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## An observational study of headache disability index with reference to different Mizaj to evaluate life quality of headache patients

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### Abstract

Headache is an almost universal experience and one of the most common symptom in medical practice. Headache disorders are among the most common of the nervous system disorders with the prevalence of 48.9 percent in the general population. Some headaches are extremely debilitating and have a significant impact on an individual's quality of life imposing huge costs to healthcare and their consequences leads to disability. Concept of Mizaj in the Unani system of medicine is a wide area of research. Mizaj is one of the basic and fundamental concept of the Unani system of medicine, diagnosis and line of management of any disease is based upon it. In this cross sectional descriptive study to assess the Mizaj and headache disability, we used Mizaj assessment proforma based on classical literature and Headache Disability Index proforma (developed by Doctor Yusuf Jamal) in headache patients of different age and both gender & this study was carried out in Out Patient Department and In Patient Department of Ayurvedic and Unani Tibbia college and hospital, Karol Bagh, New Delhi. Analysis of data in the current study was done by calculating the Mean, Standard Deviation and one way Analysis of Variance in SPSS 22.0 software for all the factors of Mizaj and Headache Disability Index. The findings suggested that Headache Disability Index had significant association with the variability of Mizaj of the headache patients.

**Keywords:** #Headache #Mizaj #Headache Disability Index #Nervous System Disorders #Quality of Life #Disability #Dr. Yusuf Jamal #Analysis of Variance #Ayurvedic and Unani Tibbia College and Hospital

### Introduction

Unani Medicine (also called as Greco-Arab medicine) is an ancient system of medicine originated from Greece, which is based on the teachings of Greek physician Hippocrates, and Roman physician Galen, and developed into an elaborate medical System by Arab and Persian physicians, such as Rhazes, Avicenna (Ibn Sena), Al-Zahrawi, and Ibn Nafis<sup>[1]</sup>. This system describes seven essential components of the body, which are called Umoor-e-Tabiya namely- Arkan or elements (comprising earth, water, air, and fire as different states of matter and the building blocks of everything in the universe); Mizaj (temperament); Akhlat (humors); Aza (organs); Arwaah (life, spirit or vital breath); Quwa (energy); and Afaal (action). The framework of this system is based on the concept of Mizaj (temperament) and akhlat (humors). The Unani system gives insights into human personalities by classifying them into four different Mizaj (Temperaments) based on the dominance of body fluids (humors). Drugs and diseases are also classified as having different Mizaj according to the four humors in treatment<sup>[2]</sup>. Mizaj is one of the basic and fundamental concept of the Unani system of medicine which is a new median (kaifiyat) produced by composition of different elements (anasir). Mizaj is the discriminated feature upon which human health, disease, diagnosis and treatment are based. According to nature, Mizaj is divided into four categories known as Damvi (Sanguine), Balgami (Phlegmatic), Safrawi (Choleretic), Saudawi (Melancholic). According to Ibn Nafis, the literal meaning of Mizaj is ' intermixture' , which originated from the Arabic word Imtizaj which means intermixture<sup>[3]</sup>. " Temperament is the quality which results from the mutual interaction and interspersion of the four contrary primary qualities residing within the (imponderable) elements<sup>4</sup>. Majoosi defined Mizaj as " All sorts of bodies, which are found in this ever-changing world are formed from four

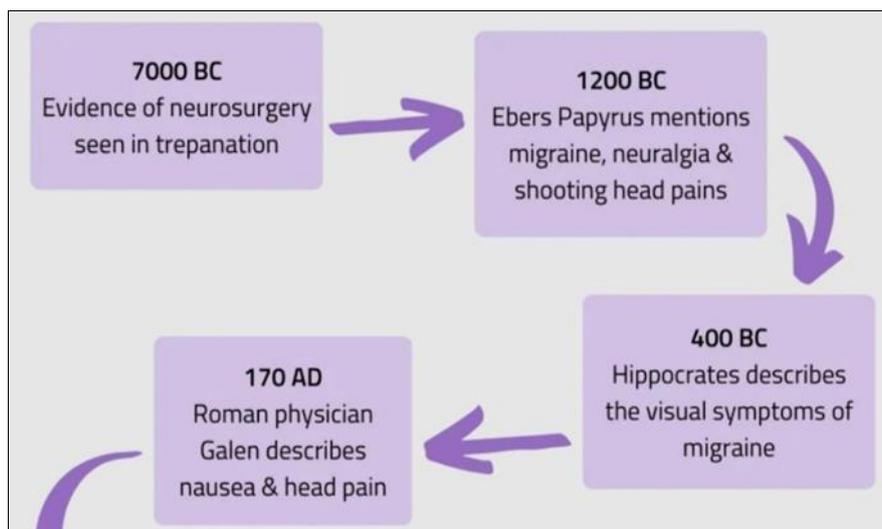
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elements (Ustuqussat), comprising earth, water, air and fire and after mixing in different or uniform quantities under the needs of the body. As a result of this mixing, one or two qualities become dominant over the body, and this is called Mizaj. Hippocrates (460 B.C.), Unani physician in his book "Human Nature" set forth the doctrine of body fluids i.e., Humors or Akhlat, (singular khilt), that the human body contains four major kinds of Humors i.e., Dam (blood), Balgham (Phlegm), Safra (yellow bile) and Sauda (black bile). According to quality and quantity, an accurate proportion and mixing of which (homeostasis) constitutes health and inaccurate proportion and irregular distribution, according to their quantity and quality constitute disease. For knowing the normal body function of different individuals their respective Mizaj should be assessed first. The assessments of Mizaj or Taskhees-e- Mizaj is depend on the basis of physiological, morphological and psychological feature and are termed as Ajnas-e-Ashra. Mizaj (Temperament) Ajnas e Ashra are described as

following- Malmus(Tactus), Laham wa Shaham(flesh & fat), Shaar (Hair), Laun-e- Badan (Body complexion), Haiyat-e-aza(Stature/Physique), Kaifiyat-e-Infial(Quality of passiveness of organ), Naum wa Yaqzah (Sleep & Wakefulness), Afaal-e- azaa(State of organs function), Fuzlaat-e-badan(Body excretion), Infialat-e Nafsaaniyah (Psychic reaction). Different organs of the body have their own different Mizaj and together they formed the Mizaj of an individual which is the resultant of all the Mizaj of organs comprising the human body. Physiological function of the organ and body as a whole are according to their respective Mizaj<sup>3</sup>.The treatment is based on the temperament of the patient and the treatment is initiated in the following manner: 1. Eillaj Bi Tadabeer wa Agziya (Regimental/Diet-Therapy) 2. Ilaj Bi Dawa (Pharmaco-Therapy) 3. Eillaj Bi Yad (Surgical Intervention), Surgical Intervention is taken up when all the therapies fail to give the results<sup>1</sup>.



**Fig 1: Headache in ancient times**

Ancient references to headache can be found in Ebers Papyrus (1200 B.C.) and evidence of trepanation of 9000 years old neolithic skulls suggests the first headache treatment. Visual symptoms associated with headaches were described by Hippocrates in 400 B.C., and Aretaeus provided one of the earliest classification of headaches around 200 A.D., Hippocrates also noted the association between headache and various activities such as exercise and intercourse<sup>[4]</sup>. Headache is not a disease, it's a symptom of other diseases<sup>[5]</sup>.

According to Unani Scholar Allama Najeebuddin Samarqandi "the literal meaning of Suda' (Headache) is head pain and it is a type of pain which reflects in the part of head". Allama Najeebuddin Samarqandi narrated in Sharah of Kulliyat that "eyes and its related structures are not included in parts of head and also conjunctivitis is not called as suda" instead parts of head are following: Scalp, Periosteum, Skull bone, Duramater, Arachnoid mater, Piamater, Brain, Blood vessels<sup>[6]</sup>. According to Hakeem Mohammad Azam Khan 28 types of Suda are as following-simple hot headache, simple cold headache, sanguine/congestive headache, bilious headache, phlegmatic headache, melanic headache, gastric headache, hypertensive headache, anemic headache, levity headache, pyrexial

headache, alcoholic headache, traumatic headache, helmet/organic headache, embolic headache, verminal headache, migraine/ hemicranial headache, throbbing headache, concussion headache, somnial headache, referred headache, catarrhal headache, crisis headache, sunstroke headache, inflammatory headache, hyperaesthetic headache, dry headache, peritoneal headache, secondary headache<sup>[7]</sup>. Headaches are a type of pain referred to the surface of the head from deep head structures. Some headaches result from pain stimuli arising from inside the cranium, but others result from pain arising from outside the cranium, such as from nasal sinuses<sup>[8]</sup>. Headache is an extremely common symptom and collectively headache disorders are among the most common of the nervous system disorders, with a prevalence of 48.9% in the general population. Headache affects people of all ages, races and socioeconomic status and is more common in women. Only a small proportion of headache disorders require specialist input. The vast majority can be effectively treated by a primary care physician or generalist with correct clinical diagnosis that requires no special investigation. Headaches are broadly divided into primary and secondary. Primary headache disorders are defined as headaches that are unrelated to an underlying medical condition and are categorized into 4

groups: Migraine, Tension-type Headache (TTH), Trigeminal Autonomic Cephalalgias, and other primary headache disorders. Primary Headache disorders constitute the vast majority of headache disorders. TTH affects 60–80% of the population while Migraine has a prevalence of 15% (male 7.6%, female 18.3%). Cluster headache is uncommon (0.1%) but often misdiagnosed and mismanaged<sup>9</sup>. Secondary headache disorders are defined as headaches due to an underlying medical condition and are classified according to whether they are due to vascular, neoplastic, infectious, or intracranial pressure/volume, head injury causes<sup>10</sup>. Pain can also result when pain sensitive pathways of the peripheral or central nervous system are damaged or activated inappropriately. Headache may originate from either or both mechanisms<sup>[11]</sup>. Headache pain receptors are located at the base of the brain in arteries and veins and throughout meninges, extra cranial vessels, scalp, neck and facial muscles, paranasal sinuses, eyes and teeth. Curiously, brain substance is almost devoid of pain receptors. Head pain is mediated by mechanical (e.g. stretching of meninges) and chemical receptors (e.g. 5-hydroxytryptamine and histamine stimulation). Nerve impulses travel centrally via 5<sup>th</sup> and 9<sup>th</sup> cranial nerves and via upper cervical sensory roots<sup>[12, 13, 14]</sup>.

What is the burden due to headache disorders? Not only is headache painful, but it is also disabling. In the Global Burden of Disease Study, updated in 2013, migraine on its own was found to be the sixth highest cause worldwide of years lost due to disability (YLD). Headache disorders collectively were third highest. Headache disorders impose a recognizable burden on sufferers including sometimes substantial personal suffering, impaired quality of life and financial cost. Repeated headache attacks, and often the constant fear of the next one, damage family life, social life and employment. The long-term effort of coping with a chronic headache disorder may also predispose the individual to other illnesses. For example, anxiety and depression are significantly more common in people with migraine than in healthy individuals<sup>[15]</sup>.

**Need for the study:** To find extent of disability due to headache in patients having different Mizaj which affects life quality of headache patients.

**Research question:** What will be the extent of disability due to headache in relation to different Mizaj.

**Hypothesis:** there is a variation in extent of life quality disability due to headache in different Mizaj of individuals.

### Materials and Methods

**Study site:** The study was carried out in OPDs and IPDs of A & U Tibbia College & Hospital, Karol Bagh, New Delhi 110005.

**Sample size:** 75 patients of all type of headache

**Study Design:** Prospective Observational Study

**Sampling Method:** Simple Random Sampling

**Study period:** The study was conducted for a period of 3 months from 15 October 2022 to 15 January 2023.

### Study criteria

#### Inclusion criteria

1. All types of headache patients
2. Patients with both gender
3. Patients with age from 20 years to 59 years

#### Exclusion criteria

1. Patients with age less than 20 years and above 59 years
2. Trauma
3. Pregnancy
4. Person with psychological disorders
5. Patients who do not willing to participate in study

### Investigation

1. Assessment of Mizaj by Mizaj Assessment proforma.
2. Assessment of Headache Disability Index (HDI) through HDI proforma developed by Dr. Yusuf Jamal, Prof. of Munafe ul Aza, A & U Tibbia College, Karol Bagh, Delhi.

### Procedure

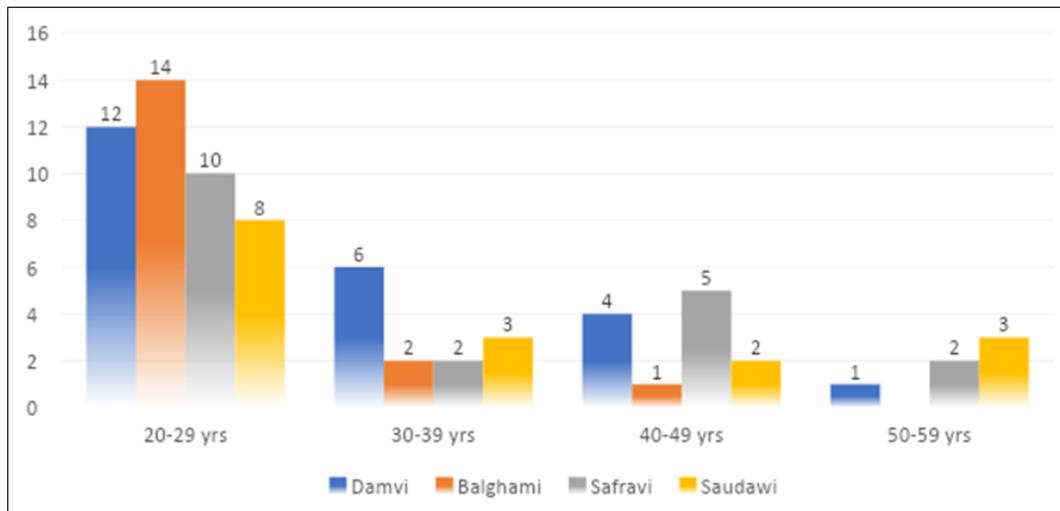
A total of 80 patients were randomly selected who fulfill inclusion criteria from Ayurvedic and Unani Tibbia College and Hospital Karol Bagh Delhi (India) OPD and IPD for Mizaj identification and the determination of the Headache Disability Index of these patients, 5 patients did not respond to the questionnaire according to the requirement, therefore, those patients were excluded from the study, leaving a remaining 75 patients. All of the patients provided their consent to participate in the study. The patients were adequately informed about all relevant aspects of the study. All patients voluntarily participated in the study. After selecting patients we did Mizaj identification through Mizaj Assessment proforma and then asked questions to the patient according to HDI proforma and marked ticks on the questionnaire as per the answers given by patients. And after completing the questionnaire we calculated the score and noted it as mild, moderate and severe Headache Disability Index.

### Results

Total 75 patients were randomly selected for Mizaj Identification and determination of HDI as per inclusion criteria and completed their study from A and U Tibbia College and Hospital. Out of 75 patients Damvi Mizaj composed the majority of 23 patients (30.66%), Balghami Mizaj composed of 19 patients (25.33%), Safrawi Mizaj composed of 17 patients (22.66%), Saudawi Mizaj composed of 16 patients (21.33%).

**Table 1: Patients data of different Mizaj a/c to age groups**

Age	Damvi	Balghami	Safrawi	Saudawi
20-29	12	10	14	8
30-39	6	2	2	3
40-49	4	5	1	2
50-59	1	2	0	3
Total	23(30.66%)	19(25.33%)	17(22.66%)	16(21.33%)



**Fig 2:** Patient’ s data of different Mizaj a/c to age groups

**Table 2: Statistical parameters a/c to different Mizaj**

Parameters	Damvi	Balghami	Safrawi	Saudawi	Total
N	23	19	17	16	75
$\sum X$	562	458	410	269	1699
Mean	24.4348	24.1053	24.1176	16.8125	22.653
$X^2$	14496	11882	10910	5161	42449
Std. Dev.	5.8916	6.8386	7.9913	6.524	7.3162

The ANOVA as shown in Table:3 results suggest HDI Score for different Mizaj groups differs significantly. (F = 5.03927, p = 0.00319 at p < 0.05, Q = 3.7207) and H<sub>0</sub> is rejected.

**Table 3: One way ANOVA**

Source	SS	Df	MS	F = 5.03927
Between Treatments	695.3428	3	231.7809	
Within Treatments	3265.6439	71	45.995	
Total	3960.9867	74		

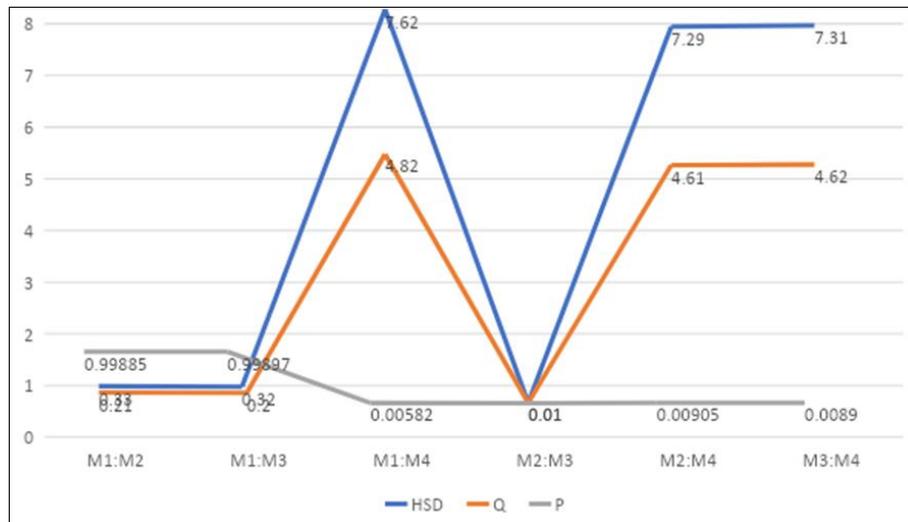
**The f-ratio value is 5.03927. The p-value is .00319. The result is significant at p < .05.**

Tukey HSD was selected Table:4 Test indicated that Mean HDI Score of Damvi (M = 24.43, S.D. = 5.8916) is significantly different from Saudawi (16.81, SD = 6.524). Balghami (M=24.11, S.D.=6.84) is significantly different

from Saudawi (16.81, SD = 6.524), Safrawi (M=24.12, S.D.=7.99) is significantly different from Saudawi. Damvi is not significantly different from Balghami, Damvi is not also significantly different from Safrawi, Balghami is not significantly different from Safrawi, The mean difference was significant at the level of 0.05.

**Table 4: Pairwise comparison between different Mizaj**

Pair wise Comparison	HSD <sub>.05</sub> = 5.8832		Q <sub>.05</sub> = 3.7207
	HSD <sub>.01</sub> =7.2165		Q <sub>.01</sub> = 4.5639
T <sub>1</sub> :T <sub>2</sub> Damvi : Balghami	M <sub>1</sub> = 24.43 M <sub>2</sub> = 24.11	0.33	Q = 0.21 (p = 0.99885)
T <sub>1</sub> :T <sub>3</sub> Damvi : Safrawi	M <sub>1</sub> = 24.43 M <sub>3</sub> = 24.12	0.32	Q = 0.20 (p = 0.99897)
T <sub>1</sub> :T <sub>4</sub> Damvi : Saudawi	M <sub>1</sub> = 24.43 M <sub>4</sub> = 16.81	7.62	Q = 4.82 (p = 0.00582)
T <sub>2</sub> :T <sub>3</sub> Balghami : Safrawi	M <sub>2</sub> = 24.11 M <sub>3</sub> = 24.12	0.01	Q = 0.01 (p = 0.00000)
T <sub>2</sub> :T <sub>4</sub> Balghami :Saudawi	M <sub>2</sub> = 24.11 M <sub>4</sub> = 16.81	7.29	Q = 4.61 (p = 0.00905)
T <sub>3</sub> :T <sub>4</sub> Safrawi : Saudawi	M <sub>3</sub> = 24.12 M <sub>4</sub> = 16.81	7.31	Q = 4.62 (p = 0.00890)



**Fig 3:** Graphical representation of pairwise comparison between different Mizaj

### Discussion

The present study evaluated the HDI of headache patients through HDI questionnaire proforma in relation to different Mizaj after that HDI result comes up in the form of a score which has 3 grades (mild-1-14, moderate-15-24 and severe-25-34). This is the proven suitable method to assess HDI. Damvi Mizaj patient group has highest mean HDI score (24.4348) and Saudawi Mizaj patient group has lowest mean HDI score (16.8125). According to classical Unani literature, HDI is seen altogether 4 types of Mizaj but, The persons with Mizaj e Damvi (Sanguine temperament) are alleged to be more prone to get affected their life caused by headache. In the present study, HDI was seen altogether as 4 types of Mizaj in several percentages Table : 1. subsequently, Table 2 shows that the Mean rank of HDI from Damvi Mizaj (24.43) was highest than that of the person with Mizaj e Safrawi (24.12) followed by Mizaj e Balghami (24.11) and the lowest person with Mizaj e Saudawi (16.81). Yet after the analysis, the difference among the group was found to be statistically significant ( $p= 0.00319$  at the level of significance  $p<0.05$ ). The finding suggested that HDI had a significant association with the variability of Mizaj of the person. Moreover, any Mizaj could predispose the person to develop disability due to headache. Further study needs to be conducted to compare one Mizaj to the other 3 Mizaj of the person.

### Conclusion

Based on the various observations it is found that Mean HDI score is highest in people having Damvi Mizaj and lowest in people having Saudawi Mizaj and it is in concordance with the experimental hypothesis of this research work. From this study it is clear that a possible correlation between HDI and Mizaj certainly do exist. So, early diagnosis of this disorder is necessary for routine practice at clinics especially in Damvi Mizaj to prevent hazardous consequences.

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