaining of vaginitis symptoms. After taking their history, in the presence of the gynecologist the speculum was placed in the vagina to observe the form and quality of vaginal discharge. After the diagnosis of vaginitis or lack of it, in addition to the observation, PH paper (Bacterial vaginosis, Trichomoniasis) and KOH solution (bacterial vaginosis and Vulvovaginal candidiasis) were also used to determine the kind of vaginitis. Then, cervix was touched to diagnose consistency. Thighs and buttocks were also touched to score them in terms of coldness and warmness based on the uterine temperament questionnaire. The control group was selected among the women who referred to the same centers with complaints other than vaginitis. In order to compare uterine temperament between two groups, chi-square test was used. Moreover, multiple-logistic-regression was used to adjust confounders. The quantitative variables between the two groups were compared in terms of the data normality using t-test or Mann-Whitney test.

RESULTS:

In the present study, there was no significant relationship between age and vaginitis ($P=0.27$), there was positive and significant relationship between vaginitis and type of occupation ($P=0.02$) and there was no significant relationship between vaginitis and education level ($P=0.79$). Examining the obstetric factors in women with and without vaginitis showed that the duration of bleeding and the intervals between menstruations were not significantly different in two groups, but menstrual cycles regularity were significantly different in groups ($P=0.009$)(Table 1). Among the patients with vaginitis, the highest frequency of uterine singular temperament between wetness and dryness belonged to the wet temperament (74.6%) and between warmness and coldness belonged to the cold temperament (73.7%)(Table 2). Chi-square test indicates the significant relationship between uterine temperament and vaginitis both in term of coldness/warmness ($P=0.001$) and dryness/wetness ($P=0.001$). In relation to uterine compound temperament, most patients with vaginitis (62.5%) had a cold-wet temperament. Chi-square test indicates the significant relationship between uterine compound temperament and vaginitis ($P=0.001$)(Table 3). Logistic regression shows that in terms of uterine singular temperament the patients with cold uterine temperament in comparison with those with moderate uterine temperament are 4.84 times more probable to develop vaginitis ($P=0.002$), while the probability to

develop vaginitis in women with wet uterine temperament is 33.58 times as much as the women with moderate uterine temperament (P=0.001). The probability to develop vaginitis in women with dry

uterine temperament is 8 times as much as the women with moderate uterine temperament (P=0.003).

Table 1: Obstetric characteristics of the participants

		Vaginitis		P-value
		Case Group N=112	Control Group N=111	
Menstrual bleeding duration (days)		7 (3-14)	7 (4-10)	0.68*
Menstrual intervals (days)		23 (10-90)	22 (15-40)	0.26*
		N (%)	N (%)	
Menstrual cycle	Regular	81 (72.3)	96 (86.5)	0.009**
	Irregular	31 (27.7)	15 (13.5)	
	Total	112 (100)	111 (100)	
Contraceptive method	withdrawal	63 (56.3)	63 (56.8)	0/99**
	Condom	30 (27)	32 (28.6)	
	OCP	8 (1.7)	8 (1.7)	
	IUD	6 (5.4)	6 (5.4)	
	DMPA	1 (0.9)	1 (0.9)	
	Tubectomy	1 (0.9)	1 (0.9)	
	Vasectomy	1 (0.9)	2 (1.8)	
	Total	112 (100)	111 (100)	

Table 2: Condition of uterine singular temperament in two groups of participants

		Vaginitis		P-value
		Case Group N=112	Control Group N=111	
		N (%)	N (%)	
wetness/dryness	Wet	88 (74.6)	30 (36.8)	0.001*
	Dry	21 (36.8)	36 (63.2)	
	Moderate	3 (6.2)	45 (93.8)	
coldness /warmness	Cold	84 (73.7%)	30 (26.3%)	0.001*
	Warm	17 (25.4%)	50 (74.6%)	
	Moderate	11 (26.2%)	31 (73.8%)	

Table 3: Frequency of uterine compound temperament in two groups

		Case Group N=112	Control Group N=111
		N (%)	N (%)
Uterine compound temperament	Warm-dry	6 (5.4%)	22 (19.8)
	Warm-wet	10 (8.9%)	11 (9.9)
	Cold-dry	13 (11.6%)	8 (7.2)
	Cold-wet	70 (62.5%)	11 (9.9)
	Moderate-dry	2 (1.8%)	7 (6.3)
	Moderate-wet	6 (5.4%)	9 (8.1)
	Moderate-warm	1 (0.9%)	16 (14.4)
	Moderate-cold	3 (2.7%)	11 (9.9)
	Moderate-moderate	1 (0.9%)	16 (14.4)

DISCUSSION:

This study was carried out to investigate the relationship between uterine temperament and vaginitis. The results showed that there was a significant relationship between vaginitis and uterine temperament in terms of both coldness- warmth and dryness- wetness as well as compound temperament. The probability of develop vaginitis in cold, wet, and dry uterine temperaments were significantly more than that of moderate uterine temperament. Significant relationship was observed between vaginitis and job type ($P=0.02$, chi square test). There was no significant differences between groups in terms of education ($P>0.05$). The relationship between temperament and reproduction system diseases had been displayed in several studies, but most of the studies have dealt with general temperament of individuals and few studies are found in relation to uterine temperament. In a study conducted in Iran, the most common uterine dys-temperament among singular dys-temperaments in infertile women was cold dys-temperament and wet dys-temperament and among compound dys-temperaments was "cold and wet" dys-temperament [2]. In the study carried out by Mobasher Khan on the relationship between uterine dys-temperament and bacterial vaginosis, it was found that uterine temperament in patients with bacterial vaginosis was as 48.33% cold and wet, 28.33% warm and wet, 23.33% warm and dry and it was concluded that cold and wet dys-temperament (phlegm) probably provides a good environment for bacteria to grow and causes infection [32]. Oregano has a warm nature and its consumption improves and moderates temperament and regulates menstruation. From the results of the studies it can be inferred that the dominance of uterine coldness and wetness is the cause of major diseases in gynecology. Kirmani described that cold uterine dys-temperament can cause cervical stenosis and compression of blood vessels resulted in hypo-perfusion. Thus the uterine temperament becomes cold and wet [33]. Kamel Alsanana describes that every organ has four forces for digesting, absorbing and utilizing food (Stomach, liver, vascular and tissue digestion). Different dys-temperaments of organs can weaken these forces and disrupt the organ's feeding. Accordingly, cold uterine dys-temperament can lead to the increase of uterine wetness [34]. The present study showed that uterine wetness temperament and uterine coldness temperament are associated with vaginitis. Uterine coldness can result from different factors the most important of which according to ITM is mishandling of wellbeing [35]. One of the most important factors involved in uterine coldness is washing the genitalia

by cold water or taking a bath during the menstruation. As the uterus is probably inflamed, hyper-perfused, and even painful during menstruation, it is very frail and these situations can enhance susceptibility to infection. On the other hand, frequent or long time bathing makes the body cold by reducing the instinctive temperature also declines sexual desire and thus intercourse which is one of the main ways to treat uterine diseases will be disrupted. Sitting in cold places and drinking water when it is banned (morning fasting, after bathing and strenuous activities like intercourse,) can also lead to uterine coldness [36]. Nowadays, women's lifestyle issues such as immobility, obesity, inadequate exposure to light, and unhealthy diet all lead to the coldness of the whole body including uterus. Perhaps that is why some problems such as infertility, endometriosis, ovarian cysts, different kinds of genital cancers and vaginitis are increasing every day [35]. From the perspective of ITM, uterus is an important organ and its dys-temperament must be treated quickly, otherwise it will be transferred to the whole body. The more chronic is the disease, the greater will be its effect on the organ temperament and consequently on the individual's temperament. Stable dys-temperament of an organ can affect the whole body [36], as in Kazemeini *et al.*'s study a significant relationship was found between an individual's temperament and uterine temperament in infertile women ($P=0.04$)[2]. In the present study, however, there was no significant relationship between an individual's temperament and uterine temperament in women with vaginitis. It can be inferred that vaginitis as an acute and not chronic process cannot change the whole temperament of the body. In this study, women with vaginitis had more irregular menstruation than healthy women. Since the most common uterine temperament obtained in the patients was cold temperament, the results of the study were consistent with the points contained in traditional medicine book and the results of the study conducted by Alizadeh [37] and Tansaz [31]. The symptoms of cold uterine dys-temperament in Avicenna's *Al-Canon* include amenorrhea, menstrual blood dilution, severe black or white menstrual blood, long intervals between two menstruations, primacy of having dense foods, and high frequency of intercourse [5]. This study is among the first case-control studies on assessing the relationship between dys-temperament and a disease; other studies have investigated the frequency of temperament in various diseases. Nevertheless, it has some limitations in generalizing the results and proving cause-and-effect relationship including the difficulty of determining the temperament because the criteria that determine the temperament are mainly qualitative clinical

characteristics that are obtained by examination and the history of patients; therefore, they are very subjective [16]. Further studies are needed in this field. Sometimes coldness appears in a certain organ without affecting the whole body and changing general temperament.

CONCLUSION:

Cold and wet uterine temperament is probably a predisposing factor for developing vaginitis and this finding validates the theory claimed in traditional medicine literature in relation to the role of cold and wet uterine dis-temperament in infectious secretions of the uterus.

Conflict of Interest

There are no conflicts of interest.

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