

ASSOCIATION BETWEEN EATING HABITS AND MIZAJ AMONG APPARENTLY HEALTHY YOUNG ADULTS: AN ANALYTICAL OBSERVATIONAL STUDY

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ABSTRACT

Food plays an important role in maintaining health and preventing disease, and in the Unani system of medicine, dietary regulation (*Ghiza*) is a key component of the six essential factors (*Asbab-e-Sitta Zarooriya*). Health is maintained through a balance of humours (*Akhlat*), while imbalance leads to disease, and diet is prescribed according to an individual's temperament (*Mizaj*). The present prospective observational study assessed variations in eating habits in relation to different Mizaj among apparently healthy individuals. A total of 64 participants aged 18–24 years were assessed for Mizaj using a standardised proforma and for eating habits using the Good Eating Habit Survey, and the data were analysed using one-way ANOVA followed by the Tukey HSD test. Safrawi Mizaj was most prevalent (44%), followed by Balghami (25%), Damvi (22%) and Saudawi (9%). A

statistically significant difference in eating habit scores was observed among Mizaj groups ($F = 2.91$, $p = 0.041$), Saudawi individuals showed the highest negative eating habit scores, whereas Damvi individuals showed the lowest. The findings indicate a significant association between Mizaj and eating habits, suggesting that early identification of temperament-based

dietary patterns may help in promoting healthier lifestyles and preventing future health complications.

KEYWORDS: Unani medicine; Akhlat; Ghiza; mizaj; Eating habits.

INTRODUCTION

The Unani system of medicine is grounded in a comprehensive framework derived from philosophical reasoning and scientific methodology.^[1] It conceptualises medicine as a discipline concerned with evaluating the physiological states of the human body in health and disease, with an emphasis on health maintenance and recovery following illness. Accordingly, the foremost objective of the Unani system is the promotion and preservation of health.^[2] The human body is considered to be composed of seven natural principles or basic components known as *Umoor-e-tabiya* (factors related to physics). These are the factors or basic causes that are responsible for the existence of the human body and are considered to be responsible for the maintenance of health; the loss of any one of these components could lead to disease or even death of an individual. Therefore, each and every factor is responsible for maintaining the health of an individual. The seven factors are (1) Elements (*Arkan*) (2) Temperament (*Mizaj*) (3) Humours (*Akhlat*) (4) Organs (*Ada*) (5) Pneuma (*Arwah*) (6) Faculties or powers (*Quwa*) and (7) Functions (*Afal*).^[3]

In the Unani system of medicine, Temperament (*Mizaj*) is regarded as the fundamental determinant of human health. Every individual possesses a specific and inherent *Mizaj*, which governs their physical, physiological, and psychological characteristics. The theory of *Mizaj* is based on the qualities of four humours (*Akhlat* —Blood (*Dam*), Phlegm (*Balgham*), Yellow bile (*Safra*), and Black bile (*Sauda*) and their attributes: heat (*harārat*), coldness (*burūdat*), moistness (*ruṭubat*), and dryness (*yubūsat*). To know the normal body function of different individuals, their respective *Mizaj* should be assessed first. The assessments of *Mizaj* or *Tashkhees-e- Mizaj* is depend on the basis of physiological, morphological and psychological features and are termed as *Ajnas-e-Ashra*. *Ajnas-e-Ashra* are described as follows: Tactus (*Malmus*), Flesh & fat (*Laham wa Shaham*), Hair (*Shaar*), Body complexion (*Laun-e-Badan*), Stature/Physique (*Haiyat-e-aza*), Quality of passiveness of organ (*Kaifiyat-e-Infial*), Sleep & Wakefulness (*Naum-wa-Yaqzah*), State of organs function (*Afaal-e-azaa*), Body excretion (*Fuzlaat-e-badan*), Psychic reaction (*Infialat-e-Nafsaaniyah*).^[4] Different organs of the body have their own different *Mizaj*, and together they form the *Mizaj* of an individual, which is the resultant of all the *Mizaj* of organs comprising the human body. The

physiological function of the organ and body as a whole is according to their respective *Mizaj*.^[5]

Beyond the seven fundamental principles, Unani medicine also recognises the six essential determinants (*Asbab-e-Sitta Zarooriya*) as key influences on the maintenance of health and the development of disease. These factors directly affect the physiological state of the human body and are therefore regarded as indispensable for sustaining life and health.^[6] The six essential determinants include: (1) Surrounding atmospheric air (*Al-Hawa al-Muhit*), (2) Food and drink (*Al-Makool wa-al-Mashroob*), (3) Physical activity and rest (*Al-Harkat wa-al-Sukoon al-Badani*), (4) Mental and emotional activity and rest (*Al-Harkat wa-al-Sukoon al-Nafsani*), (5) Sleep and wakefulness (*Al-Naum wa-al-Yaqzah*), and (6) Evacuation and retention (*Al-Istifragh wa-al-Ihtibas*).^[7]

Food (Ghiza)

Food (*Ghiza*) is regarded as a fundamental requirement for life and is critical for maintaining health and preventing disease. Classical Unani scholars, including Ibn Sina in *Al-Qanoon fi'l-Tibb* and Jurjani in *Zakhira Khwarazm Shahi*, emphasised that dietary practices aligned with an individual's temperament (*Mizaj*) are essential for health preservation, whereas inappropriate food consumption may result in derangement of temperament (*sue mizaj*) and subsequent illness.^[8,9] For instance, individuals with a *Damvi* temperament (hot and moist) benefit from consuming light, cool, and dry foods, while excessive intake of hot and moist diets can lead to health disturbances. Conversely, individuals with *Balghami* (cold and moist) or *Saudawi* (cold and dry) temperaments require warm foods to restore balance, whereas those with a *Safrawi* temperament (hot and dry) should avoid excessively hot or spicy foods to prevent aggravation of their constitution.^[10] This illustrates the significant link between dietary habits and temperament, which underpins Unani preventive medicine and aligns with contemporary principles of personalised nutrition. Recent evidence also supports that dietary modifications based on temperament can contribute to the prevention of lifestyle-related disorders and the promotion of overall health.^[11]

Eating Habits in Unani Perspective

The origin of life is related to the heart and the soul, and both are warm and inclined toward heat. Life is sustained through heat, and growth occurs through moisture; in fact, existence is maintained by heat and moisture, and both are essential for the digestion of food.^[8,12]

According to the Unani system of medicine, temperament (*Mizaj*) plays a pivotal role in determining the functional capacity of the digestive system. Individuals with a Sanguine (*Damvi*) temperament are described as having strong digestive power. This is attributed to their hot and moist qualities (*hararat and rutubat*), which enhance gastric functions and facilitate the breakdown and assimilation of food. In contrast, individuals with a Melancholic (*Saudawi*) temperament usually exhibit weaker digestion. The predominance of coldness and dryness (*burudat and yubusat*) in their constitution results in delayed gastric emptying, sluggish digestion, and a tendency toward constipation and heaviness after meals. Good digestive power is linked with good eating habits, whereas weaker digestive power is linked with poor eating habits. These descriptions are well-documented in classical Unani texts. Ibn Sina in *Al-Qanun fi al-Tibb* highlights that a sanguine temperament is associated with robust digestion due to innate heat, while a melancholic temperament is linked with weak digestive processes owing to cold and dry qualities. Similarly, Al-Razi in *Kitab al-Hawi* notes that intrinsic heat supports digestion in sanguine individuals, whereas excessive cold and dryness in melancholic temperament hinder the digestive process.^[8,10]

Individuals with Melancholic temperament (*Saudawi temperament*) are prone to developing abnormal or perverted appetite due to the predominance of black bile (*Sauda*), which is cold and dry in nature. This dominance adversely affects the digestive faculty (*Quwwat-e-Hazima*) as well as the psychological state, resulting in an inclination toward indiscriminate eating habits, including a craving for non-nutritive and unusual substances such as earth or clay. Ibn Sina, in *Al-Qanoon fi'l-Tibb*, describes that excess black bile leads to *fasād-e-shahwat* in which the patient desires unsuitable and non-edible substances.^[8,9]

Alterations in canine appetite and Bulimia are commonly observed in conditions corresponding to a cold temperament (*Sue Mizaj Barid*), indicating that an excess of cold-inducing factors (*Burudat*) may adversely affect feeding behaviour and lead to impaired eating habits.^[13]

Eating Habits in modern perspective

Eating habits refer to the long-term patterns of food consumption that individuals establish and maintain throughout their daily lives. Eating behaviour constitutes a continuous and essential activity, encompassing physiological, psychological, and conscious processes related to food intake. Advances in nutritional science have enhanced understanding of the complex relationship between dietary practices and health outcomes, with awareness of

nutrient composition playing a critical role in the adoption of appropriate dietary habits. Positive dietary behaviours are considered fundamental strategies for health maintenance and disease prevention. These include consuming regular meals, moderating intake of fats and sugars, ensuring adequate consumption of fruits and vegetables, monitoring nutritional labels and caloric content, practising proper food hygiene, and selecting foods based on established nutritional principles.

However, the rapid pace of modern life has facilitated increased consumption of fast foods and ultra-processed products, which have become prevalent in the diet. Ultra-processed foods are characterised by extensive industrial processing, packaging, and the addition of preservatives, flavourings, additives, and refined sugars. These foods are often deficient in essential nutrients, such as fibre, vitamins, and minerals, while being high in sugar, salt, and unhealthy fats.^[14] Such dietary patterns can lead to nutritional imbalances and contribute to the development of metabolic disorders, including obesity, diabetes, and cardiovascular disease. Processing further induces chemical alterations in food, generating protein oxidation products, lipid oxidation products, and advanced glycation end products.^[15] These compounds may stimulate the appetite centre, promote overconsumption, while also negatively affect the gut microbiota by disrupting the balance of beneficial bacteria and compromising intestinal health. Modifications in dietary habits can influence the composition of the gut microbiome, which in turn plays a key role in the regulation and development of metabolic diseases.^[16]

AIMS AND OBJECTIVE

To find the variation of Eating habits in relation to different Mizaj in apparently healthy individuals.

Research Question: What will be the variation of Eating habits in relation to different Mizaj?

Need for the study: To find the extent of variation of Eating habits in healthy individuals having different Mizaj, which affects the quality of healthy individuals.

Hypothesis: There is a variation of Eating habits in different Mizaj of apparently healthy individuals.

MATERIALS AND METHODS

Study site: The study was carried out at A & U Tibbia College & Hospital, Karol Bagh, New Delhi 110005.

Sample size: 64 apparently healthy individuals

Study Design: Prospective Observational Study

Sampling Method: Simple Random Sampling

Study period: The study was conducted for a period of 6 months from 20 April 2025 to 20 September 2025

Study Criteria

Inclusion criteria

1. Apparently healthy individuals
2. Persons of both genders
3. Persons aged from 18 years to 24 years
4. Only individuals from the northern region specially Delhi
5. Only non-vegetarian

Exclusion criteria

1. Person with age less than 18 years and above 24 years
2. Person with abnormal BMR
3. Lifestyle disorders like HTN, DM, etc
4. Person from a different geographical region
5. Persons who are not willing to participate in the study
6. A person with any type of disease
7. Vegetarian

Investigation

1. Assessment of Mizaj-by-Mizaj Assessment proforma.
2. Assessment of Eating habits by the Good Eating Survey method.

METHODOLOGY

1. Participant Recruitment and Consent

o Participants will be recruited and briefed about the study purpose, procedures, and potential risks. Written informed consent will be obtained from each participant before participation.

2. Mizaj Classification: Mizaj Questionnaire design

The questionnaire utilized in this study aimed to assess Mizaj (body type), namely Sanguineous (*Damvi*), Bilious (*safrawi*), Phlegmatic (*Balghami*), and Melancholic (*Saudawi*). The basis for this questionnaire was Ajnas e Ashra, which encompasses ten classical parameters. These parameters include. 1. Tactus (*Malmus*): Sense of touch 2. Flesh & fat (*Laham wa Shaham*): Physical attributes related to flesh and fats 3. Hair (*Shaar*): Characteristics of hair, such as growth rate, color, and distribution 4. Body complexion (*Laun-e-Badan*): Overall complexion of the body 5. Stature/Physique (*Haiyat-e-aza*): General physique and body structure 6. Quality of passiveness of organ (*Kaifiyat-e-Infial*): How organs respond to external stimuli 7. Sleep & Wakefulness (*Naum-wa-Yaqzah*): Patterns of sleep and wakefulness 8. State of organs function (*Afaal-e-azaa*): Functioning state of bodily organs, 9. Body excretion (*Fuzlaat-e-badan*): Disposal of body waste 10. Psychic reaction (*Infialat-e-Nafsaaniyah*): Psychological reactions and responses. These parameters were derived from Unani classical literature and formulated by the Central Council for Research in Unani Medicine (CCRUM), under the Ministry of AYUSH, New Delhi. Participants responded to the questionnaire based on their characteristics, and scores were computed. The Mizaj that obtained the highest score was considered the dominant Mizaj, influencing their anatomical, physiological, and psychological aspects.^[17]

3. Scoring Criteria for Good Eating Habits Questionnaire

The Good Eating Habits Questionnaire consisted of 20 structured questions designed to assess the nutritional quality of participants' eating habits. Each question had two response options: Yes and No. Responses indicating unhealthy eating behaviour were scored as "No", while healthy practices were marked as "Yes".

The total number of "No" responses was calculated for each participant. Based on the total score, nutritional status was categorized as follows:

0–5 No responses

Indicates good nutritional status, suggesting that the participant follows healthy and nutritious eating habits.

6–10 No responses

Indicates moderate nutritional status, suggesting partial adherence to healthy eating habits with scope for improvement.

11–20 No responses

Indicates poor nutritional status, reflecting unhealthy eating habits and inadequate nutritional practices.

This scoring method enabled classification of participants into good, moderate, and poor nutritional status groups for further analysis.

Statistical Analysis

The SPSS-PC package (15 versions) was used for the statistical analysis of the data. Descriptive statistics such as means and standard deviations were calculated for the continuous variables. The criteria for statistical significance were $p < 0.05$.

RESULT

The study involved a random selection of 64 individuals to identify their Mizaj and determine their eating habits using the Good Eating Habit Survey method, in accordance with predefined inclusion and exclusion criteria. Among the participants, the majority had Safrawi Mizaj, with 28 individuals accounting for (44%) of the total. Balghami Mizaj was found in 16 individuals (25%), Damvi Mizaj in 14 individuals (22%), and Saudawi Mizaj in 6 individuals (9%). Overall, the study provides valuable insight into the prevalence of different Mizaj types and their association with food habits.

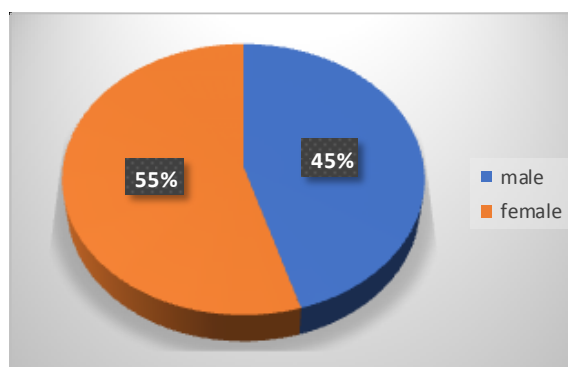


Figure 1: Participant Data According to gender.

Table 1: Statistical parameters according to different Mizaj.

Parameters	N	$\sum x$	Mean	$\sum x^2$	Std.Davitaion
Damvi	14	137	9.7857	1389	1.9287
Balghami	16	181	11.3125	2099	1.8518
Safrawi	28	289	10.3214	3103	2.1091
Saudawi	6	73	12.1667	903	1.7224
Total	64	680	10.625	7494	2.0664

Table 2: One-way ANOVA, The ANOVA as shown in table 2 result suggest FSS for different Mizaj groups differ significantly. ($F = 2.91945$, $P = 0.04126$ at $P < 0.05$) and H_0 is rejected. The f -ratio is 2.91945. The p -value is 0.04126. The result is significant at $p < .05$.

Source	DF	SS	MS	F Stat	P Value
Between Groups	3	34.264	11.4216	2.91945	0.04126
Within Groups	60	234.7351	3.9123		
Total	63	269			

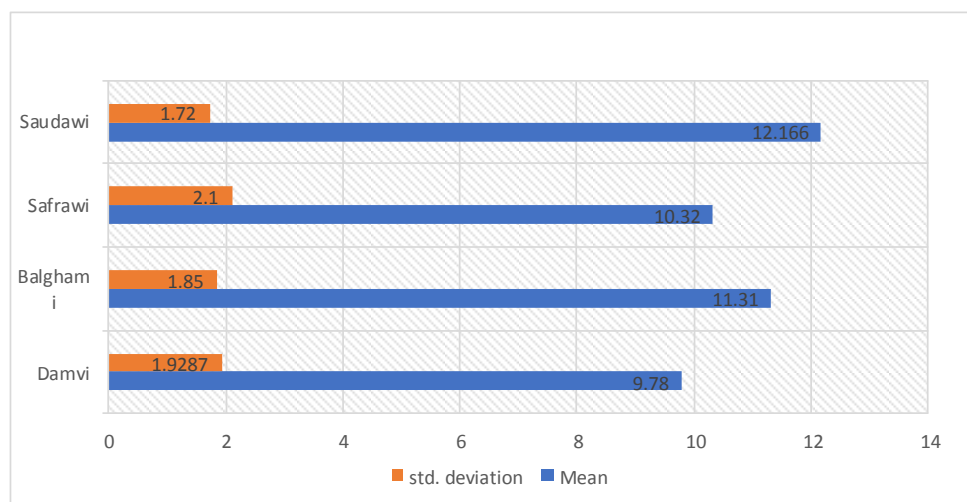


Figure 2: Mean and std. Deviation according to different Mizaj.

According to the *Tukey HSD* test results in Table 3, it was found that the Good Eating Habit score of *Damwi* ($M=9.79$, $S.D. = 1.9287$) is significantly different from *Saudawi* ($M=12.17$, $S.D.= 1.7224$). However, *Damvi* ($M=9.79$, $S.D.= 1.9287$) is not significantly different from *Balghami* ($M=11.31$, $S.D.= 1.8518$), and *Damvi* ($M=9.79$, $S.D.= 1.9287$) is also not significantly different from *Safrawi* ($M=10.32$, $S.D. = 2.1091$). Additionally, *Balghami* ($M=11.31$, $S.D.= 1.8518$) is not significantly different from *Safrawi* ($M=10.32$, $SD.= 2.1091$), and *Balghami* ($M=11.31$, $S.D.= 1.8518$) is not significantly different from *Saudawi* ($M=12.17$, $SD.= 1.8518$). The mean difference was significant at the level of $P < 0.05$. Pairwise Comparisons $HSD.05=2.1433$ $HSD.01=2.6350$ $Q.05=3.7371$ $Q.01=4.5944$.

Table 3: post-hoc pairwise comparisons with Tukey HSD and Q test for statistical significance ($p < 0.05$) between different mizaj means.

Pairwise Comparisons	MEAN	$HSD.05=2.1433$ $HSD.01=2.6350$	$Q.05=3.7371$ $Q.01=4.5944$
T1: T2 Damvi: Balghami	$M1 = 9.79$ $M2 = 11.31$	1.53	$Q=2.66(p=.24645)$
T1: T3 Damvi:Safrawi	$M1 = 9.79$ $M3 = 10.32$	0.54	$Q=0.93(p=.91144)$

T1:T4 Damvi:Saudawi	M1=9.79 M4=12.17	2.38	Q=4.15(p=.02373)
T2: T3 Balghami:Safrawi	M2=11.31 M3=10.32	0.99	Q=1.73(p=.61552)
T2: T4 Balghami:Saudawi	M2=11.31 M4=12.17	0.85	Q=1.49(p=.71899)

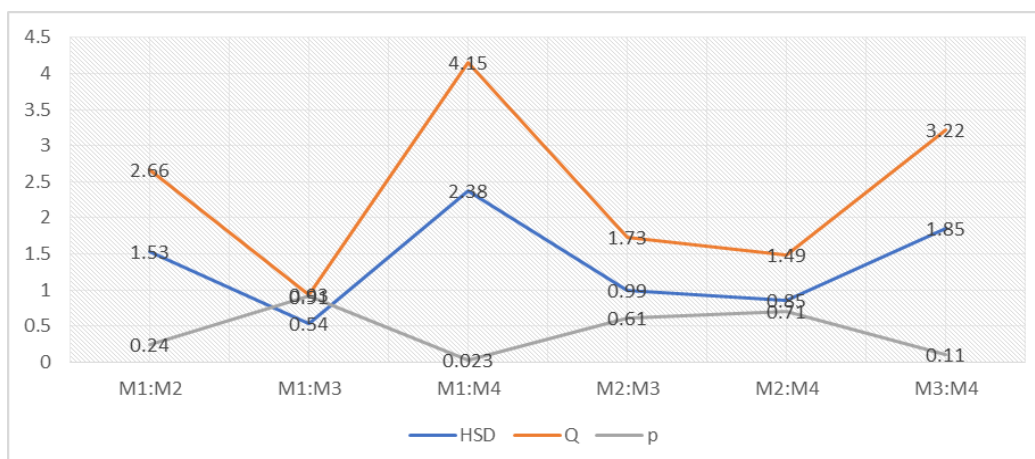


Figure 3: Graphical representation of pairwise comparison between different Mizaj.

DISCUSSION

In this study, eating habits were assessed using the Good Eating Habit Survey questionnaire. Based on the negative eating habit scores, participants were categorized into three groups: a score of less than 6 indicated nutritious eating habits; scores between 6 and 10 indicated moderately nutritious eating habits with a potential risk of health concerns during middle age; and scores between 11 and 20 indicated poorly nutritious eating habits, which may lead to health challenges early in adult life.

This method is considered reliable for assessing eating habits. The study found that individuals with Saudawi Mizaj had the highest mean negative eating habit score (12.14), while those with Damvi Mizaj had the lowest mean score (9.79). According to classical Unani literature, four types of Mizaj are described, and individuals with Saudawi Mizaj are believed to be more susceptible to poor eating habits. In contrast, individuals with Damvi Mizaj are considered to have comparatively better eating habits.

Analysis of eating habit scores across all four Mizaj types revealed that Saudawi Mizaj had the highest mean score (12.14), followed by Balghami Mizaj (11.31), Safrawi Mizaj (10.32), and Damvi Mizaj (9.79). These differences were statistically significant ($P = 0.04126$ at a significance level of $P < 0.05$), indicating a significant association between eating habit

scores and Mizaj variability. Furthermore, individuals with different Mizaj tended to adopt distinct eating habits. A statistically significant mean difference was observed between the Damvi and Saudawi groups ($P = 0.02373$ at $P < 0.05$). However, further studies with a larger sample size are required to compare dietary patterns among different Mizaj types more comprehensively.

CONCLUSION

The analysis of the observed data reveals that individuals with Saudawi Mizaj exhibited the highest mean scores on the Eating Habit Survey, whereas those with Damvi Mizaj demonstrated the lowest scores. These findings strongly support the experimental hypothesis of the present study. The results clearly indicate a significant association between eating habits and Mizaj, highlighting the influence of temperament on dietary behaviour. Furthermore, the study emphasizes the importance of early identification and monitoring of potential health challenges, particularly among individuals with Saudawi Mizaj, as part of routine clinical practice. Such an approach may play a vital role in the prevention of adverse health outcomes and in promoting overall well-being.

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Availability of Data and Material

The raw data and materials used to support the findings of this study are available from the corresponding author upon reasonable request.

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Conflict of Interest: Authors declare none.

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