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The Relationship Between Temperament and Primary Dysmenorrhea From Persian Medicine Point of View

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Abstract

Objectives: Persian medicine (PM) encompasses preventive medicine, as well as disease control and treatment fields. PM believes in the existence of cold and hot natures in humans (*Mizaj*). A person›s temperament is mostly related to the recognition of the most appropriate diet and way of life in order to promote health. Accordingly, the present study aimed to examine the correlation between uterine temperament and primary dysmenorrhea.

Materials and Methods: This research which is a cross-sectional descriptive-correlational study was conducted on 105 students within the age range of 18 to 35 years old who lived in dormitories of Tabriz University of Medical Sciences for 3 months during 2017. These students were selected by random sampling technique. Data were analyzed using the SPSS software, version 24 by the chi-square, biserial r_b, and Mann-Whitney tests.

Results: The frequency of cold-dry temperament in patients with dysmenorrhea was higher than that of other temperaments (26.2 %). In addition, no significant correlation was found between the intensity of pain and body temperament ($P = 0.421$) or between the intensity of pain and uterine temperament ($P = 0.508$). However, there was a meaningful relationship between the duration of pain and body temperament ($P = 0.049$) and between the duration of pain and uterine temperament ($P = 0.027$).

Conclusions: Generally, the duration of menstrual pain was longer in patients with cold temperament compared to those with hot temperament. Accordingly, adherence to traditional Iranian medicine recommendations in dealing with cold temperament can be effective in reducing the duration of pain in these patients.

Keywords: Dysmenorrhea, Temperament, Complementary Therapies, Nature

Introduction

Complementary and alternative medicine (CAM) is deemed an acceptable and effective method of curing various illnesses along with conventional medicine (1). Nowadays, a large number of people in Asia and Africa benefit from the CAM for treatments (2). In addition, it is common in developed countries such as North America and many European countries where the health system structure is typically well-developed (1). Based on a study conducted in the United States, 62% of people use complementary and alternative services at least once a year (3). Further, Persian medicine (PM) is one of the ancient examples of traditional medicine that has prevailed in Persian civilization since the antiquity (8000 years BC) (4). According to Avicenna, the goal of medical science is to maintain health and to restore it if it is lost (5). The PM system attempts to suggest the best possible methods whereby an individual can live an optimum healthy life with a minimum ailment (6). The field of PM is coherent in preventive medicine, as well as managing and curing the diseases. This science provides efficient advice on modifying the lifestyle, as well as natural, safe, and affordable treatments (2). This M considers the existence of cold and hot natures in humans and food substances which is named temperament or '*Mizaj*' (7,8). The term *Mizaj* is derived from the Arabic word "*mzj*" which means mixing four humors within the human body (9). *Mizaj* which is developed due to the interaction between these elements in the human body influences the physiological functions of the body, as well as the normal physical and emotional characteristics (10). The human body is formed by four elements (*arkan*) after mixing in varied or similar quantities in accordance with the needs of the body. Therefore, one or two qualities become dominant over the body which are called *Mizaj* (11). In other words, *Mizaj* means the dominant quality of a composite being (6). Based on the PM, an individual is deemed to be healthy when his or her temperament is balanced and

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most of the illnesses develop when the balance of the *Mizaj* is disturbed which is called 'dystemperament' (6, 10). The most significant rule of all the ancient theories was retaining the balance among the basic elements of the body, among which warm, hot, and cold natures had an important role (7). In other words, each individual has a unique feature called *Mizaj* which is known and categorized by his or her morphological, physiological, and psychological characteristics (10). According to this theory, people of a particular temperament are susceptible to certain diseases due to their individual temperament during their life (5) and might require different treatments for the same illness and even various lifestyle recommendations for preventing the diseases (10). In recent decades, conventional medicine has shifted its focus to the biological differences among the individuals while new scientific disciplines, namely, nutrigenomics and pharmacogenetics are attempting to categorize the individuals according to these differences as the new promising field of personalized medicine (4). Researchers in this field believe that therapies should focus on patients rather than on the disease. Based on one definition of the PM, it is assumed that Iranian medical practitioners have been using personal medicine for many years in order to treat various diseases (12). Menstruation pain is one of the most common gynecologic disorders. The prevalence of dysmenorrhea varies between 16 and 91% in young women, with severe pain in 2%–29% of the studied women (13). The epidemiologic study of dysmenorrhea among Japanese students indicated that the prevalence of moderate-severe dysmenorrhea in junior high school girls was as high as 46.8% which increased as the gynecological age advanced (14). In another study, the highest prevalence of 91% was reported in a random sample of Iranian women aged 16–56 years (15). Dysmenorrhea which is defined as the pain during menstruation is classified into primary and secondary dysmenorrhea. Primary dysmenorrhea is experienced without any pathological causes (16). There are some modifiable risk factors for menstrual pain. Cigarette smoking, volume and duration of menstrual bleeding, alcohol consumption, body mass index (BMI) less than 20 or more than 35, symptoms of premenstrual syndrome, positive family record, and history of sex abuse in the past are among the factors which can exacerbate menstrual pains. The use of birth control pills, daily physical activity, and marriage can reduce the severity of menstrual pain (17,18). Primary dysmenorrhea treatment involves lifestyle modification, complementary and alternative therapies, as well as over-the-counter and prescription analgesics (19). Non-steroidal anti-inflammatory drugs (NSAIDs) are the mainstay of the major cure for these conditions. However, such drugs have several side effects such as nausea, peptic ulcer, dyspepsia, and diarrhea (16). Based on PM references, primary dysmenorrhea occurs due to the presence of dys-temperaments like cold-dry (*melancholic*) and cold-wet (*phlegmatic*), obstructions (*suddi*), and *Riyah* (20-22). Women have used the CAM treatments for dysmenorrhea with different degrees of success for centuries (19). The therapeutic system of the Iranian medicine sets rules for a balanced lifestyle including six essential factors which are called '*Asbab-e-Sitta Zarooriyah*' in the PM and include the weather, nutrition, rest and physical activities, sleep patterns, psychological activities and eliminations, and retention (23). However, some people cannot use these NSAIDs due to their side effects and contraindication with conventional medicines (24). Since no studies have yet been conducted on this subject, the current study sought to investigate the relationship between temperament and dysmenorrhea since an individual's temperament is mainly associated with identifying the healthiest diet and lifestyle to improve the health (25).

Materials and Methods

Study Population and Sampling

This research was a cross-sectional descriptive-correlational study and its target population included all the female students residing in dormitories of Tabriz University of Medical Sciences within the age range of 18 to 35 years old. The study started in July 2017 and ended in June 2018. The size of the study sample was calculated with a precision level of 1%, 95% confidence interval, and cold and dry temperament prevalence of 11% among the women in the pilot study.

The sample size was considered 95 students while considering the missing cases, the sample size was increased to 105 students. The data were collected by the first author under the supervision of a gynecologist and a traditional medicine specialist.

Furthermore, convenience sampling was used and was conducted by poster advertisement in university dormitories of Tabriz. The researcher visited the students in their rooms and explained the goals of the study. The inclusion criteria included all the students with primary dysmenorrhea who were living in the dormitories of Tabriz University of Medical Sciences whose age varied from 18 to 35 and had regular menstruation cycle and higher than moderate severity of pain based on the visual analogue scale (VAS) and verbal multidimensional scoring system (VMSS). All the patients were required to have a minimum score of 2 on the adapted VMSS-A which was used to assess the dysmenorrhea. However, patients who had pain related to pelvic inflammation, uterine infections, or malignancy, those who suffered from acute or chronic general diseases or psychological disorders, pregnant women with a history of frequent medications, and women irregular menses were excluded.

Measurements and Statistical Analysis

Mojahedi's *Mizaj* questionnaire (MMQ) was completed and the VMSS was graded by the students. MMQ included 10 questions and designed and validated by Mojahedi et al

in 2014. The reliability of this questionnaire was calculated using the Spearman-Brown correlation test (r = 0.82). Total scores of the first 8 questions measured warmness-coldness (>18 warm, 15-18 was temperate in warmness-coldness, and <15 cold), and those of the last 2 questions assessed wetness-dryness (>4 dry, 4 was temperate in wetness-dryness, and <4 wet) (26,27). Moreover, the uterine temperament questionnaire was applied in order to detect uterine temperament. Nine features are 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 the intercourse, as well as three features related to the wetness and dryness such as the amount of genital discharge, cervix wetness, and cervical consistency. The quality of the features is scored 1 to 7 which indicate the lowest and highest intensity of the feature, respectively. The questions were scored by the examined person, examiner, or both of them. The points range from 9 to 63 for the first nine features and point 36 is considered as the moderate temperament. Additionally, the closer the point is to 9, the more it indicates coldness intensity while the closer it is to 63, the more it demonstrates the warmness intensity. In addition, points 9-36 and 36-63 represent cold or warm spectrums, respectively. The reliability and validity of the questionnaire were confirmed by Adhami et al (the Cronbach Alpha was more than 70%, $P = 0.004$) (28). Dysmenorrhea was assessed using the VMSS-A in which higher total scores demonstrated greater severity. Further, using the VAS the level of pain was estimated. The VMSS-A and VAS were specifically adapted to measure the severity of menstruation pain and its related symptoms in this study. Pain severity was rated as none (0) at the baseline to mild (1), moderate (2), or severe (3). Students with mild menstrual pain did not need any analgesic while those with moderate pain recovered using analgesic medications. However, students with severe pain did not satisfactorily respond to the drug or systemic symptoms such as nausea and vomiting. (29) The scale rated the severity of dysmenorrhea based on the volunteers' responses to questions about the four aspects of dysmenorrhea including the extent of interference with daily activities, general symptoms (e.g., vomiting, constipation, diarrhea, fatigue, and headache), use of analgesics, and the duration of pain. Furthermore, each woman recorded the severity of the pain on a 100-mm VAS ranging from "no pain" to "very painful." A score from 0 to 100 was determined by measuring the distance from the left end which represented no pain (29). The collected data were analyzed by the SPSS, version 24 running the chi-square test, biserial r_b correlation, and Mann-Whitney tests. The $P < 0.05$ indicated a statistically significant difference.

Results

Overall, 120 students met the inclusion criteria and accepted to participate in the study out of whom 15 students were excluded due to the incompleteness of their forms. Ultimately, 105 students were recognized qualified and completed the questionnaires after delivering an informed written consent. All the patients were university students who were within the age range of 18 to 35 with a mean (SD) of 24.6 (3.44). The number and percentage of the patients in different *Mizaj* groups are presented in Table 1. Based on the results, there was no significant relationship between the age and dysmenorrhea ($P = 0.144$). As regards the level of education, 56 (53.3%) participants had a bachelor's degree while the remaining 49 students held a master's (n = 27, 25.7%), an associate (n = 15, 14.3%), and a Ph.D (n = 7, 6.7%) degrees. Additionally, 73 (69.52%) of the students came from towns while the remaining 32 students (30.47%) were from the province centers. Fifty (47.6%) students lived in East Azerbaijan, 35 (33.3%) in West Azerbaijan, 8 (7.6%) in Ardabil, and 12 (11.4%) of them in other provinces. In addition, chi-square test demonstrated no significant relationship between the severity of menstrual pain and hometown ($P = 0.37$), nor between the duration of menstrual pain and hometown ($P = 0.79$). The average volume of bleeding during menstruation was 103.933 cc (SD 51.41). Further, 28 (26.6%) of the participants had moderate mean pain severity while 77 (73.4%) of them had severe pain. Table 2 indicates the frequency and severity of menstrual pain in the participants.

Dysmenorrhea and Uterine Temperament

Among the patients with dysmenorrhea, the highest frequency of uterine temperament belonged to 38 (36.2%) participants with cold-dry temperament while the lowest frequency of uterine temperament belonged to 5 (4.8%) participants with mild temperament. Furthermore, the lowest intensity of menstrual pain was observed in mild temperament group and the severity of pain in this group

Table 1. The Frequency of Uterine and Whole Body Temperament in Patients With Primary Dysmenorrhea

Whole Body Temperament	No. (%)	Uterine Temperament	No. (%)
Cold & dry	29 (27.6)	Cold & dry	38 (36.2)
Cold & wet	27 (25.7)	Cold & wet	23 (21.9)
Hot & dry	21 (20.0)	Hot & dry	24 (22.9)
Hot & wet	21 (20.0)	Hot & wet	15 (14.3)
Mild	7 (6.7)	Mild	5 (4.8)

Table 2. The Frequency of Pain Severity and Duration in Patient With Primary Dysmenorrhea

Pain Severity[a]	No. (%)
6	10 (9.5)
7	18 (17.1)
8	27 (25.7)
9	20 (19.0)
10	30 (28.6)
Pain duration (h)	
<12	26 (24.8)
12-24	24 (22.9)
>24	55 (52.4)

[a] 6 & 7 = Moderate pain severity; 8, 9, & 10 = Severe pain severity.

was lower than that in the other groups (Table 3). Based on the results of the chi-square test (Table 4), no significant relationship found between the severity of menstrual pain and the whole uterine temperament ($P = 0.508$). Moreover, 17 (73.9%) of the cold-wet uterine and 21 (55.3%) of the cold-dry temperament patients had pain durations of more than 24 hours. Further, 7 (46.7%) of the hot-wet and 8 (33.3%) of the hot-dry uterine temperament participants had pain durations of more than 24 hours (Table 3). The biserial r_b test demonstrated no meaningful correlation between the uterine temperament and menstrual pain severity ($P = 0.499$). However, the biserial r_b test indicated a significant association between the uterine temperament and menstrual pain duration ($P = 0.05$). Furthermore, based on the biserial r_b test, a strong correlation was observed between the uterine temperament and the whole body temperament ($P < 0.0001$). Finally, the results of the chi-square test (Table 4) indicated a significant relationship between the uterine temperament and duration of menstruation pain ($P = 0.027$).

Dysmenorrhea and Whole Body Temperament

As regards the body temperament among the patients with dysmenorrhea, the highest frequency belonged to the cold-dry temperament 29 (27.6%) participants while the lowest frequency was related to 7 (6.7%) participants with mild temperament (Table 1). Moreover, 27.6% of the participants had cold-dry body temperament, 5 (17.25%) of whom had moderate pain severity and 24 (82.75%) cases had severe menstrual pain. Additionally, 6.7% of the participants had mild body temperament, 5 (71.42%) of whom had moderate pain severity while 2 (28.57%) other cases had severe menstrual pain (Table 3). As Table 5 demonstrates, no significant relationship is observed between the severity of menstrual pain and the whole body temperament ($P = 0.421$). In addition, based on the findings, 19 (65.51%) cold-dry temperament, 17 (62.96%) cold-wet temperament, 7 (33.33%) hot-dry temperament, and 10 (47.61%) hot-wet temperament patients had pain durations more than 24 hours. Further, 2 (28.57%) mild temperament patients had pain duration more than 24 hours, 2 (28.57%) of them had pain for 12-24 hours, and 3 (42.85%) other cases had pain for less than 12 hours. As Table 5 indicates, a significant relationship is observed between the body temperament and the duration of menstruation pain ($P = 0.049$).

Dysmenorrhea and Single Temperaments

Temperaments were classified into two groups based on coldness and warmness and evaluated with the chi-square test. A number of 11 (19.6%) patients with cold body temperament had moderate pain while 45 (80.4%) of them had severe pain. Furthermore, 12 (28.6%) patients with hot body temperament had moderate pain while 30 (71.5%) of them had severe pain. Therefore, the chi-square test demonstrated no significant relationship between body temperament and pain severity ($P = 0.421$). Moreover,

Table 3. Frequency of Pain Severity and Duration in Various Temperaments

		Body Temperament (%)					Uterine Temperament (%)				
		Cold-Dry	Cold-Wet	Hot-Dry	Hot-Wet	Mild	Cold-Dry	Cold-Wet	Hot-Dry	Hot-Wet	Mild
Pain severity	Moderate	5 (17.25)	6 (22.22)	6 (22.22)	6 (28.57)	5(71.42)	10(26.31)	5 (21.73)	9 (37.50)	2 (13.33)	2(40)
	Sever	24 (82.75)	21 (77.77)	15(77.77)	15(71.42)	2(28.57)	28(73.68)	18(78.26)	15(62.50)	13(86.66)	3(60)
Pain duration (h)	<12	3 (10.34)	6 (22.22)	8 (38.09)	6 (28.57)	3(42.85)	6 (15.8)	3 (13)	10 (41.7)	4 (26.7)	3(60)
	12-24	7 (24.13)	4 (14.81)	6 (28.57)	5 (23.80)	2(28.57)	11(28.9)	3 (13)	6 (25)	4 (26.7)	0(0)
	>24	19(65.51)	17(62.96)	7(33.33)	10(47.61)	2(28.57)	21(55.3)	17 (73.9)	8 (33.3)	7 (46.7)	2(40)

Table 4. The Results of the Correlation Between the Temperaments and Variables of the Menstrual Pain

	R	*P* Value		r	*P* Value
Pain severity- whole body temperament*	2.813	0.421	Pain duration- whole temperament	6.021	0.049
Pain severity- uterine temperament **	2.324	0.508	Volume–whole body temperament***	1086.000	0.518
Pain duration- uterine temperament	7.245	0.027	Volume-uterine temperament	1046.000	0.310

*Correlation by biserial r_b test; ** Correlation by biserial r_b test; ***Correlation by biserial r_b test.

Table 5. Correlation Between Pain Severity, Pain Duration, and Mense Volume with Whole Body and Uterine Temperament

		Body Temperament (%)		Uterine Temperament (%)	
		Cold	Hot	Cold	Hot
Pain severity	Moderate	11 (19.6)	12 (28.6)	15 (24.6)	11 (28.2)
	Sever	45 (80.4)	30 (71.5)	46 (75.4)	28 (71.8)
		X^2 = 2.813, *P* value = 0.421		X2 = 2.324, *P* value = 0.508	
Pain duration (h)	<12	9 (16.1)	14 (33.3)	9 (14.8)	14 (35.9)
	12-24	11 (19.6)	11 (26.2)	14 (23.0)	10 (25.6)
	>24	36 (64.3)	17 (40.5)	38 (62.3)	15 (38.5)
		X^2 = 6.021, *P* value = 0.049		X^2 = 7.245, *P* value = 0.027	
Mense volume (cc)		56 (47.89)	42 (51.64)	61 (48.15)	39 (54.18)
		Mann-Whitney U =1086.000, *P*-value = 0.518		Mann-Whitney U =1046.000, *P*-value = 0.310	

15 (24.6%) participants with cold uterine temperament and 46 (75.4%) others had moderate and severe pain, respectively. 11 (28.2%) of the patients with hot uterine temperament had moderate pain while 28 (71.8%) of them had severe pain. Accordingly, no significant relationship was observed between the uterine temperament and the severity of pain (*P* = 0.508). Similarly, 16.1% of the participants (n = 9) with cold body temperament had pain period of less than 12 hours while the other participants had either pain duration of 12-24 hours (n= 11, 19.6%) or a painful period of more than 24 hours (n = 36, 64.3%). As regards hot body temperament, 33.3% (n = 14) of the patients had a pain period of less than 12 hours while 26.2% (n = 11) and 40.5% (n = 17) of them had a pain duration of 12-24 hours and a painful period of more than 24 hours. Based on the results, a significant relationship was detected between the body temperament and duration of menstrual pain (*P* = 0.049). Additionally, with respect to the cold uterine temperament, 9 (14.8%) patients had a pain period of less than 12 hours whereas the other patients had either a pain duration of 12-24 hours (n = 14, 23.0%) or a painful period of more than 24 hours (n = 38, 62.3%). Finally, 35.9% of the patients (n = 14) with hot uterine temperament had a pain period of less than 12 hours while the other patients had either a pain duration of 12-24 hours (n = 10, 25.6%) or a painful period of more than 24 hours (n = 15, 38.5%). Accordingly, the chi-square test demonstrated a significant relationship between uterine temperament and the duration of menstrual pain (*P* = 0.027). However, as Table 5 indicates, Mann-Whitney U test demonstrates no significant relationships either between the body temperament and bleeding volume (*P* = 0.518) or between the uterine temperament and bleeding volume during the menstruation (*P* = 0.310).

Discussion

This study was implemented to investigate the association between the uterine temperament and menstrual pain. Many researchers believe that temperament has a biological and genetic basis although environmental factors affect it (12). In recent studies, the correlation between the whole body temperament and uterine temperament with some diseases of women has been demonstrated. For example, cold-wet uterine temperament is maybe a predisposing agent for developing vaginitis and this finding proves the theory of Iranian medicine about the association of cold-wet temperament with infectious secretions of the uterus (28). The study by Alizadeh et al regarding the association between the frequency of dys-temperament symptoms and amenorrhea indicated that amenorrhea is correlated with cold, dry, cold-wet, and cold-dry dys-temperaments. Hot and dry dys- temperaments, among the single dys-temperaments, and cold-wet dys-temperament, among the compound dys-temperaments, are likely to play a greater role in the incidence of uterine bleeding (30). Similarly, Sohrabvand et al suggested that the among single dys-temperaments, cold and wet dys- temperaments, and among the compound dys-temperaments, cold-wet dys-temperament probably contribute to the incidence of uterine infertility (31). Based on these studies, cold temperament plays an important role in women' diseases. The results of the current study indicated that there was a significant relationship between the duration of menstrual pain and uterine temperament (*P* = 0.027). In addition, based on the results, a significant relationship was observed between the body temperament and duration of menstrual pain (*P* = 0.049). The duration of pain in cold-temperament people is longer compared to those who have a warm temperament. In the book entitled '*Makhzan Al-Hekmat*', dysmenorrhea is classified into five categories including inflammatory (*warami*), spasmodic (*tashannuji*), obstructive (*suddi*), related to ovarian diseases (*baize*), and membranous (*gishai*) (21,32). According to Avicenna, dysmenorrhea occurs due to the obstruction in menstrual blood flow. Further, based on his explanation, the quality and quantity of the blood should be in moderation for a regular menstrual flow since irregular and abnormal flow may lead to other problems (22). In his book, '*Al-Qanun fi Al-Tibb*', Avicenna pointed to other causes of pain in uterus, namely, previous uterine diseases, atresia, inflammation of the uterus, cancer, uterine ulcers, laxity of ligaments, tenuous morbid matter, different dystemperament, morbid gases, and uterine obstruction (33). Different types of uterine dys-temperaments can

cause various types of diseases which lead to uterine pains (34). Based on the Rushed theory, cold dys-temperament interacts with the metabolism of the body and produces factors in the uterus which cause uterine '*Tashannuj*'. The term *Tashannuj* in Iranian medical books implies the spasm and muscle contractions (21). Avicenna believes that production of certain substances in the body and uterus, called *riyah* in PM, leads to the elongation of the muscle fibers of the uterine wall and thus uterine pains. The cause of *riyah* is the imbalance of humors (*khilt*) in terms of quantity and quality in the body, which causes different dystemperaments (20). Furthermore, the presence of an obstruction (*suddi*) is considered another cause of menstrual pain. The presence of cold-dry (*melancholic*) and cold-wet (*phlegmatic*) dys-temperaments, which is due to a heavy or inappropriate diet, increases blood viscosity and obstructions. Therefore, blood is not easily excreted from the capillaries and the uterus removes the blood by increasing the muscle contractions which causes uterine pains and prolongs the duration of menstruation pain (21). In this study, the participants with cold-dry and cold-wet temperament had longer periods of menstrual pain. In these cases, blood was not easily excreted from the arteries due to the cold temperament and the viscosity of the blood. The highest frequency, among the participants with moderate and severe menstruation, was related to cold and dry uterine temperament (36.2%). One of the causes of menstrual pain is an obstruction and, according to the texts of PM, cold-dry dystemperament (melancholic) is one of the causes of obstruction and menstrual pain. People with cold-dry temperament are susceptible to cold dystemperament. In the present study, there was no significant correlation between the severity of menstrual pain and body temperament ($P = 0.421$) and uterine temperament ($P = 0.508$). Considering that most of the participants were the young girls, examining the cervical consistency, cervical feeling during intercourse, and sexual desire was not possible. Measuring these three factors can affect 3-21 scores in determining the uterine temperament. As a result, these factors were removed from the evaluation of uterine dys-temperaments, which is one of the limitations of this study. Moreover, the severity of pain in patients was affected by their threshold of pain. Although there was no meaningful correlation between body and uterine temperaments and menstruation pain severity, the frequency of the cold-dry body and uterine temperaments, as well as the cold-wet body and uterine temperament was higher in patients with dysmenorrhea compared to the other groups. Since there was no significant relationship between age, place of birth, and education level with dysmenorrheal factors (i.e., the severity of pain, duration of menstrual pain, and menses volume). Additionally, the confounding factors had no strong effect on the outcome of the study. Considering that this study was conducted on the young girls while different age groups were not compared, one cannot comment on the relationship between age and dysmenorrhea. PM like conventional medicine, is divided into two parts including curative and preventive medicine. The basis of preventive medicine in PM is the lifestyle modification which is called "*Asbab-e-sitta Zarooriyah*" and encompass the weather, nutrition, rest and physical activities, sleep patterns, psychological activities and eliminations, and retention (23). Considering that the duration of menstrual pain in students with cold temperaments was more than that of the other groups, it is better to consider the recommendations which are related to cold temperaments in PM texts. Uterine coldness can result from various factors, the most important of which, according to PM, is mishandling of wellbeing. Washing the genitalia with cold water or taking a bath during the menstruation is one of its major causes. In addition, sitting in cold places and drinking water when it is banned (e.g., morning fasting or after bathing and intense activities like intercourse) can lead to uterine coldness (34). Nowadays, women's lifestyle issues such as immobility, obesity, inadequate exposure to light, and an unhealthy diet, all cause the coldness of the whole body including the uterus (35). Similarly, nutrition is very important in Iranian medicine (36). Rhazes's treatment method was initiated with diet therapy. He noted "if the physician is able to treat with foodstuffs, not medication, then he has succeeded". In PM, hot-nature foods increase the body's basic metabolic rate while cold-natured foods have the opposite effect (23). It is advisable to use food with hot-nature before and during the menstruation. According to Fujiwara et al, skipping breakfast has a significant effect on the severity of menstrual pain and the consuming fiber foods during menstruation is associated with primary dysmenorrhea (32,37). Further, balanced exercise has an effective role in reducing the menstrual pain in PM while excessive and heavy exercises exacerbate the menstrual pain (21,32).

Conclusions

Generally, the results of this study indicated the correlation between uterine and the whole body temperament with the duration of primary dysmenorrhea. It was concluded that controlling the duration of menstrual pain without taking any special medication is possible by adhering to the appropriate recommendations in Iranian medicine. Individuals with cold-temperament are advised to have foods with hot-nature in their diet and a moderate exercise program. Examination of cervical consistency, cervical feeling during intercourse, and sexual desire was not possible since most of the study participants were young girls. Therefore, similar studies focusing on a larger sample size selected from the married females are subject to further investigation. These results are beneficial for both patients and physicians to change the temperament toward a balance in order to avoid the diseases. The difficulty of determining the temperament was one of the limitations of this study since the criteria

for determining the temperament were mainly qualitative clinical characteristics which were obtained by examining and taking the history of patients, therefore they were quite subjective. Moreover, further studies are needed to find the relationship between dystemperament and other diseases.

Conflict of Interests

Authors have no conflict of interests.

Ethical Issues

The study was registered in the Iranian registry of clinical trials (IRCT2017062834784N1) and approved by the Ethics Committee of Tabriz University of Medical Sciences (ID IR.TBZMED.REC.1396.244, Date: 2017-06-21). Both written and oral explanations were provided to the volunteers regarding the aims and the method of the present study and they were invited to participate. Then, informed written consent obtained from the students in this regard. Moreover, all the patients were assured of the confidentiality of the test results and that the results of the study would be reported generally..

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