



**AN OBSERVATIONAL ANALYTICAL STUDY EVALUATING THE RELATIONSHIP  
BETWEEN MIZAJ AND PRIMARY DYSMENORRHOEA (USRE TAMS IBTIDAE) IN  
YOUNG FEMALES**

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**ABSTRACT**

**Introduction:** In Unani system of Medicine, *Mizaj* (Temperament) is regarded as a fundamental principle that explains the diversity in physiological responses and susceptibility to diseases among individuals. Unani literature emphasize that a person's temperament plays a significant role in determining the onset, manifestation, and intensity of diseases. Primary dysmenorrhoea is one of the most common gynaecological complaints in young females, and its severity may differ according to different temperament of an individual. **Objective:** The present study aims to evaluate the severity of primary dysmenorrhoea with different Temperaments (Mizaj) and to determine the association between Mizaj and the intensity of menstrual pain. **Methodology:** An Observational Analytical Cross-Sectional Study was conducted in Ayurvedic and Unani Tibbia College and Hospital, involving 51 young female participants diagnosed with Primary Dysmenorrhoea. According to CCRUM Mizaj Assessment proforma, participants were classified into four categories of Temperaments: Damwi, Balghami, Safrawi and Saudawi. The intensity of menstrual pain was measured using the Visual Analogue Scale (VAS). To determine differences in pain intensity among the different Mizaj groups, statistical analysis was performed using one-way ANOVA. **Results:** The statistical analysis showed a significant variation in Mean VAS scores across the different Mizaj groups ( $p = 0.00325$ ). The highest Mean VAS Score was observed in Safrawi Temperament, followed by Saudawi and Balghami Temperaments, while individuals with Damwi Temperament had the lowest Mean VAS Score. **Conclusion:** The findings suggest that the severity of Primary Dysmenorrhoea differs significantly according to different Temperament (Mizaj). This indicates that Mizaj may influence the perception and intensity of menstrual pain. Therefore, these observations highlight the importance of Temperament assessment in developing different therapeutic strategy for every individual

**KEYWORDS:** Primary Dysmenorrhoea; Temperament; Menstrual pain; Usre Tams; Akhlat; Mizaj.

**INTRODUCTION**

In Unani system of Medicine, Hippocrates, who proposed that diseases arise due to natural causes and the symptoms of illness represent the body's inherent effort to restore balance. Building upon these principles, Unani medicine gradually developed into a comprehensive system of healing that emphasizes the preservation of health, prevention of disease, and restoration of normal functions of the human body. In Unani literature, health

is regarded as a state of equilibrium between the four humours namely Dam(Sanguine), Balgham(Phlegm), Safra(Bile) and Sauda(Black Bile) while disease is considered a disturbance in the quality and quantity of these humours.

In Unani medicine, the concept of **Mizaj (temperament)** holds a central and fundamental position. It provides the basis for understanding an individual's body structure,

susceptibility to diseases, and the selection of appropriate therapeutic measures. According to Unani philosophy, every individual presents a different Mizāj, which is determined by specific qualitative attributes that influence physical, physiological, and psychological characteristics. These qualities govern how the body responds to environmental factors, lifestyle habits, and internal physiological changes. Hence, the evaluation of Mizāj plays an important role in identifying disease tendencies, planning treatment strategies, and suggesting preventive measures for the maintenance of health.<sup>[1]</sup>

The word **Dysmenorrhoea** is derived from the Greek words, originating from the words *dys*, *meno*, and *rrhoea*. The prefix *dys* indicates difficulty, abnormality, or pain, while *meno* refers to the monthly cycle, and *rrhoea* denotes flow. Therefore, dysmenorrhoea literally means painful menstruation.<sup>[2,3,4,5,6]</sup> It is characterized by severe uterine pain during menstruation, which commonly manifests as lower abdominal or pelvic discomfort and may radiate to the back, thighs, or legs.

#### Types of Dysmenorrhoea (Aqsam-e-Ushr-e-Tams)

Dysmenorrhoea is broadly classified into the following two types.

1. Primary Dysmenorrhoea
2. Secondary Dysmenorrhoea

#### Primary Dysmenorrhoea (Ushr-e-Tams Ibtidae)

Primary dysmenorrhoea refers to menstrual pain that occurs in the absence of any identifiable pelvic pathology. The pain is usually chronic, spasmodic, and cyclical in nature.<sup>[7,8,9,10,11]</sup> Owing to its spasmodic character, it is also commonly referred to as spasmodic dysmenorrhoea.

#### Secondary Dysmenorrhoea (Ushr-e-Tams Sanwi)

Secondary dysmenorrhoea is defined as menstrual pain that occurs as a result of an underlying pelvic

pathology.<sup>[3,5,12]</sup> For this reason, it is also known as **organic dysmenorrhoea**.<sup>[13]</sup> The pain associated with secondary dysmenorrhoea is generally more prolonged and typically begins about one to two weeks before the onset of menstruation, often persisting for several days even after the menstrual flow has ended.<sup>[12]</sup>

#### Pathophysiology of Primary Dysmenorrhoea

During the luteal phase of the menstrual cycle, prostaglandins are released from the endometrial tissue. The activity of lysosomal enzymes present in the endometrium is regulated by gonadal steroids. These steroids stimulate lysosomal enzymes, which in turn initiate the synthesis of prostaglandins. The formation of prostaglandins requires precursor fatty acids, which become available through the breakdown of cell membrane phospholipids.

In the process of prostaglandin synthesis, arachidonic acid is first converted into prostaglandin G<sub>2</sub> (PGG<sub>2</sub>), a cyclic compound also known as an endoperoxide. Subsequently, PGG<sub>2</sub> is rapidly converted into two important prostaglandins, namely prostaglandin E<sub>2</sub> (PGE<sub>2</sub>) and prostaglandin F<sub>2α</sub> (PGF<sub>2α</sub>).<sup>[7]</sup> These prostaglandins, particularly PGE<sub>2</sub> and PGF<sub>2α</sub>, play a significant role in the development of primary dysmenorrhoea. Recent studies have shown that women suffering from primary dysmenorrhoea exhibit abnormally elevated levels of prostanoids, along with increased secretion of eicosanoids. The excessive production of these mediators leads to abnormal uterine muscle contractions, resulting in reduced uterine blood flow and subsequent uterine hypoxia, which contributes to the pain experienced during menstruation.

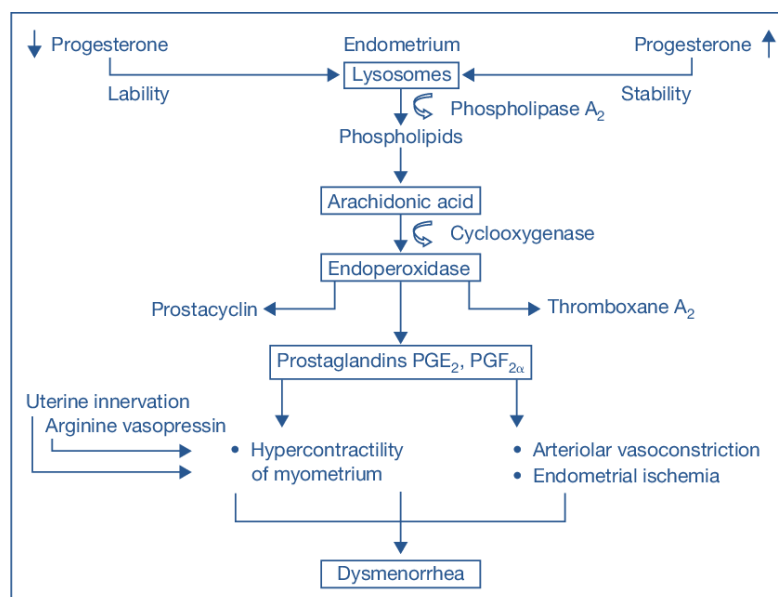


Fig. No. 1 Pathophysiology of Primary Dysmenorrhoea.

### Dysmenorrhoea in the Unani System of Medicine

In the Unani system of Medicine, menstruation is referred to as 'Tams' or 'Haiz'. Normal menstruation that occurs without significant pain or discomfort is described as 'Tabayi Haiz', which corresponds to the concept of eumenorrhoea. Dysmenorrhoea, on the other hand, is commonly termed 'Usr-e-Tams' in Unani literature. Several other terminologies have also been used by Unani scholars to describe this condition, including 'Auja-e-Reham'<sup>[14,15]</sup>, 'Dard-e-Reham'<sup>[14,15]</sup>, and 'Haiz ka mushkil se ana'.<sup>[14,16]</sup> In general, **Usr-e-Tams** refers to painful menstruation accompanied by reduced menstrual flow that is typically thicker and more viscous in nature.

### Historical Background of Dysmenorrhoea

- **Aristotle** stated that pain is similar to pleasure and is an internal sensation. He postulated that pain management solely depends on psychospiritual and experiential practices instead of pharmacotherapy.<sup>[17,18]</sup>
- As per **Hippocrates**, the cause of dysmenorrhea lies in the obstruction of the cervix, which in turn results in retention and stagnation of menstrual blood, thereby leading to dysmenorrhoea.<sup>[9]</sup>
- **Al-Razi** illustrated *Waja-e-Reham* as well as its causes, clinical findings and treatment, advising nutool (medicated irrigation) to be useful in it.<sup>[15]</sup>
- **Avicenna** interpreted that dysmenorrhoea occur due to abnormal temperament (*Sue Mizaj*), amenorrhoea (*Ehtibas-e-Tams*), leucorrhoea (*Sailan-ur-Reham*) as well as cervical stenosis and explained that uterine disorders are responsible for premenstrual lower back pain (*Waja-ul-Zuhr*).<sup>[15]</sup>
- **Ismail Jurjani**, on the other hand, proposed the involvement of dorsal blood vessels in menstrual back pain.<sup>[19]</sup>

- **Maimonides** suggested the production of systemic manifestations is related to retention of menstrual blood and insisted that normal menstruation to be painless.<sup>[9]</sup>
- **Akbar Arzani** mentioned this condition under the term *Waja-e-Reham* and its management,
- **Hakim Ajmal Khan** described it as *Usr-e-Tams* which is characterized by pain in lower abdomen before and during menstruation along with thick and scanty menstrual flow, usually affecting hypersensitive young females and commonly associated with anaemia, leucorrhoea, increased viscosity of blood and heavy diet consumption.<sup>[16,20]</sup>

The normal physiological function of the uterus is closely associated with a regular menstrual cycle. According to them, menstrual blood is regarded as **muzir mawad (morbid matter)** that must be eliminated from the body to maintain normal physiological balance. Any obstruction in the flow of menstrual blood may lead to abnormal retention of **muzir mawad (morbid matter)**, which can subsequently cause uterine disorders. Therefore, the uterus is considered healthy when the menstrual cycle occurs regularly, and the menstrual blood discharge is normal in both quantity and quality.<sup>[21]</sup> Menstruation has also been regarded as a natural detoxification process of the body by classical scholars such as **Arastu (Aristotle)**, **Buqrat (Hippocrates)**, and **Jalinoos (Galen)**.<sup>[22]</sup>

According to the Unani Literature, diseases affecting any organ may arise due to disturbances in **Sue Mizaj (Abnormal Temperament)**, **Sue Tarkeeb (Structural Abnormality)**, or **Taffarruq wa Ittesal (discontinuity or disintegration of tissues)**.

**Table No. 1: Unani Classification of Usr-e-Tams (Dysmenorrhoea)**

Unani Classification of Usr-e-Tams (Dysmenorrhoea)			
Type of Usr-e-Tams	Etiopathogenesis	Predisposing/ Associated Factors	Nature & Site of Pain
<b>Usr-E-Tams Warami (Inflammatory Dysmenorrhoea)</b> <sup>[14,23,24]</sup>	This is the most common form and results from <b>waram</b> (inflammation) of the uterus leading to <b>Intela-e-Reham</b> (uterine congestion). Inflammatory processes increase local vascularity and tissue tension, producing persistent uterine pain during menstruation. may result from Mailan-e-Reham, Sartan, Zarba, Qurooh-e-Reham, Hummiyat-e-Nifas, Waram-e-Jigar, Waram-e-Kulliya.	The dominant <b>khilt</b> (humour) influences the intensity and character of pain; a predominance of hot humour ( <b>khilt-e-haar</b> ) produces sharp, severe pain, whereas cold humour ( <b>khilt-e-barid</b> ) results in dull, persistent discomfort.	Continuous, pricking or stabbing pain. It begins 1–2 days before menstruation and persists throughout the flow. Commonly localized to the suprapubic region, radiating to the lower back. Site varies with location of inflammation (umbilical region if upper segment; loin pain if anterior involvement).
<b>Usr-e-Tams Tashannuji (Spasmodic Dysmenorrhoea)</b> <sup>[14,16,20,23,25,26,27]</sup>	Characterised by spasmodic contractions of the uterine muscles due to irritation of	Exposure to cold( <i>sue-mizaj Barid Sada</i> ) during	Episodic, colicky, spasmodic pain beginning just before or

	<i>asab</i> (nerves). Altered temperament ( <i>sue mizaj haar/barid/ratab maddi</i> ) and expulsion efforts against viscid menstrual matter contribute to uterine spasm.	menstruation, general debility ( <i>zauf-e-aam</i> ), anemia ( <i>qillat-e-dam</i> ) and commonly in hypersensitive young girls.	at onset of menstruation. Originates in the suprapubic region and may radiate to the lower back, buttocks, thighs, epigastrium, or diaphragm.
<b>Usr-e-Tams Suddi (Obstructive Dysmenorrhoea)</b> <sup>[14,15,16,28,29,30,31,32]</sup>	Develops due to formation of <i>sudda</i> (obstruction), often associated with cold temperament ( <i>sue mizaj barid</i> ) and accumulation of thick humours.	Obstruction may be local (uterine) or systemic (vascular congestion in obesity). Frequently coexists with <i>ehtibas-e-tams</i> (amenorrhoea).	Continuous dull aching pain in lower abdomen, sometimes episodic spasmodic. Intensity increases over time and may radiate to back or thighs.
<b>Usr-e-Tams Riyahi (Flatulent Dysmenorrhoea)</b> <sup>[19]</sup>	Occurs when disturbed temperament of abdominal organs leads to improper digestion; undigested matter transforms into <i>riyah</i> (gaseous matter), which accumulates in uterine tissues and cavity, causing distension and spasm.	Similar accumulation may occur after abortion ( <i>isqat-e-hamal</i> ).	Suprapubic pain with upward radiation toward epigastric and diaphragmatic regions; characteristic migratory nature of gaseous pain.
<b>Usr-e-Tams Ghishayi (Membranous Dysmenorrhoea)</b> <sup>[14,23,24]</sup>	Associated with endometrial pathology due to uterine weakness ( <i>zauf-e-reham</i> ) or excessive coitus ( <i>kasrat-e-jima</i> ). Structural changes in the endometrium result in intense pain during shedding.	Uterine debility, excessive sexual activity.	Extremely severe uterine pain leading to temporary immobilization.
<b>Usr-e-Tams Bayzi (Ovarian Dysmenorrhoea)</b> <sup>[20,27]</sup>	Attributed to pathological conditions of the ovaries ( <i>khusyatur-reham</i> ), leading to referred uterine pain.	Ovarian dysfunction or structural abnormalities.	Pain localized to lower abdomen, often corresponding to ovarian region, is perceived as uterine pain.

## MATERIAL AND METHODS

### Study Design and Setting

The present study was conducted as **an observational analytical cross-sectional study** at Ayurvedic & Unani Tibbia College & Hospital, Karol Bagh, New Delhi. Prior to the initiation of the study, a detailed research protocol was prepared and approved. The total **duration of the study was eighteen months**.

### Study Population and Sample Size

A total of **51 female participants** were enrolled in the study after fulfilling the predefined screening criteria. Participants were selected following confirmation of the clinical diagnosis of **Primary Dysmenorrhoea**.

### Inclusion Criteria

- Females aged **18–25 years**
- History suggestive of **primary dysmenorrhoea**
- Regular menstrual cycles ranging from **21 to 35 days**

- Willingness to participate in the study and provide **informed consent**

### Exclusion Criteria

- **Secondary dysmenorrhoea** due to underlying pelvic pathology such as fibroids, endometriosis, or pelvic inflammatory disease
- History of **pelvic surgical procedures**
- Known **systemic disorders** such as thyroid disease, diabetes mellitus, or other chronic illnesses
- Use of **hormonal therapy**
- **Married or parous status**, as per the study protocol

### Assessment Parameters

#### Assessment of Mizaj

The **Mizaj (Temperament)** of each participant was assessed using the **CCRUM Mizaj Assessment proforma** based on physical, physiological, and psychological parameters mentioned in Unani literature. The assessment was conducted on the basis of the

principles of **Alamat-e-Ajnas-e-Ashra**. Based on these ten parameters, participants were categorized into four temperament groups: **Damwi, Balghami, Safrawi and Saudawi**.

#### Assessment of Pain Severity

The intensity of dysmenorrhoeal pain was measured with the help of **Visual Analogue Scale (VAS)**. Participants were asked to indicate their pain level on a **10 scale**, where **0 represented no pain and 10 represented extremely severe pain**.

#### Outcome Measure

The primary outcome measure was the **comparison of dysmenorrhoea pain severity scores among the different Mizaj groups**, in order to evaluate the possible association between temperament and pain intensity.

#### Statistical Analysis

All collected data were compiled and entered using Microsoft Excel for analysis. Descriptive statistics,

including **Mean and Standard Deviation (SD)**, were calculated for the VAS pain scores. For comparison of mean pain scores across the different Mizaj groups, **one-way Analysis of Variance (ANOVA)** was applied. A **p-value of less than 0.05** was considered statistically significant. In the present analysis, the calculated **p-value was 0.00325**, indicating a **statistically significant difference in dysmenorrhoea severity among the different Mizaj groups**.

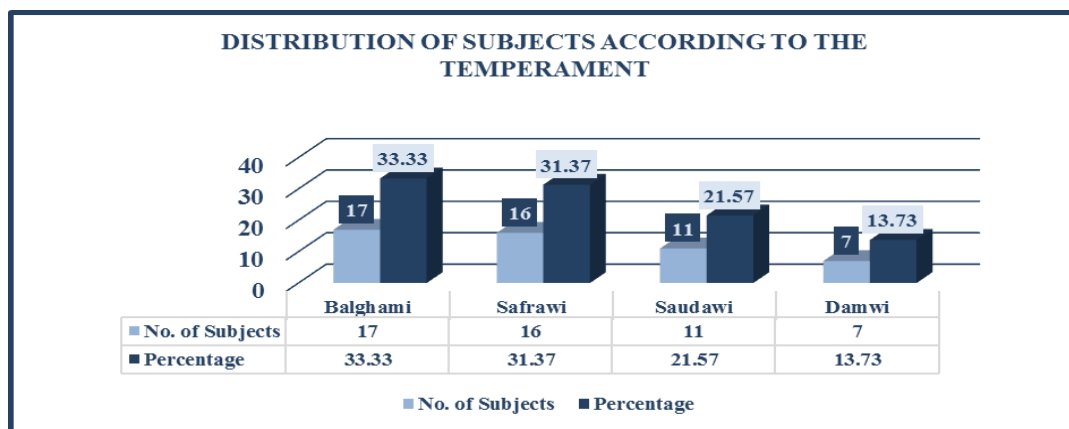
#### OBSERVATION AND RESULTS

##### Distribution of subjects according to the Temperament

A total of fifty-one volunteers were selected for the study, of whom 17 were Balghami Mizaj, 16 were Safrawi Mizaj, 11 were Saudawi Mizaj, and 07 were Damwi Mizaj.

**Table No. 2: Distribution of subjects according to the Temperament.**

S. No.	Mizaj	No. of Subjects	Percentage
1.	Balghami	17	33.33
2.	Safrawi	16	31.37
3.	Saudawi	11	21.57
4.	Damwi	7	13.73



**Graph No. 1: Distribution Of Subjects According To The Temperament.**

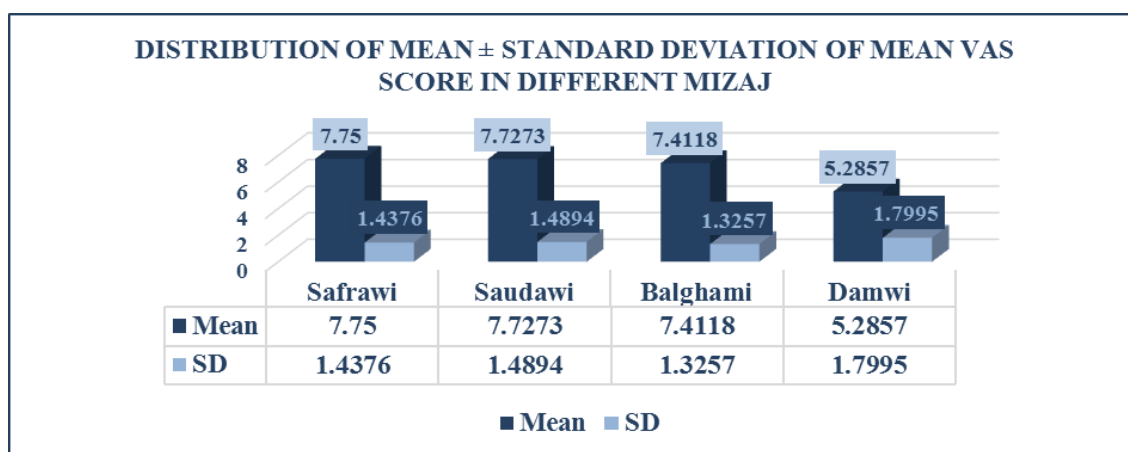
#### DISTRIBUTION OF MEAN $\pm$ STANDARD DEVIATION OF MEAN VAS SCORE IN DIFFERENT MIZAJ

The mean VAS score of Safrawi subjects is highest i.e., 7.7500 and S.D. is  $\pm 1.4376$ , Saudawi subjects have

mean VAS Score 7.7273 with S.D. is  $\pm 1.4894$ , Balghami subjects have a mean VAS Score of 7.4118 with S.D.  $\pm 1.3257$ , Damwi subjects show the lowest mean i.e., 5.2857 with S.D.  $\pm 1.7995$ .

**Table No. 3: Distribution Of Mean  $\pm$  Standard Deviation Of Mean Vas Score In Different Mizaj.**

DISTRIBUTION OF MEAN $\pm$ STANDARD DEVIATION OF MEAN VAS SCORE IN DIFFERENT MIZAJ			
S.No.	Mizaj	Mean	SD
1.	Safrawi	7.7500	1.4376
2.	Saudawi	7.7273	1.4894
3.	Balghami	7.4118	1.3257
4.	Damwi	5.2857	1.7995



**Graph No. 2: Distribution Of Mean ± Standard Deviation Of Mean Vas Score In Different Mizaj.**

A **one-way ANOVA test** was conducted to determine the significance of the difference in **mean VAS Score**

among different **Mizaj groups**, and the following data was obtained.

**Table No. 4 ONE WAY ANOVA TEST.**

Source	Sum of Squares	Degree of Freedom	Mean Square	F-statistic	p-value
Between Groups	33.8602	3	11.2867	5.2664	<b>0.00325</b>
Within Groups	100.7281	47	2.1432		
Total	134.5883	50	2.6918		

The result is significant. The **computed F value is 5.2664** with **3 and 47 degrees of freedom** for between and within groups respectively. The **p-value is 0.00325**, which is less than 0.01. Therefore, the **null hypothesis (H<sub>0</sub>) is rejected** and the **alternative hypothesis (H<sub>1</sub>) is**

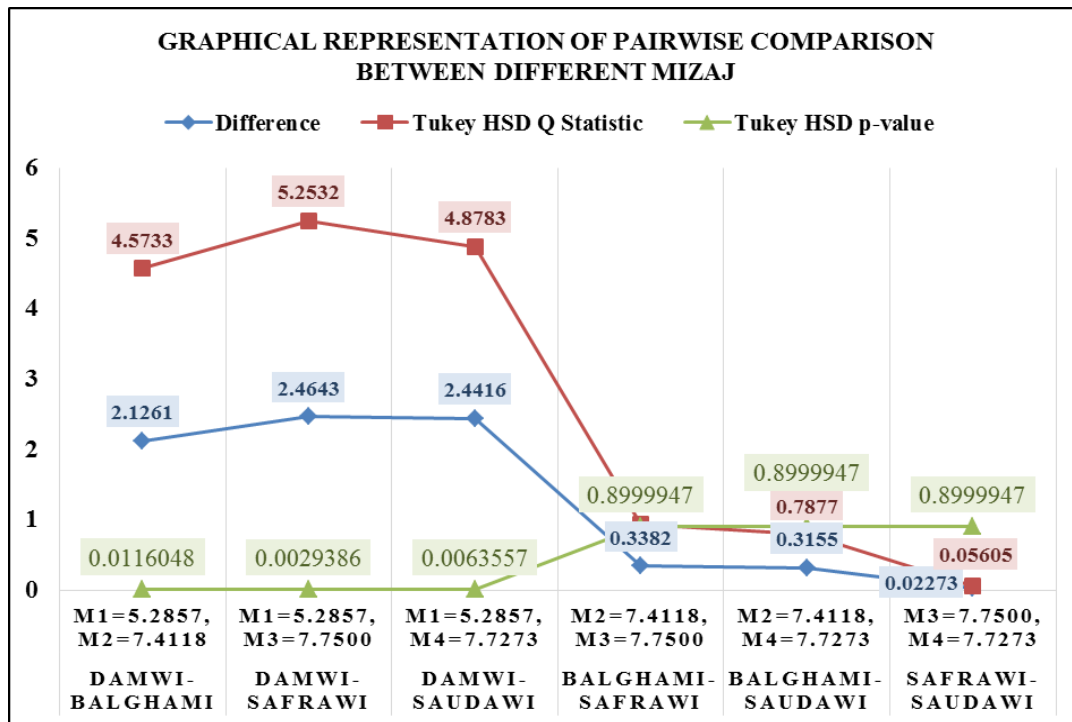
**accepted**. This indicates that the result is **statistically significant**. Hence, it is concluded that the **four groups of temperaments do not have the same mean VAS score**.

**Table No. 5: Pairwise Comparison Between Different Mizaj.**

PAIRWISE COMPARISON BETWEEN DIFFERENT MIZAJ					
Pairwise Comparisons	Mean	Difference	Tukey HSD Q Statistic	Tukey HSD p-value	
<b>Damwi-Balghami</b>	M1=5.2857, M2=7.4118	2.1261	4.5733	0.0116048	
<b>Damwi-Safrawi</b>	M1=5.2857, M3=7.7500	2.4643	5.2532	0.0029386	
<b>Damwi-Saudawi</b>	M1=5.2857, M4=7.7273	2.4416	4.8783	0.0063557	
<b>Balghami-Safrawi</b>	M2=7.4118, M3=7.7500	0.3382	0.9381	0.8999947	
<b>Balghami-Saudawi</b>	M2=7.4118, M4=7.7273	0.3155	0.7877	0.8999947	
<b>Safrawi-Saudawi</b>	M3=7.7500, M4=7.7273	0.02273	0.05605	0.8999947	

The pairwise comparisons among the four groups- Damwi, Balghami, Safrawi, and Saudawi-revealed significant differences in some cases. The mean for Damwi (M1 = 5.2857) was significantly lower than that of Balghami (M2 = 7.4118), with a mean difference of 2.1261, a Tukey HSD Q statistic of 4.5733, and a p-value of 0.0116048. Similarly, Damwi also differed significantly from Safrawi (M3 = 7.7500) and Saudawi (M4 = 7.7273), with mean differences of 2.4643 and

2.4416, Q statistics of 5.2532 and 4.8783, and p-values of 0.0029386 and 0.0063557, respectively. In contrast, comparisons among Balghami, Safrawi, and Saudawi showed no significant differences. The mean difference between Balghami and Safrawi was 0.3382 (Q=0.9381, p=0.8999947), between Balghami and Saudawi was 0.3155 (Q = 0.7877, p = 0.8999947), and between Safrawi and Saudawi was 0.0227 (Q = 0.05605, p = 0.8999947).



**Graph No. 3: Pairwise Comparison Between Different Mizaj.**

## DISCUSSION

The current study intends to analyze the intensity of pain in primary dysmenorrhoea in different mizaj. It is observed in results that Safrawi mizaj has highest mean VAS score, consequently followed by Saudawi, Balgami and at last Damwi mizaj in which the occurrence is least. The difference between the groups was extremely significant statistically ( $p = 0.00325$ ) and suggested strong association of mizaj and primary dysmenorrhoea.

The relatively increased intensity of pain seen in Safrawi mizaj may be due to its fundamental descriptive properties of heat and dryness which are considered to be linked with increased irritability and elevated pain perception according to Fundamentals of Unani Medicine. Furthermore, Saudawi mizaj, that is indicated by coldness and dryness, is usually considered to be associated with high sensitivity and chronicity of symptoms, which could justify the higher VAS scores in this group. On the other hand, Damwi mizaj is considered balanced in temperament comparatively, which may be responsible for less perception of pain comparatively and increased physiological adaptability.

These findings strengthen the Unani concept that mizaj remarkably affects the clinical manifestations as well as disease severity. The changes in VAS scores amidst different mizaj groups emphasized the importance of individual temperament constitution in modulating pain intensity.

Nevertheless, the study was constrained by its cross-sectional design and comparatively small sample size that might restrict the universal implications of these

results. Therefore, further large-scale analytical studies are suggested to support and verify these results.

## CONCLUSION

The present study concludes that the pain intensity of primary dysmenorrhoea varies significantly among different mizaj. The mean VAS score was observed to be highest in Safrawi mizaj, followed by Saudawi, Balgami, and lowest in Damwi mizaj, with a statistically significant association ( $p = 0.00325$ ).

These findings indicate that mizaj plays a substantial role in influencing pain perception and clinical presentation of primary dysmenorrhoea. Assessment of temperament may therefore be considered an important factor in understanding individual variability and in planning personalized management strategies.

Further large-scale studies are recommended to strengthen the evidence and expand the clinical applicability of these findings.

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## Conflict of Interest

The authors declare that they have **no conflict of interest** related to this study.

**Ethical Statement**

Ethical approval for this study was obtained from IEC of this institution and the permission was granted by HOD and concerned supervisor. Participation of patients was voluntary, informed consent was obtained and confidentiality of the collected information was strictly maintained in accordance with Institutional ethical guidelines. All work was accordance to standard research practices.

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