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A scientific correlation between blood groups and temperaments in Unani medicine

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In Unani Medicine, *Mizaj* (temperament) is most important though a difficult theory as it indicates the properties of an atom (*Unsur*), a molecule, a cell, a tissue, an organ and of the organism as a whole. As the Unani therapy is dependent upon equilibrium, so if there is any change in *Mizaj* the equilibrium is disturbed in any way the life is threatened. *Mizaj* is derived from an Arabic word *Imtizaj*, which means meeting or mix with each other. The literal meaning of *Mizaj* according to Ibne Nafees is "intermixture of different components." The word temperament used to describe *mizaj* is derived from a Latin word Tempero, which means to mix. In the study, effort is made to relate temperaments, blood groups and immunoglobulins.

Keywords: Blood groups, Temperaments, Immunoglobulins, *Mizaj*, Unani System of Medicine
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Mizaj is the an important theory of Unani Medicine, which indicates the properties of an *Unsur* (atom), a molecule, a cell, a tissue an organ and of the organism as a whole. As the Unani therapy is dependent upon equilibrium so if there is change in *Mizaj*, equilibrium is disturbed in any way be in quantity or quality as the whole body is furnished with *Mizaj* (equilibrium) life is threatened[1-4]. *Mizaj* is quality produced by action and reaction of opposite qualities of components, which are broken down in small particles in order to facilitate mixing of all the particles. When these components interact by virtue of their respective powers a condition is formed, which is equally divided in other components of compounds. This quality, which comes into existence, is known as *Mizaj* (temperament)[5]. *Mizaj* represents the physical and chemical properties of body. It is one of the basic principles of Unani Medicine, which is known *Al-Umur Al-Tabiya.* There may be greater similarity in *Mizaj* of two individuals but as a whole it is not repeated. *Mizaj* is the resultant of interaction between the qualities of the constituents of a compound irrespective of the reaction-taking place in an animate or inanimate[6]. In Canon of Medicine, *Mizaj* (temperament) is described as that quality which is a result of mutual interaction of the four contrary primary qualities residing within the elements. These elements are so minutely intermixed with each other that they lie in a very intimate relationship to one another. Their opposite powers alternately conquer and are conquered until a state of equilibrium is reached which is uniform throughout the whole. It is this outcome, which is being given the name of temperament (*Mizaj*)[7].

The antigens of the ABO system are an integral part of the red cell membrane and of all the cells throughout the body. They are also found in plasma and other fluids. If A is absent from person's red cells, anti A agglutinins are found in the serum and if antigen B is absent from person red cells the serum contains anti-B agglutinins. In most infants anti A and anti B agglutinins can first be demonstrated at 3-6 months. The titer of anti A and anti B reaches its maximum at the age of 5-10 yrs and then falls as the age increases[8-10]. An antigen is a substance that is foreign to the normal body and is immunogenic i.e. an antigen can induce the formation of an antibody. Antigens are usually proteins. Five classes of immunoglobulins have been recognized, designated IgG, IgA, IgM, IgD and IgE. a and β, agglutinins, Rh antibodies can attack their corresponding antigen at body temperature and hence they are called "warm antibodies." But many antibodies (of the other blood group systems) can attack their corresponding antigen (to produce clumping of RBC) only when the temperature of the medium is between 5^0-20^0 C (when

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blood attains such low temperatures human beings do not survive) and hence they are called "cold antibodies". Rh antibodies belong to the IgG class of antibodies and therefore they can cross the placenta. A and B antigens are secreted from the RBC and can appear in various body fluids (gastric juice/salivary juice)[11-14].

Methodology

The study was conducted on one hundred normal healthy young volunteers of either sex between 20-30 yrs of age groups from different faculties of Jamia Hamdard, New Delhi and AMU, Aligarh.

All the subjects were included based on the following criteria of either sex; Normal healthy volunteers. age range between 20-30 years, voluntarily agreed to participate in the study, and volunteers may be literate or illiterate. Diseased volunteers, aged below 20 & above 30 years, and who did not give voluntarily consent to participate in the study were eliminated. Blood groups were determined by rapid slide test method and immunoglobulins were determined by immunoturbitory method.

Discussion

Mizaj (temperament) is one of the most important doctrines of Unani System of Medicine. *Mizaj* plays an important role in maintaining the optimum healthy state of an individual and vulnerability of it leads diseases ultimately intervened by the physicians to bring back the in temperament. The study was conducted to explore any relationship, which existed between the four temperaments and blood groups. In preliminary studies, 100 individuals (volunteers) in their healthy and ideal physiological conditions were selected. The analysis of their *Mizaj* was based on classical method, determination of blood groups by direct slide method and IgG & IgM were determined by turbometery method. In one hundred healthy volunteers it was classically determined that most prevalent temperament was bilious i.e. 44% followed by the sanguineous one constituting about 40% (Table 1 & Fig. 1). Table 2 & Fig. 2 show prevalence of blood group in various temperaments. Out of one hundred healthy volunteers the most common blood group was B^+ ve with 38% following A^+ ve and O^+ respectively with 22% & 24%. Other blood groups such as AB^+, A^-, B^- and O^- were scantly distributed.

In the present study, one hundred volunteers were taken to determine their *Mizaj* (temperament), blood groups and IgG, IgM level (Table 3a,b). Out of one hundred volunteers 40 volunteers had sanguine (Hot

Table 1— Distribution of temperament in 100 volunteers

Temperament	No of volunteers	%
Sanguine	40	40%
Phlegmatic	10	10%
Bilious	44	44%
Melancholic	06	06%
(n=100)		

Table 2— Distribution of blood groups in 100 volunteers

Blood groups	No of volunteers	%
Blood groups A+ve	22	22%
Blood groups B+ve	38	38%
Blood groups AB+ve	07	07%
Blood groups O+ve	24	24%
Blood groups A-ve	01	01%
Blood groups B-ve	04	04%
Blood groups AB-ve	Nil	00%
Blood groups O-ve	04	04%

Table 3a — Correlation between temperament and blood groups

Temperament	Blood group A+ve		Blood group B+ve		Blood group AB+ve		Blood group O+ve	
	No of volunteers	%	No of volunteers	%	No of volunteers	%	No of volunteers	%
Sanguine	08	36.90	13	34.21	03	42.85	12	50
Phlegmatic	02	9.09	03	7.89	01	14.28	04	16.66
Bilious	09	40.90	21	55.26	03	42.85	07	29.16
Melancholic	03	13	01	2.63	00	0.0	01	4.16

Table 3b — Correlation between temperament and blood groups

Temperament	Blood group A-ve		Blood group B-ve		Blood group AB-ve		Blood group O-ve	
	No of volunteers	%	No of volunteers	%	No of volunteers	%	No of volunteers	%
Sanguine	00	00.00	02	50	Nil	00.00	02	50
Phlegmatic	00	00.00	00	00.00	Nil	00.00	00	00.00
Bilious	01	100.00	02	50	Nil	00.00	01	25
Melancholic	00	00.00	00	00.00	Nil	00.00	01	25

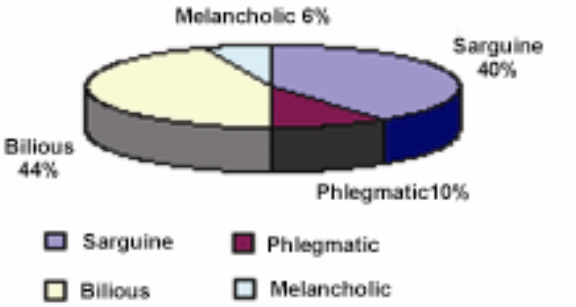

Fig. 1 Distribution of temperaments in 100 volunteers

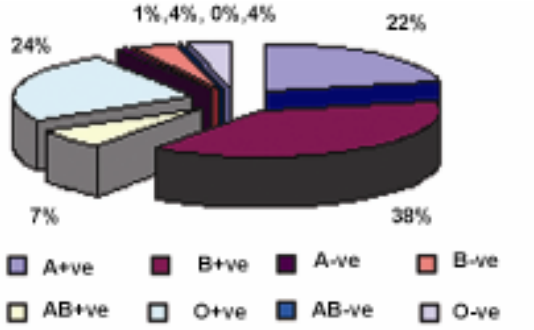

Fig. 2 Distribution of blood groups in 100 volunteers

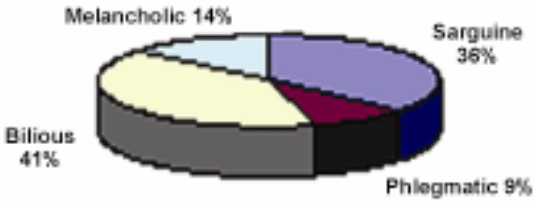

Fig. 3 Relation of temperament and blood group A+

Fig. 4 Relation of temperament and blood group B+

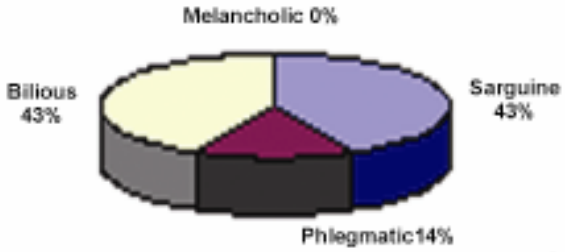

Fig. 5 Relation of temperament and blood group AB+

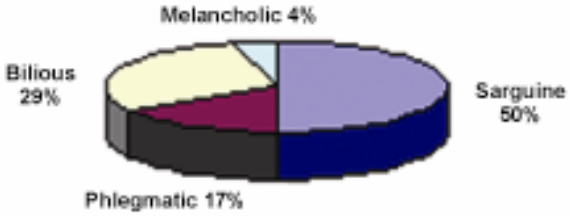

Fig. 6 Relation of temperament and blood group O+

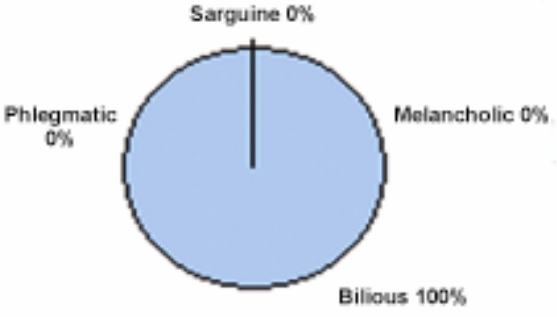

Fig. 7 Relation of temperament and blood group A-

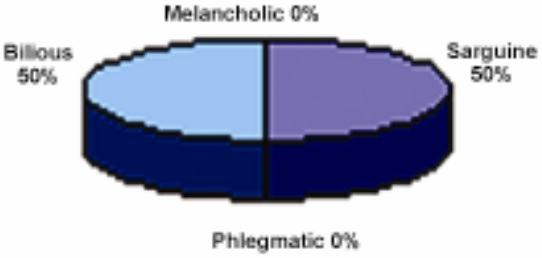

Fig. 8 Relation of temperament and blood group B-

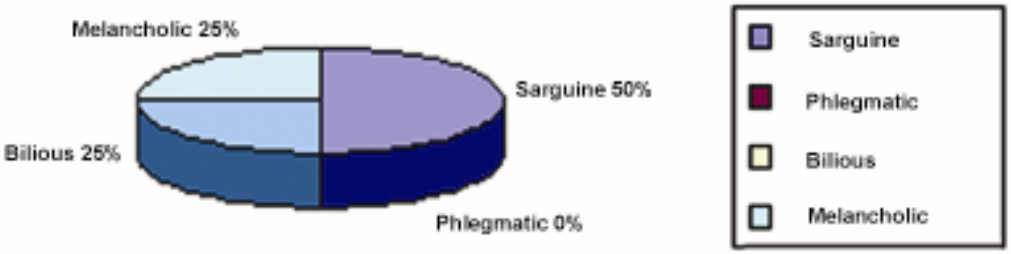

Fig. 9 Relation of temperament and blood group O-

& wet) temperament, phlegmatic (cold & wet) temperament was found in 10 volunteers, bilious (hot & dry) temperament was found in 44 and Melancholic (cold & dry) was found in 06.In total one hundred volunteers 22 were found A+ve, 38 were found B+ve, 07 were found AB+ve, 24 were found O+ve, 01 was found A^-ve, 04 were found B-ve, 04 were found O-ve and no volunteer had AB-ve blood group. Out of twenty-two volunteers having blood group A+ve (Fig. 3) sanguine temperament was found in 8 volunteers (36.90%). Phlegmatic temperament was found in 02 volunteers (9.09%); bilious temperament in 09 volunteers (40.90%) and melancholic temperament was in 03 volunteers (13%). Out of thirty-eight volunteers of blood group B^+ve (Fig. 4), sanguine temperament was found in 13 volunteers (34.21%). Phlegmatic temperament was found in 03 volunteers (7.89%), bilious temperament in 21 volunteers (55.26%) and melancholic temperament was present in 01 volunteer (2.63%).

Out of seven volunteers of blood group AB+ve, sanguine temperament was found in 03 volunteers (42.85%), phlegmatic temperament was present in 01 volunteer (14.28%), bilious temperament was found in 03 volunteers (42.85%). Melancholic temperament was not present in any volunteer (Fig. 5). Out of twenty four volunteers of blood group O+ve (Fig. 6) sanguine temperament was present in 12 volunteers (50%) Phlegmatic temperament was found in 04 volunteers (16.66%) bilious temperament was present in 01 volunteer i.e. 4.16%. A^-ve blood group was present only in one volunteer out of one hundred (Fig. 7) and this volunteer had bilious temperament (100%). Out of four volunteers of blood group B-ve (Fig. 8). Sanguine temperament was found in 02 volunteers (50%) bilious temperament was present in 02 volunteers (50%) phlegmatic & Melancholic temperament was not found in any of the volunteers. Out of one hundred volunteers AB-ve blood groups was not found in any volunteer so there is no relation in between four temperaments and blood group AB^- ve. Out of four volunteers of blood group O^- ve (Fig. 9) sanguine temperament was found in 02 volunteers (50%) bilious was found in 01 (25%) Melancholic temperament was present in 01 volunteer (25%).

Out of forty volunteers of sanguine temperament, IgG level was found raised in seven volunteers while below normal was found in four volunteers. Out of the ten volunteers of phlegmatic temperament, IgG level was found raised in two volunteers and the level was not below normal in any of the volunteers. Out of forty-four volunteers of bilious temperament, IgG level was raised in nine volunteers and below normal in six volunteers. Out of six volunteers of melancholic temperament, IgG level was found to be raised in five volunteers and below normal in only one volunteer. IgM level was not raised in any of the volunteers of sanguine, phlegmatic, bilious and melancholic temperaments. Out of forty volunteers of sanguine temperament, IgM level was below normal in 14 volunteers, while out of ten volunteers of phlegmatic temperament, IgM level was below normal in three volunteers. Out of forty-four volunteers, IgM level was below normal in six volunteers of bilious temperament while out of six volunteers of melancholic temperament, IgM level was below normal in four volunteers. Bilious (hot & dry) temperament was prevalent in the individuals of B^+ve blood group (55.26%) & sanguine (hot & wet) temperament was common in the individuals having blood group O+ (50%). As far as the IgG IgM level is concern, no correlation was found with four temperaments. Based on this random selection and classical determination as well the immunological compatibility, a possible correlation between temperaments and blood group certainly do exist. This will lead the researcher for futuristic scientific validation of *Mizaj* and physiological comparative studies.

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