Saman Siddiqui
Research Scholar, Department of
Physiology, Ayurved and Unani
Tibbia College, Karol Bagh,
Delhi, India

Zeenat Idreesi
Research Scholar, Department of
Physiology, Ayurved and Unani
Tibbia College, Karol Bagh,
Delhi, India

Yusuf Jamal
Professor, H.O.D. of Physiology,
Ayurved and Unani Tibbia
College, Karol Bagh, Delhi, India

An evalutional study to determine the Indian DM2 risk score (IDRS) in young healthy individuals of different Mizaj

Saman Siddiqui, Zeenat Idreesi and Yusuf Jamal

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Abstract
Background: Type 2 diabetes is a worldwide disaster including in India. Diabetes mellitus (DM) is a disease of inadequate control of blood levels of glucose. This research was determined to access the risk factors of developing Diabetes mellitus in near future in young adults with reference to different mizaj. Methods. A cross-sectional study was conducted among young adults aged 18-32 in Ayurved and unani Tibbia college Delhi, India from December 2021 to January 2022. Questionnaires were used to collect data for factors associated with type 2 diabetes. Data were statistically analyzed. Results. In this study has been observed that mizaj has relation with associated risk factors at *p* value<0.05 and individuals having sedentary life and history of DM2 in family more likely to develop this in near future. Conclusion. There was a high prevalence of type 2 diabetes observed in this study in the participant who fall under score 60>score 50> score 40 and least chances of of developing in score 0,10,20,30 individuals on the observation of their history, it is also concluded that hot mizaj individuals are more at risk of developing DM2 in near future as compared to cold mizaj. Lastly, the presence of family history for diabetes, overweight, and being obese increases the chances of acquiring type 2 diabetes.

Keywords: DM2 risk score, type 2 diabetes, mizaj

Introduction
Diabetes mellitus (DM), commonly known as "sugar," is a chronic non-communicable disease (NCD) that has become one of the major worldwide health issues due to the pancreas role in the synthesis of insulin, which causes hyperglycemia [1, 2]. Genetics and lifestyle factors are the main causes of type 2 diabetes [3]. It is well recognised that a variety of lifestyle factors play a significant role in the emergence of type 2 DM. These include a sedentary lifestyle, smoking, excessive alcohol consumption, and physical inactivity [4]. It has been determined that obesity causes about 55% of type 2 DM cases [5]. In most nations, diabetes and its complications rank among the leading causes of death. The most common form of diabetes, type 2, has become more common as a result of socioeconomic and cultural changes. Type 2 diabetes affects up to 91 percent of adult patients in high-income nations. IDF estimates that 193 million people with diabetes are living with untreated conditions, increasing their risk of complications. Additionally, it is believed that one in 15 adults has impaired glucose tolerance, and one in seven pregnancies has gestational diabetes. The chance of getting type 2 diabetes in later life is elevated in both of these disorders [6]. With over 62 million people in India already suffering from diabetes, the disease is quickly assuming the status of a possible epidemic [7, 8]. Globally, the prevalence of diabetes is expected to double from 171 million in 2000 to 366 million in 2030, with India experiencing the largest growth. According to estimates, up to 79.4 million people in India could have diabetes mellitus by 2030. The number of people with the condition in China (42.3 million) and the United States (30.3 million) is also expected to rise significantly [9, 10].

Methods and Material
This study was carried out in A and T colg in age group of 18-32 years old individuals to study

Corresponding Author:
Saman Siddiqui
Research Scholar, Department of
Physiology, Ayurved and Unani
Tibbia College, Karol Bagh,
Delhi, India

risk factor of developing diabetis mellitus 2 in near future keeping in mind the following parameters depending on the lifestyle, BMI and history of DM2 in parents. As DM2 is a lifestyle disorder by looking at the way of life individual spending on that basis this study is being carried out to rule out the future risk of developing DM2.

Selection of Individuals: 18-32 YEARS old individuals of both the gender, free from any chronic disease. Patients who were within the age range but were critically ill, as well as pregnant women, were excluded from the study since only those who met the inclusion criteria were included.

Data Collection: In order to rule out risk factors in young adults with different mizaj Indian diabetes risk scores A and U, Tibbia college and hospital diabetes screening proformas have been used, and data have been evaluated on the basis of these proformas. This study was primarily conducted among students at Tibbia college in Delhi. Type 2 diabetes risk factors. With the help of pretested questionnaires with close-ended questions to obtain qualitative data, social-demographic, economic, behavioural, and physical measurement information was gathered from the participants. The chosen people. Weight (kg), height (cm), and anthropometric measurements were obtained. For the purpose of determining the BMI, height values were translated from cm to m2.

Data Analysis: Data for sociodemographic findings and risk assessments were computed and analyzed using Microsoft excel and one way anova test has been applied at $P < 0.05$.

Result: This study was conducted to determine what might be a risk factor for young adults to develop DM 2 in the near future and what role mizaj play with the risk factor associated with DM 2 so that it is discovered, after using one way anova test, that there is a significant relationship between mizaj and associated risk factor of DM2. There were 110 participants overall, of which 41 belonged to the Damvi Mizaj, 32 to the Balghami Mizaj, and 24 to the Safrawi Mizaj. The score technique was developed by the questionaire to measure the risk factor and to make the finding process simpler. The bulk of participants scored below 30> 40> 20> 0> 50> 10> 60, as was observed. It was found that participants in the damvi and safravi mizajs, who have hot temperaments, are more likely to develop DM2 in the near future than participants in the balghami and saudawi mizajs, who have cold temperaments.

Table 1: Distribution of participant according to their Mizaj.

Mizaj	Score 0	Score 10	Score 20	Score 30	Score 40	Score 50	Score 60	Total
Balghami	3	2	3	11	8	5	0	32
Damvi	3	1	8	16	6	5	2	41
Saudawi	2	1	3	2	3	1	0	12
Safrawi	5	2	4	10	3	0	1	24
Total	13	6	18	39	20	11	3	110

DISTRIBUTION OF PARTICIPANT ACCORDING TO MIZAJ.
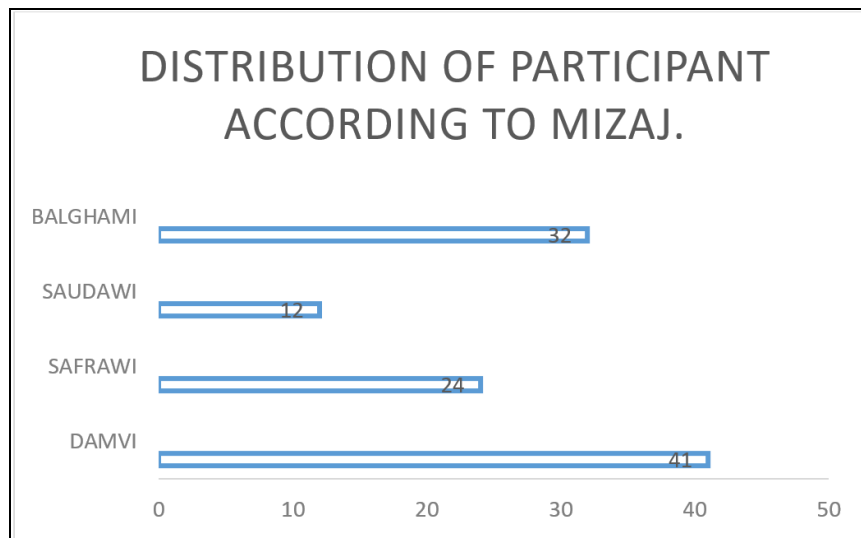
Mizaj	Score 0	Score 10	Score 20	Score 30	Score 40	Score 50	Score 60
Balghami	11.54%	16.67%	8.33%	14.10%	20.00%	22.73%	0.00%
Saudawi	7.69%	8.33%	8.33%	2.56%	7.50%	4.55%	0.00%
Damvi	11.54%	8.33%	22.22%	20.51%	15.00%	22.73%	33.33%
Safrawi	19.23%	16.67%	11.11%	12.82%	7.50%	0.00%	16.67%
Total	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%
Grand Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Source	DF	Sum of Square	Mean Square	F Statistic	P-value
Groups (between groups)	6	212.8571	35.4762	4.5152	0.004344
Error (within groups)	21	165	7.8571		
Total	27	377.8572	13.9947		

Discussion

110 Individuals have been participated in the study out of them 13 individuals has come under

Score 0: THIS score expresses that individual of this score has the no risk of developing DM 2 in near future based on physical activity, physique, lifestyle and no history of dm 2 in either parents.

Score 10: From 110 participants, Six people fall under this score, meaning they have the lowest risk of getting type 2 diabetes. It has been noted that these people lead healthy lifestyles with lots of exercise and minimal obesity, even when one of their parents has DM2.

Score 20: In this score 20, 18 people learned that none of their parents have diabetes mellitus type 2, but that they have unhealthy, sedentary lifestyles. The likelihood of developing this disease in the future is lowest for those who fit into this category.

Score 30: 39 out of the 110 individuals were determined to have lied about their score of 30. Additionally, it was found that 12 individuals' lifestyles were fairly unhealthy and that one of their parents had diabetes. The remaining people are considered as having reduced physical activity but no obesity issue, while not having a family history of diabetes. These people have a lower risk of developing diabetes soon based on their daily activities and lifestyle.

Score 40: It was discovered that 20 people out of 110 participants fall under this category. It has been discovered that they have a family history of DM2, and that their BMI is on the brink of being abnormal, and that their physical activity is low. Individuals with a history of diabetes nd based on their lifestyle aare more likely to develop diabetes in the future.

Score 50: 11 people fall into this category. Individuals in this category have both parents with DM2, have a sedentary lifestyle, and their BMI is above normal. Based on their medical history and physical appearance, those individuals have the highest risk of acquiring diabetes in the future**.**

Score 60: Out of 110 participants, 3 individuals are in this category. One parent has a history of diabetes, as can be seen in these people. Because these people's lifestyles are completely sedentary and their BMI is significantly higher than average, they are far more likely to get diabetes in the future.

Conclusion

There was a high prevalence of type 2 diabetes observed in this study in the participant who fall under score 60>score 50> score 40 and least chances of of developing in score 0,10,20,30 individuals on the observation of their history.it is also concluded that hot mizaj individuals are more at risk of developing DM2 in near future as compared to cold mizaj. This study also found that females are less indulge in exercise and smoking habits are present mainly in male may be due to cultural practices. Lastly, the presence of family history for diabetes, overweight, and being obese increases the chances of acquiring type 2 diabetes.

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