

## Original Research Article

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# Evaluation of Mizāj in the students of KTCHRC and its association with their academic performances and BMI: a cross sectional study

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## ABSTRACT

**Background:** *Mizāj* (Temperament) is the elementary fundamentals of Unani system of Medicine. Each person is born with innate *Mizāj* which is susceptible to variation through several influences. Upon this *Mizāj*, health and disease, diagnosis and treatment are based. This study aimed to assess the *Mizāj* of students at KTC-Hospital and Research Centre, examine its relationship with their academic performance, and explore the association between *Mizāj* and students' BMI.

**Methods:** Data was collected using a schedule and was analysed using statistical software namely Microsoft excel and SPSS Software.

**Results:** Highest percentage was of *Mizāj Hārr Rāṭab* with 22 (21.4%), followed by 21(20.4%) *Moatadil Yābis*, 15(14.6%) *Moatadil Rāṭab*. Out of 103 students, 70 were having BMI of 18.5-25 in which 14 have *Mizāj Hārr Rāṭab* while 14 have *Moatadil Wa Yābis*. Most of students had secured 80-90% marks in their last exam out of which 9 have *Moatadil Rāṭab*, 8 have *Hārr Yābis* and 6 have *Hārr Rāṭab Mizāj*.

**Conclusions:** This study concludes that most students exhibited a *Hārr Rāṭab Mizāj*, aligning with descriptions in Unani literature for this age group. Furthermore, a notable correlation was observed between *Hārr Rāṭab Mizāj* and exceptional academic performance. Moreover, the findings support the Unani view on *Rutubat*'s influence on weight, contrasting with the belief that obesity is mainly due to *Burudat* (coldness).

**Keywords:** B.M.I, *Mizāj*, Temperament

## INTRODUCTION

The term *Mizāj* (Temperament) originates from Arabic and translates to *Āmezish*, *Ikhtilāṭ*, or *Ṭabī'at*. In English, the word "temperament" derives from the Latin *Tempero*, meaning "to mix." *Mizāj* is a fundamental concept in the Unani System of Medicine, referring to the unique quality (*Kayfiyat*) formed in a *Murakkab* (compound) by the

mixing and interaction of the *Ustuqussāt Arba'a* (four elements) in varying proportions.<sup>1-3</sup> Human beings are also considered *Murakkab*, and they acquire their *Mizāj* in the uterus through the formation of *Nutfa* (zygote) after the blending of *Māddat Manwīya*. This *Māddat Manwīya* originates from the four elements-*Juz' Nārī* (fiery), *Mā'ī* (watery), *Hawā'ī* (airy), and *Juz' Arḍī* (earthy). The *Mizāj* provided to the foetus enables its survival and

development both during foetal life and after birth in the external environment.<sup>2,4-6</sup>

Every individual possesses a unique temperament, which influences how they respond to various internal and external stimuli, such as drugs, climate, food, emotions, and bodily reactions.<sup>6,7</sup>

Hippocrates (460-370 BC) was the first to introduce the concept of *Mizāj*. According to the theory of *Mizāj*, every individual possesses an inherent temperament shaped by inborn strengths and weaknesses across various faculties, though it may experience temporary changes.<sup>8-12</sup> An individual's *Mizāj* not only determines their unique traits but also directly affects their health and susceptibility to illness. Based on this, Unani physicians classify personalities into four types: *Damwī* (sanguine), *Balghamī* (phlegmatic), *Şafrāwī* (bilious), and *Sawdāwī* (melancholic).<sup>13-19</sup>

This *Mizāj* is directly linked to the weight of the individual and to his academic performances. As far as the weight is concerned it is the *Hararat* which promotes the growth of *lahem* by acting upon *Rutubat* and *Burudat* acts as *sabab-e-fail* for *shahem*.<sup>4,6,10</sup> This is the reason for more muscle mass in case of *Hārr Mizāj* and more fat content in the *Barid Mizāj* people.

Similarly, the academic performance governed by the efficiency in the functioning of brain is also attributed to the *Mizāj* of the individual. *Hārr Mizāj* people are usually more intelligent and quicker in learning process whereas the *Barid Mizāj* people are comparatively dull and slow in learning process.<sup>4,6,10</sup>

## METHODS

This observational, college-based cross-sectional study targeted first- and second-year medical students over 18 years old attending the OPD of *Tahaffuzi wa Samaji Tib*. Conducted from May 1, 2023, to May 30, 2023, the study utilized a convenience sample of 110 students, with 103 completing the study after 7 participants dropped out. Students other than first- and second-year were excluded. Data collection was facilitated through a structured,

pretested questionnaire, which included questions on demographic information and the *Mojahedi Mizāj Questionnaire (MMQ)*. Participants were informed during the interview that the study aimed to raise awareness among them.

All narrative data were categorized into two main sections: demographic data and *Mizāj*. To ensure data quality, each completed questionnaire was manually reviewed prior to tabulation in Microsoft Excel. Data analysis was performed using Microsoft Excel and SPSS, with graphs and tables generated in Microsoft Word and Excel.

## RESULTS

Out of the 110 students, 7 dropped out. Among 103 students, highest percentage was of *Mizāj Hārr Raṭab* with 22 (21.4%), followed by 21 (20.4%) *Moatadil Yābis*, 15 (14.6%) *Moatadil Raṭab*, 14 (13.6%) *Hārr Yābis*, 12 (11.7%), 8(7.8%) *Bārid Yābis*, 5 (4.9%) *Bārid Raṭab* and 5 (4.9%) *Moatadil* (Table 1).

**Table 1: Distribution of students according to *Mizāj* (n=110).**

<i>Mizāj</i>	No. of students	Percentage (%)
<i>Bārid Raṭab</i> (cold-wet)	5	(4.9)
<i>Bārid Yābis</i> (cold-dry)	8	(7.8)
<i>Hārr Raṭab</i> (hot-wet)	22	(21.4)
<i>Hārr Yābis</i> (hot-dry)	14	(13.6)
<i>Moatadil Wa Yābis</i> (temperance-dry)	21	(20.4.)
<i>Moatadil Wa Raṭab</i> (temperance-wet)	15	(14.6)
<i>Hārr Wa Moatadil</i> (warm-temperance)	12	(11.7)
<i>Moatadil</i> (temperance)	5	(4.9)
<b>Total</b>	<b>103</b>	<b>100.0</b>

Out of 103 students, highest percentage 70 were having BMI of 18.5-25 in which 14 have *Mizāj Hārr Raṭab* and 14 have *Moatadil Wa Yābis* (Table 2).

**Table 2: Distribution of students according to association between *Mizāj* and B.M. I (n=110).**

<i>Mizaj</i>	<i>Bārid Yābis</i> (cold-dry)	<i>Bārid</i> (cold-tempera- nce)	<i>Bārid</i> (cold-wet)	<i>Moatadil Wa</i> <i>Yābis</i> (temperance-dry)	<i>Moatadil</i> (tempera- nce)	<i>Moatadil Wa</i> <i>Raṭab</i> (temperance- wet)	<i>Hārr</i> <i>Yābis</i> (hot- dry)	<i>Hārr Wa</i> <i>Moatadil</i> (hot- temperance)	<i>Hārr</i> <i>Raṭab</i> (hot- wet)	Total
<b>18.5-25</b>	4	1	4	14	5	8	9	11	14	70
<b>%</b>	5.7	1.4	5.7	20.0	7.1	11.4	12.9	15.7	20.0	100
<b>25-30</b>	0	0	1	0	0	6	3	1	8	19
<b>%</b>	0.0	0.0	5.3	0.0	0.0	31.6	15.8	5.3	42.1	100
<b>Less than 18.5</b>	4	0	0	7	0	1	2	0	0	14

Continued.

Mizaj										
BMI	Bārid Yābis (cold-dry)	Bārid (cold-tempera-tance)	Bārid Raṭab (cold-wet)	Moatadil Wa Yābis (temperance-dry)	Moatadil (tempera-tance)	Moatadil Wa Raṭab (temperance-wet)	Hārr Yābis (hot-dry)	Hārr Wa Moatadil (hot-temperance)	Hārr Raṭab (hot-wet)	Total
%	28.6	0.0	0.0	50.0	0.0	7.1	14.3	0.0	0.0	100
<b>Total</b>	8	1	5	21	5	15	14	12	22	103
%	7.8	1.0	4.9	20.4	4.9	14.6	13.6	11.7	21.4	100

**Table 3: Distribution of students according to association between Mizāj and academic performance (n=110).**

Academic performance (% of marks last secured)	Bārid Yābis (cold-dry)	Bārid Raṭab (cold-wet)	Moatadil Wa Yābis (temperance-dry)	Moatadil (temperance)	Moatadil Wa Raṭab (temperance-wet)	Hārr Yābis (hot-dry)	Hārr Wa Moatadil (hot-temperance)	Hārr Raṭab (hot-wet)
<b>&lt;70</b>	2	1	6	1	0	0	3	3
%	12.5	6.3	37.5	6.3	0.0	0.0	18.8	18.8
<b>70-80</b>	1	2	7	0	5	1	2	12
%	3.3	6.7	23.3	0.0	16.7	3.3	6.7	40.0
<b>80-90</b>	3	3	7	3	9	8	4	6
%	7.0	7.0	16.3	7.0	20.9	18.6	9.3	14.0
<b>&gt;90</b>	2	0	1	1	1	5	3	1
%	14.3	0.0	7.1	7.1	7.1	35.7	21.4	7.1
<b>Total</b>	8	6	21	5	15	14	12	22
%	7.8	5.8	20.4	4.9	14.6	13.6	11.7	21.4

Out of 103 students, highest number of students have 80-90% marks in the last exam out of which 9 have *Moatadil Raṭab*, 8 have *Hārr Yābis* and 6 have *Hārr Raṭab Mizāj* (Table 3).

## DISCUSSION

According to Unani literature, human beings are classified into four age groups based on *Mizāj*. The first group, known as *Sinn Nimu*, typically has a *Hārr Raṭab Mizāj* and includes individuals aged 0-30 years. This study, conducted on first- and second-year students, mostly under 30, found that the majority had a *Hārr Raṭab Mizāj*, thus supporting the Unani physicians' assertion that this age group generally exhibits a *Hārr Raṭab Mizāj*. Out of 103 students, 70 had a BMI between 18.5 and 25, including 14 with *Hārr Raṭab Mizāj* and 14 with *Moatadil Wa Yābis Mizāj*. According to Unani literature, *Hārr Raṭab Mizāj* suggests greater muscle mass, as *Rutubat* (moistness) contributes to muscle and fat formation. When *Hararat* (warmth) is balanced with *Rutubat*, normal body weight is maintained, supporting the Unani view that individuals with *Hārr Raṭab Mizāj* typically have more *Lahem* (muscle).<sup>4,6,10</sup> Nineteen students had a BMI of 25-30, classifying them as overweight or obese, including 8 with *Hārr Raṭab Mizāj* and 6 with *Moatadil Raṭab Mizāj*. This aligns with the Unani understanding regarding *Rutubat*'s role in weight, though it diverges from the belief that obesity is primarily caused by *Burudat* (coldness). Additionally, 7 students with *Moatadil Yubusat Mizāj* had a BMI below 18.5, indicating underweight, which correlates with Unani

literature attributing underweight conditions to a dominance of *Yubusat* (dryness).<sup>4,6,10</sup> In this study, majority of students scored between 80-90% on their last exam, including 9 with *Moatadil Raṭab*, 8 with *Hārr Yābis*, and 6 with *Hārr Raṭab Mizāj*. This supports the Unani belief that individuals with *Hārr Mizāj* tend to be more intelligent and quicker in the learning process.<sup>4,6,10</sup>

Despite being conducted with commendable rigor, this study has certain limitations. The lack of prior research in this area confined correlations to classical literature. Moreover, some pertinent literature was inaccessible due to language barriers, as translation was not feasible, thereby posing an additional limitation.

## CONCLUSION

The study concludes that most students exhibited a *Hārr Raṭab Mizāj*, aligning with Unani literature for their age group. It also highlights an association between excellent academic performance and a *Hārr Raṭab Mizāj*. Additionally, the findings support the Unani view on *Rutubat*'s influence on weight, contrasting with the belief that obesity is mainly due to *Burudat* (coldness).

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