

RELATION OF BODY MASS INDEX WITH MIZAJ (TEMPERAMENT)

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ABSTRACT

Background- The concept of Mizaj (Temperament) is the one of the most significant and the unique feature of unani system of medicine; it is a primary tool for the diagnosis and treatment of disease. The temperament of human body and physique are determined by the dominance of one of the four humors that are as follows- Damvi (Sanguine), Balghami (Phlegmatic), Safravi (Choleric), and Saudavi (Melancholic) ¹. Ancient unani physician have described several parameters for the determination of mizaj which are collectively known as Ajnas-e-Ashra.

Objective of this study was to find if there is any significant relationship between body Mass index and Mizaj.

Method: In this study 120 normal healthy volunteers were enrolled at Dept. of Kulliyat, Ajmal khan Tibbia College, AMU, Aligarh. The temperaments (Mizaj) of the subject were determined by using Ajnas-e-Ashra. Weight and height measurements of all the subjects were taken and body mass index (weight [kg]/height ²[m]) of all the subjects was calculated.

Result: It was found that BMI was significantly more in volunteers of Balghami temperament.

Conclusion: The result of this study is fully in accord with the Unani concept, as documented in classical Unani text that the Balghami Mizaj personalities are flaccid and obese.

Key words: Balghami, Safravi, temperament, Flaccid.

Introduction

The unani medicine or Greeco-Arab medicine is based upon the Pythagorean theory of four proximate qualities and Hippocratic theory of four humours .The four qualities are hot, cold, moist and dry. The Unani system is attributed to the great physician Hippocrates of Greece. When the Arabs entered the phase of civilization they undertook the patronization of this system along with other arts and sciences. Much of the Medical Knowledge come to Arabs through the Greeks by translating their ancient texts into Arabic Many eminent physicians of Greece and Arabs like Asgalibus, Galen, Hippocrates, Rhazes and Avicenna have participated in the compilation and promotion of the same. When the Muslims invaded India in the twelfth century they brought with them their Greeco –Arabian system of medicine which is popularly known as

“The Unani System of Medicine”. During the 13-17 century Unani Medicine had its heyday in India due to the state patronage. Unani system is based on the principle that human body functions in accordance with the constitution of humours and the temperament of the body and the disorders in their natural existence result in disease. Temperament is the pattern of activity and reactivity of the body as a whole or of its parts expressed in the terms of elementary qualities namely heat, cold, dryness and moisture. These qualities (Kaifiyat) are neither entirely absent from the constitution of any object, nor are they present in an absolutely equal proportion. Temperaments of an object are therefore, balanced or imbalanced relatively to one another. In Unani System of Medicine the temperament of human body and physique/ body built (Haiyat-e-Aza) is believed to be determined by the presence of four humours. Thus four humours are as follows- Damvi (sanguine), Safravi (choleric), Balghami (phlegmatic), and Saudavi (melancholic). Ancient unani physician have described several sign and symptoms as to determine the temperament of an individual. Ali Ibn Abbas Majusi, Zakarya Razi, and Ismail Jurjani have described the five sign and symptoms (Ajnas-e- khamisa)^{5, 6} and Ibn-Sina has described ten parameters called Ajnas-e-ashra^{1,3}. In all of them physique/body built (Haiyat-e-Aza) and Lahm-wa-shahm (muscularity and adiposity) of the body is one of the parameter. According to the Unani physicians the leanest body has dominance of coldness and dryness (barid-yabis), then comes the body in which hararat and yabusat is predominating but hararat and burudat are equable and at the last is the body in which hararat is predominant by rutubat and yabusat are equable. Presence of Shahm and Samin indicates towards coldness [baroodat] of mizaj, the body of such person is flaccid^{2, 7}. Unani scholars believe that there is direct relationship between physique/body built (Haiyat-e-Aza) and Temperament (Mizaj).

BMI- the Body mass index or qutelet index is a heuristic proxy for human body fat based on an individual's weight and height. Body mass index is defined as the individuals body weight divided by the square of his or her height. BMI provides a simple numeric measure of a person's fatness or thinness as to figure out over and underweight problems. It is a simple means of classifying individuals with an average body composition. BMI has been used by the WHO as the standard for recording obesity statistics as it can be calculated quickly and without expensive equipment. BMI is regarded as a satisfactory tool for measuring whether individuals are underweight, overweight or obese with various exemptions such as athlete children and elderly. The present study was conducted in Ajmal Khan Tibbia College, AMU, Aligarh. The aim and objective of study was to compare Body Mass Index (BMI) in different temperaments to see whether any difference in BMI exists in these groups or not. In other words we tried to find out any correlation between BMI and temperament.

Reference Value

- BMI < 20 suggest underweight
- BMI 20 to 25 indicate optimal weight
- BMI above 25 indicate overweight

- BMI above 30 is obese
- BMI over 40 morbidly obese

Material and Method

The present study was carried out in Ajmal Khan Tibbiya College AMU Aligarh on 150 randomly selected students of either sex between the age of 20-33 years. The volunteers with history of any chronic illness, drug history, pregnancy, any addiction and Athletes were not included in the study. The selected volunteers were categorized into three groups according to their Mizaj (temperament) - Damvi (Sanguine), Balghami (Phlegmatic) and Safrawi (Choleric Temperament). Saudavi Mizaj (Melancholic Temperament) was not found in the selected volunteers. The temperament of volunteers was determined by a self-designed Performa based on ten determinants (Ajnas-e-Ashra), Weight and height measurements of all the subjects were taken and body mass index (weight [kg]/height ²[m]) of all the subjects was calculated. The chi square test was applied to test the significance of the result at p< .05.

Observation and Result

Table: 1- Distribution of volunteers according to Mizaj (Temperament)

Mizaj (Temperament)	Frequency	Percentage
Damvi	48	32 %
Balghami	43	28.7 %
Safrawi	59	39.3 %
Total	150	100 %

Table: 2- Distribution of volunteers according to Sex

	Damvi	Balghami	Safrawi	Total
Males	30 (62.5 %)	20 (46.5 %)	33 (56 %)	83 (55.3%)
Females	18 (37.5 %)	23 (53.5 %)	26 (44 %)	67(44.7%)
	48 (100%)	43 (100 %)	59 (100 %)	150(100%)

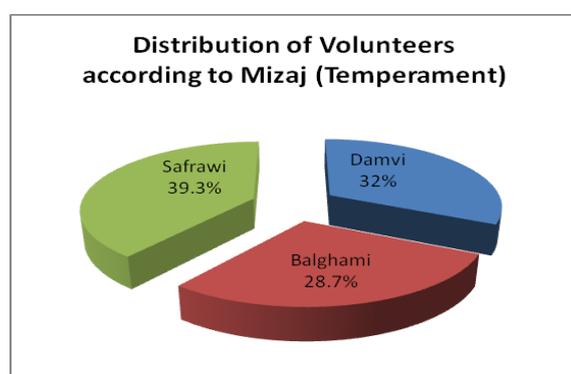


Figure: 1

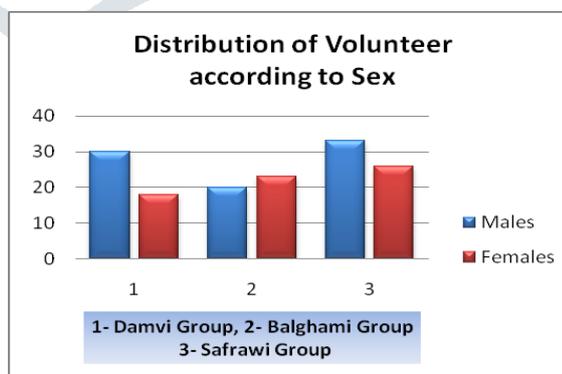


Figure: 2

Table: 3- Analysis of volunteers to assess relation of BMI with Mizaj in Balghami & Safravi Group

	Balghami	Damvi	Total
BMI > 25	35 18.55 (14.59)	22 30.07 (2.16)	57
BMI < 25	08 24.45 (11.07)	26 17.93 (3.63)	34
Total	43	48	91

Chi square = The chi-square statistic is 12.257 with 1 df. The one tailed P value is less than 0.0002. This result is significant at $p < .05$

Inference:

The BMI was found more in Balghami group when compare with Safravi group

Table: 4- Analysis of volunteers to assess relation of BMI with Mizaj in Balghami & Safravi Group

	Balghami	Safravi	Total
BMI > 25	35 18.55 (14.59)	09 25.45 (10.63)	44
BMI < 25	08 24.45 (11.07)	50 33.55 (8.07)	58
Total	43	59	102

Chi square = The chi-square statistic is 44.359. The P value is less than 0.0001. This result is significant at $p < .05$.

Inference: The BMI was found more in Balghami group when compare with Damvi group. The same result can be seen in Fig. 3.

Table: 5- Analysis of volunteers to assess relation of BMI with Mizaj in Safravi & Damvi Group

	Safravi	Damvi	Total
BMI > 25	09 25.45 (10.63)	22 30.07 (2.16)	31
BMI < 25	50 33.55 (8.07)	26 17.93 (3.63)	76
Total	59	48	107

Chi square = The chi-square statistic is 12.027 with df 1. The P value is less than 0.000524. This result is significant at $p < .05$

Inference: The BMI was found more in Damvi group when compare with Safravi group. The same result can be seen in Fig. 3.

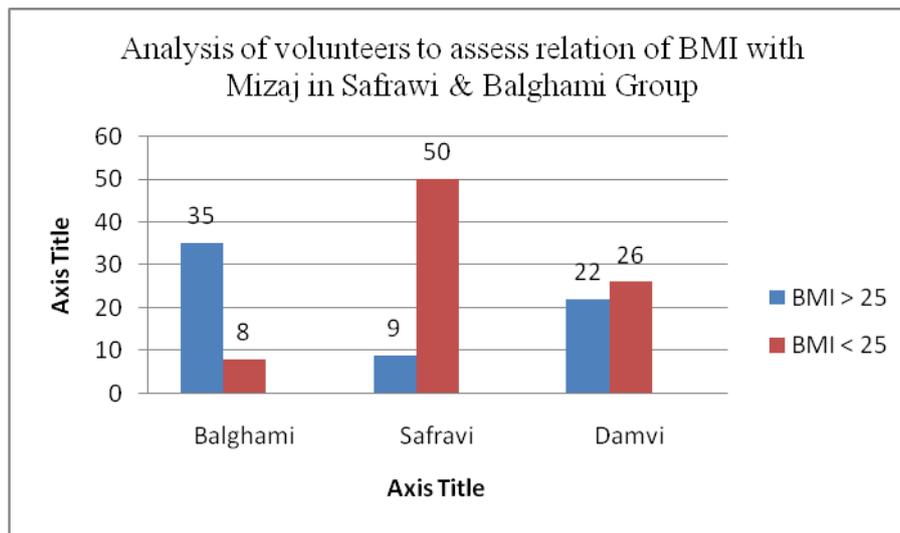


Figure: 3

Table: 6- Analysis of Male Volunteers to assess relation of BMI with Mizaj

	Balghami	Safrawi	Damvi	Total
BMI > 25	18 12.01 (2.98)	07 13.58 (3.19)	10 9.40 (0.04)	35
BMI < 25	05 10.99 (3.26)	19 12.42 (3.49)	08 8.60 (0.04)	32
Total	23	26	18	67

Chi square = the chi-square statistic is 13.0002 with df 2. The P value is 0.001503. This result is statistically significant at $p < .05$

Inference: The BMI was found more in male volunteers of Damvi group and less in Balghami group but it was not found statistically significant. The same result can be seen in Fig. 4.

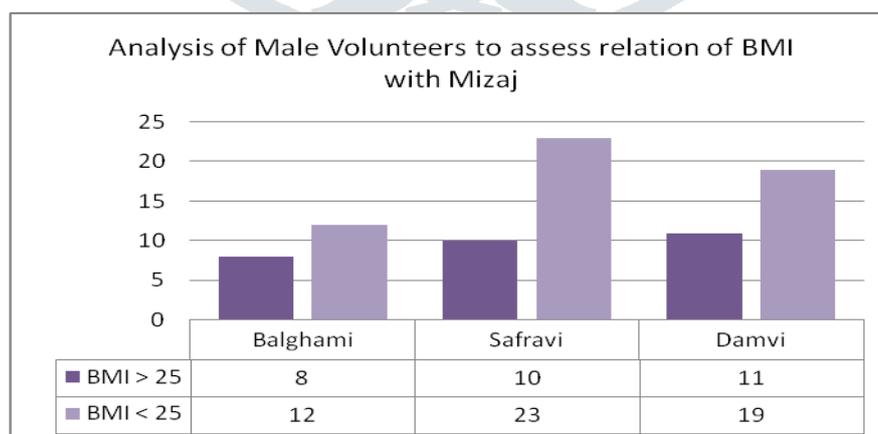


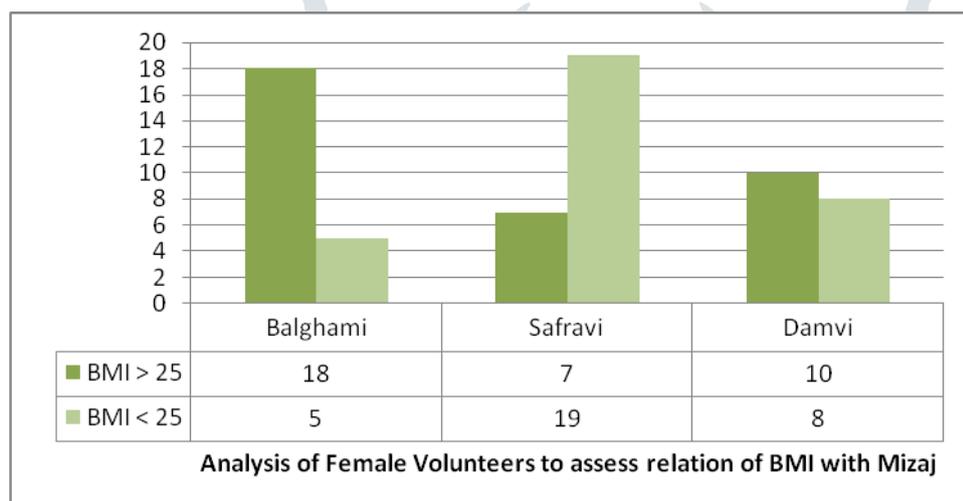
Figure: 4

Table: 7- Analysis of Female Volunteers to assess relation of BMI with Mizaj

	Balghami	Safravi	Damvi	Total
BMI > 25	08 6.99 (0.15)	10 11.53 (0.20)	11 10.48 (0.03)	29
BMI < 25	12 13.01 (0.08)	23 21.47 (0.11)	19 19.52 (0.01)	54
Total	20	33	30	83

Chi square = the chi-square statistic is 0.5768 with df 2. The P value is 0.7495. This result is considered to be not statistically significant at $p < .05$

Inference: The BMI was found more in Female volunteers of Balghami group and less in females of Safravi group, the result is considered to be statistically significant between females of Safravi & Damvi group, extremely statistically significant between females of Balghami & Safravi group and is considered to be not quite statistically significant between females of Balghami & Damvi group. The same result can be seen in Fig. 5.

**Figure: 5**

Discussion

In present study the total number of volunteers was 150, out of which 59 (39.4%) volunteers were found to have Safravi temperament, In Damvi group the number of volunteers was 48 (32%) and in Balghami group was 43 (28.6%), as shown in table:1. The total number of males was 83(55.3%) and that of females was 67(44.7%) in our study. In Safravi group the number of males was 33(56 %) and females was 26 (44 %)), In Damvi group the number of males was 30 (62.5 %)) and females was 18 (37.5 %)) and in Balghami group the number of males was 20 (46.5 %)) and females was 23 (53.5 %), as shown in table: 2. The all volunteers were divided into two groups according to their BMI as more than 25 and less than 25. When each temperamental group was compared to each other it was found that 22(45.8%) volunteers of Damvi group, 9 (15.3%) volunteers of Safravi group and 35(81.4%) volunteers of Balghami group had BMI more than 25. Also a comparison was done between the males and females volunteers of each temperamental

group and it was found that the 11(36.7%) male volunteers of Damvi group, 10 (30.3 %) males of Safravi group and 8(40 %) males of Balghami group had BMI more than 25 as shown in table: 6, likewise 10 (55.6%) females of Damvi group, 7 (26.9.%) females of Safravi group and 18 females of Balghami group had BMI more than 25 as shown in table: 7.

The chi square test was applied to test the significance of the result at $p < .05$, and it was found that the difference of BMI in Balghami & Safravi temperament group, BMI in Safravi & Damvi temperament group, BMI in Balghami & Safravi temperament females was statistically significant at $p < .05$ and there is no significant difference between Balghami & Damvi temperament group. The BMI of males of Safravi, Balghami and Damvi groups was calculated and the difference was quite statistically significant.

It can be concluded that the BMI in Balghami volunteers is higher than that of Safravi and Damvi volunteers.

Conclusion

It was concluded that there was a significant difference at $p < .05$ in BMI of Balghami and Safravi groups as well as in females of Balghami and Safravi groups. The result of this study is fully in accord with the Unani concept, as documented in classical Unani text that the Balghami al Mizaj personalities are cold in temperament, flaccid and obese^{2, 4, 7}. This study confirms the assumption of Unani scholars that there is strong relationship between physique/body built (Haiyat-e-Aza) and Temperament (Mizaj)³. We suggest that further extensive research on large sample size is required to analyze the relationship between physique/body built (Haiyat-e-Aza) and Temperament (Mizaj).

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