



TEMPERAMENT DETERMINING TOOLS AND THEIR NECESSITY IN CLINICAL PRACTICE

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ABSTRACT

Interest in Mizāj (temperament) as an explanation for the nature of personal characteristics is long-standing. Ancient scholars, philosophers, and historians first postulated temperament explanations for behavioral patterns they had observed across humanity. Classic Greek writings often linked their behavioral observations with intriguing and primitive speculations regarding internal functions of the human body. Temperament terminology included descriptions of dispositions, humors, moods, and tempers. In 350 B.C. *Hippocrate* described four *Humors* and influence of these represent the temperament according to particular Khilṭ i.e. Damvi (*Sanguine*), Balghami (*Phlegmatic*), Ṣafrāwī (*Choleric*), And Saudawī (*Melancholic*). In 150 A.D. Galen, also put forward and believed four Temperaments. Since that determination of temperament is done by only observation and by asking individuals psychological, physiological and anatomical folds. Still in 21st century we are taking help of these folds. Unani scholars of last few decades are modifying and inventing the tools to determine the temperament. For example Dept of Kulliyat, AKTC, AMU has been successfully accepted the job of demand and has been invented many instruments to assess the Mizāj by P.G. Scholars under the supervision of distinguished and hardworking teachers. These valuable inventions must not be left out after their genesis. They must be used by every Unani clinician to diagnose the Mizaj for advising their diet, medication and other purposes. There should be a temperament diagnostic lab in every Unani hospital and private centers to make it realistic, and new technologies should be invented and time to time up gradation of instruments should be done.

Index terms: Unani, Mizaj, temperament, determinants/ parameters of temperament, Diagnostic Tools of Mizaj.

INTRODUCTION

It has been habitual to categorize the subjects when some studies or researches are performed. The study upon human body had been an important part of different civilizations. Every civilization has its own way of studying the human body. The Greeks also studied the human body, in requisites of its structure and functions they divided human beings into four types of *mizaj* (temperament). Seven primary factors (*Umoor-e-Tabiyah*) were introduced upon which the whole body depends. *Mizaj* comes at second among these factors. No one can escape even a single from these seven fundamentals because these are the basics of life. These are *Arkan*, *Mizaj*, *Akhlat*, *Aaza*, *Arwah*, *Quwa* and *Af'al*. Temperament is a extensive term in itself which encompasses all unique traits of an individual. Accordingly every individual having a distinctive temperament should also possess distinctive characters as well. Every human being is intuitive with a congenital temperament and encounters environmental assaults while interacting with altered atmosphere in the second phase of life i.e. post-natal. The consequential of this inevitable interaction is acquired temperament and this

exceptionally temperament is dependable for myriads of functions of the body, a precondition for normal health. Since theory of temperament is as applicable to organs as to the whole body, every organ possesses its own temperament and, thus works distinctively. Functionally organs of all human beings are comparable yet their capacities are not identical. This functional variability results in physiological extent of variations.^[1] Temperament theory has its roots in the ancient four humors theory. It was the **Greek physician Buqrat** (460-370 BC) who systemized and developed it into a medical theory. He understood certain human moods, emotions and behaviours were caused by body fluids (called "humors"): **blood, yellow bile, black bile, and phlegm**. Next, **Jalinoos** (AD 131-200) developed the first typology of temperament in his dissertation *De temperamentis*, and searched for physiological reasons for different behaviours in humans. He mapped them to a matrix of hot/cold and dry/wet taken from the four elements.^[2] The *mizaj* is defined as the new state of a matter which differ in qualities and quantities that were present in the elements or compound before coming into *imtizaj* (admixture); which results from the action and

reaction among the contrary qualities, quantities and powers in the minute particles of different elements; so when they are united together the resulting new quality in a uniform state or the state of equilibrium emerging after the combination of more than one element is called *mizaj*. The name 'temperament' has been given to certain physical and moral differences in individuals. Every person has a unique temperament, which includes his physical characteristics, physiological profile, psychological and emotional status.

The Temperament of Human Being: The human body is an cumulative of about 100 trillion cells organized into different functional structures that work together as a single unit. Each cell, tissue, organ and the whole body is bestowed upon with an innate power called *Tabi'at* (). This *Tabi'at* maintains the *etadal-e-mizaj* (homeostasis) through thousands of mechanisms for the conservation of the individual as well his species. These mechanisms drive under the influence of *Quwa-e-Haiwaniyah* (vital faculty), *Quwa-e-Tabiyah* (physical faculty) and *Quwa-e-Nafsaniyah* (nervous faculty). Many of these mechanisms control in the individual cells and organs while they operate on entire body to control the inter-relationship between different organs. Thus each functional structure under the guidance of *Tabi'at* provides its share in the homeostasis. As long as this equilibrium in the *kamiyat* (quantity) and *kaifiyat* (quality) of the constituents is maintained, the cell of the body will continue to live and function properly. Each cell is reserved in homeostasis and in turn contributes its share in the maintenance of homeostasis. This harmonious relationship is controlled by the *Tabi'at* until one or more functional system loses their ability.^[3] Thus, disease is an appearance of the imbalance of its constituents. **Brock** quoting the views of **Hippocrates** regarding the causes of disease asserts "Health exists when these humors are present in the body in proper mixture or crisis of the body fluids. When one or other happens to be in excess a dyscrasia or abnormal mixture results".^[4]

Determination of Human Temperament: The Temperament is among one of the basics or fundamentals of Unani system of medicine. For a particular species the temperament is specific, and has a particular range of minimum- maximum limit within which the temperament for all members of that species is confined. The *etadal* (equilibrium) of this diverse temperament i.e. maintenance of constant internal environment (homeostasis) in different individuals leads to a healthy body i.e. normal body functions. Any derangement of temperament from equilibrium or imbalance of normal temperament results in *sue-mizaj* (*dystemperament*) which causes deranged body functions i.e. diseases. Thus, it becomes necessary to ascertain some parameters to diagnose the human temperament. These parameters must be very accurate and easily applicable; also they must be free of bias and errors, because the human temperament is subtle and very delicate as well as sensitive. Any error or false diagnosis

of temperament may be of no use and it will not help in cure of diseases or bringing back the *sue-mizaj* to *mizaj-e-mu'tadil*. For the determination of temperament in various manuscripts, Ancient Unani physician described the some parameters. These parameters are related to the morphological, physiological and psychological conditions of the human beings. Almost all prominent Unani scholars described these determinants but with a difference in their numbers and types. These parameters included in different criteria are enumerated below.

Jalinoos (130-200 AD) in his book *Kitabul-Insaan* mentioned five determinants of temperament known as *Ajna-e-Khamsa*. i.e., (1) Configuration of the head, (2) The merits and demerits of his sense of perception, (3) Actions of a person, (4) Power of reasoning, (5) Function of the body. **Rabban Tabri (770-850 A.D.)** had described the following five parameters in his famous book '*Firdaus-ul-Hikmat*' for the assessment of temperament: (1) Colour of the body, (2) Hairs of the body, (3) Muscles and fat, (4) Touch, (5) Functions.^[5] **Ali Ibne Abbas Majoosi (930-994 A.D.)** had described the following five parameters: (1) Touch, (2) Complexion, (3) Hairs, (4) Physique, (5) Body function.^[6] **Mohammad Bin Zakariya Razi (841-925 AD)** describes the following five parameters in his book '*Kitabul Mansoori*' for determination of temperament: (1) Complexion, (2) Physique, (3) Touch, (4) Functions, (5) Excreta (**Razi** assumed the hairs of the body as excreta).^[7] **Jurjani** had described the following five determinants: (1) Touch (*Malmas*), (2) Flesh and fat (*Leham wa Shahm*), (3) State of organs (*Aza ki Salabat wa Laiynat*), (4) Texture and color and distribution of hairs, (5) Complexion.^[8] **Arzani** holds the view that parameters for the determination of temperament are: (1) *Malmas*, (2) *Laham wa shahm*, (3) *Sha'ar*, (4) *Laun-e-badan*.^[9] **Ibn-e-Rushd** under the heading of compound organs has described the following parameters: (1) Functions of organs, (2) Body complexion, (3) Physique.^[10] However the most acceptable and appropriate determinants were given by **Ibn-e-Sina (980-1037 AD)** in his famous book *Al-Qanoon-fil-Tibb*. These parameters are ten in number and are applied and used universally in the assessment of temperament. They are known as *AJNAS-E-ASHRA* which are as following: (1) *Malmas* (Touch), (2) *Laham-wa-Shaham* (Muscles and Fat), (3) *Sha'ar* (Hairs), (4) *Laun-e-Badan* (Body Complexion), (5) *Haiyat-e-Aza* (Physique), (6) *Kaifiyat-e-Infi'al* (Responsiveness of organs), (7) *Naum-wa-yaqzah* (Sleep and Wakefulness), (8) *Afal-ul-Aza* (Functions of the body organs), (9) *Fuzlat-e-Badan* (Excreta of the body), (10) *Infialat-e-nafsaniyah*.^[11] (Psychic reactions).

DISCUSSION

1. Malmas (Touch): The parameters of assessment in *malmas* are hotness, coldness, softness and hardness.^[11] When a healthy temperament person finds the feel of another body neither hot nor cold, then it should be understood to be of normal temperament. If on touching

he feels that any individual is cold or hot, softer or harder or coarser than normal, the other person is of abnormal temperament in the same intensity which has been felt by the observer. The hotness of the skin is a sign of hot temperament, while the colder skin is found in the individuals of cold temperament. The soft and smooth skin denotes the moistness of *mizaj* and roughness of the skin indicates dry *mizaj*. The warm and soft skin is found in the hot and dry temperament. The cold and soft skin is found in the cold and moist temperament while cold and rough skin points towards the cold and dry temperament.^[12]

2. Lahm wa Shahm (Muscles and Fat): The flesh indicates heat while fat indicate cold which means excess of muscles present in hot and moist temperament while excess of fat denotes cold and moist (*Barid ratib mizaj*) temperament.^[13] According to *Ibn-e-Sina* well muscular development denotes moist and hot temperament. Scanty muscular development denotes dryness. Fat always denotes cold temperament if the body is fleshy and the amount of fat is not much, the temperament is hot and moist.^[14]

3. Ash'ar (Hairs of the Body): Following parameters are described in Unani Medicine to diagnose temperament with the help of hairs: [Growth rate i.e. Rapid or slow, Colour of hairs (Blackish/White/Brown/Black). Texture (Curly/Straight/Lusty), Distribution (Profuse/average/Scanty), Density (Dense/Sparse)]. The rapid growth indicates hot and dry temperament, whereas in cold temperament the growth is slow. Dark black colour of hairs indicates hotness and dryness while vivacious colour is due to coldness of temperament. Red colour is due to *mizaj-e-mu'tadil* and white colour denotes cold and moist temperament.^[14] Coarse hairs are generally found in the people of hot temperament. Straight and coarse hairs are pattern of hot moist whereas coarse and curly hairs are suggestive of hot and dry temperament. Cold and moist temperament has straight and fine hair, while cold and dry temperament has curly, fine and scanty hairs.^[12]

4. Laun-e-Badan (Body Complexion): *Tabri* states that the real cause of body colour is the dominance of a particular humor (*Khilt*) and its diversion towards the skin at the time of formation of embryo. if there is dominance of *saфра* then the body colour is yellowish, black colour indicates dominance of *sauda*, red colour of the body suggests dominance of *dam* and dominance of *balgham* gives the white colour.^[5] White body indicates coldness and deficiency of blood while yellowish body indicates hotness and excess of bile (*saфра*). Redness of body is a symptom of heat and blood while yellow body indicates extreme hotness. Bluish body indicates coldness while wheatish body is a symptom of heat. The lime like and ivory colours of the body are the indicatives of coldness and phlegm. If the colour of the body is greenish-blue, then it indicates the coldness and moistness.^[15] The colour of the tongue is an excellent

guide to the temperament of the stomach and intestine and veins of the body. The colour of the eye is an excellent indicator of the temperament of brain.^[16] One thing should always be kept in mind that climate and zones affects skin and hair color, so one should not expect a Negro is to have fair skin colour.

5. Haiyat-e-Aza (Physique): Broader chest, prominence of veins and joints, well developed muscles, rapid and strong pulse, larger extremities and height; all are indicatives of hot temperament. Narrow and small chest, shorter extremities slow and weak pulse, hidden joints and veins, shorter stature excessive fat deposition are signs of cold temperament.^[16]

6. Kaifi'at-e-Infi'al (Responsiveness of Organs): Quality of reaction is the quality of the body being affected quickly or slowly by the fourfold states of hotness, coldness, moistness or dryness. Quickness of the body in reacting to a certain state is the preponderance of that state in the body.^[3] Hence if the temperament of an organ is hot in itself it will give a considerable response when the external environment becomes hotter, although slightly, whereas this may not be the case with an organ of cold temperament.^[17]

7. Naum wa Yaqza (Sleep and Wakefulness): Balanced sleep and wakefulness indicate the equability of temperament, especially of the brain. Excessive sleep is an evidence of moisture and cold. Excess wakefulness is indicative of increased heat and dryness and thus denotes a hot and dry temperament, particularly in the brain. The individuals with fatty and phlegmatic bodies possess excess of sleep and people with bilious temperament have less sleep. Assessment of sleep and wakefulness aids in the understanding of central nervous system and its temperamental state.^[2]

8. Af'al-ul-Aza (Functions of Organs): Normal functions means all those actions which take place as demanded by the physiology whether these are physical actions or psychic and animal actions. Perfection of somatic functions is an evidence of balanced temperament. Confusion of actions is an evidence of hotness and their sluggishness that of coldness.^[2] Persons of hot temperament have rapid body activities, strong voice, talkative nature and their movements are excessive and strong. The cold temperament people have slow bodily functions, weak and slow pulse, poor thirst and digestion.

9. Fuzlat-e-Badan (Excreta of the Body): The body excreta are one of the tools in the diagnosis of temperament both in healthy and diseased state. The body excreta are urine, faeces, sweat, nasal discharge etc., their colour consistency, viscosity, odour, taste as well as state are taken into the consideration.^[1] Acrid and strong smell and deep colour of excreta indicate that the body is hot. While less smell and dull colour indicate coldness. Similarly excess sweating is also due to

increased body metabolic rates, which signifies body hotness.

10. Infi'alat-e-Nafsania (Psychic Reactions): Under this heading the whole psychological and mental set up of a man is studied and nervous functions are examined and interpreted in the light of the facts given by the Unani physicians. The sign of heat pertaining to the action and reaction of psyche are intensity of anger, depth of sadness and sorrow, acuteness of perception and memory, too much initiative, lack of scruples, over trust, optimism, callousness, vigilance, manliness and active habits. A cold temperament is characterized by the opposite of these qualities. Persistence of joy anger and good memory indicate dryness while forgetfulness is a sign of excessive moisture.^[18] The nature of dreams have also been given due consideration in this process. It is

described that dreams of fire, incidence pertaining to heat, red color, and sunbath and bone fire all suggestive of hot temperament. Contrary to these all the dreams of soothing scenario of water, snowfall, shivering due to exposure of cold is associated with cold temperament.^[12]

Research studies by various Post Graduates of Doctor of Medicine in Kulliyat to validate Afnas-e-Ashra (Determinants of Temperament).

Qualitative and quantitative researches have been done on maximum determinants of temperament. These researches in the form of valued thesis/dissertation were being carried out in Department of Kulliyat, Ajmal Khan Tibbiya College, Aligarh Muslim University, Aligarh, U.P. We are taking up these validations in brief form on different parameters.

1) Touch (Malmas)

S. No.	Year	Topic	Researcher
1.	1999	Determination of female temperament with reference to skin colour and texture. ^[5]	Azra Raaz
2.	2008	Scientific assessment of Malmas (Hardness and Softness of Skin) for detection of individual temperament. ^[6]	Viqar Ahmad
3.	2008	An experimental study of thermal variation in different temperament. ^[7]	Naseem Ahmad Khan
4.	2014	Comparative study of skin roughness and smoothness in females of different temperament by self designed Frictiometer. ^[8]	Sabiha Naaz

2) Muscle and fat (Laham-wa-shahm)

S. No.	Year	Topic	Researcher
1.	2004	Mizaj balghami wa safrawi me shehmiyat-e-damwi ka muta'la. ^[9]	Mohd Khalid
2.	2008	Assessment of Shahmul Badan (body fat) for the detection of individual temperament in females. ^[10]	Gulrana Neyaz
3.	2008	Assessment of Shahmul Badan (body fat) for the detection of individual temperament in males. ^[11]	Abu Kashif Anwar
4.	2010	A study to evaluate variation in total skeletal muscle mass in phlegmatic and bilious temperament. ^[12]	Arshad kaifi
5.	2013	A study of total serum protein in bilious and phlegmatic temperament (mizaj). ^[13]	S.M. Ahmer

3) Body complexion (laun-ul-badan)

S. No.	Year	Topic	Researcher
1.	1999	Determination of female temperament with reference to skin colour and texture. ^[5]	Azra Raaz
2.	2010	Assessment of colour of skin by dermal photometer in determination of temperament in males. ^[14]	Tariq nadeem khan
3.	2016	Assessment of skin complexion variables in different temperament through a self designed complexionmeter (direct method). ^[15]	Sana Sultana

4) Physique (haiyat-ul-aaza)

S. No.	Year	Topic	Researcher
1.	2011	Comparison of physiognomy of the persons of balghami wa safrawi temperaments. ^[16]	Najeebur Rehman
2.	2013	Study of somatic variations in males of different temperament. ^[17]	Sadique Ali
3.	2014	Anthropometric variables of thorax and extremities in males of balghami and safrawi mizaj. ^[18]	Mohd. Akram
4.	2015	Comparative study of spleen size by USG in males of bilious and phlegmatic temperament. ^[19]	Imran Khan

5.	2015	A comparative study of liver size by USG in males of bilious and phlegmatic temperament. ^[20]	Farrukh Anwar Khan
6.	2017	A comparative study of liver size by Ultrasonography in females of bilious and phlegmatic temperament. ^[21]	Sameena Firdaus

5) Hairs of the body (*sha'r*)

S. No.	Year	Topic	Researcher
1.	2010	A study to develop method for measuring various characteristics of hair for determination of temperament. ^[22]	Mohd. Nasir
2.	2017	A study of scalp hair density in two different temperament through self designed trichometer. ^[23]	Zeenat Nauman

6) Functions of the body (*afaal-e-aaza*)

1.	2006	a study for the determination of bilious and phlegmatic temperament with the help of bio-chemical marker of liver function. ^[24]	Qamarul Hasan Lari
2.	2007	Assessment of Quwat-e-samiyah having threshold level in different temperament. ^[25]	Tanveer Alam
3.	2011	Assessment of IQ in bilious and phlegmatic temperament. ^[26]	Aisha aijaz
4.	2013	Comparative study of Pulmonary Function Test in balghami and safrawi temperament. ^[27]	Sallallah
5.	2016	A comparative study of Quwat-e-hafizah in individuals of bilious and phlegmatic temperament. ^[28]	Kehkashan Mujeeb
6.	2016	Comparative study of reaction time in individual of bilious and phlegmatic temperament. ^[29]	Sehar Saleem

7) Psychic reactions (*inf'alat-e-nafsaniya*)

S. No.	Year	Topic	Researcher
1.	2015	A comparative study of anxiety in persons of bilious and phlegmatic temperament. ^[30]	Sartaj Ahmad

Tools to determine the temperament: The above listed researches have been given different tools to validate the determinants of temperament like frictionometer, reflexometer, trichometer, complexiometer, etc. these are the some inventions which are results of emergence of different applied knowledge of science. Theories and facts of basic sciences (physics, chemistry, biology, mechanical engineering) helped to solve the problems and to put perfect mechanism to validate the temperament practically.

CONCLUSION

During the middle Ages, literature on temperament was less prominent. In 350 B.C. Hippocrate described four Humors and influence of these represent the temperament according to particular Khilt i.e. Damvi, Balghami, Şafrāwi, And Saudawi. In 150 A.D. Galen, also put forward and believed four Temperaments (*Choleric, Phlegmatic, Melancholic, Sanguine*). Since that determination of temperament is done by only observation and by asking individuals psychological, physiological and anatomical folds. Still in 21st century we are taking help of these folds. Unani scholars of last few decades are modifying and inventing the tools to determine the temperament which are very much satisfactory and reliable. For example Dept of Kuliyat, AKTC, AMU has been successfully accepted the job of demand and has been invented many instruments to assess the Mizāj by P.G. Scholars under the supervision

of distinguished and hardworking teachers. These valuable inventions must not be left out after their genesis. They must be used by every Unani clinician to diagnose the Mizaj for advising their diet, medication and other purposes. There should be a temperament diagnostic lab in every Unani hospital and private centers to make it realistic, and new technologies should be invented and time to time up gradation of instruments should be done.

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REFERENCES

1. Zaidi, I.H and Zulkifle, M. (1999), Temperamentology: A Scientific Appraisal of Human Temperament, 1st Edition, Aligarh, 6-13, 18-23, 64-65.
2. Shah, M.H. (1972), Temperament, Explanation and Interpretation Philosophy of Medicine and Science Problems and Perspective, Compiled By Dept of Philosophy of Medicine and Science, New Delhi, IHMMR, 123-128; 109-111.
3. Ahmed, S.I. (1980) Introduction to Al-Umur Al-Tabiyah, Mrs Nuzhat Ishtiaq, 27-40, 53-63, 143, 189-197, 206-209.

4. Brock, A.J. (1929), Greek Medicine London, Jm. Dent And Sons Limited, 9.
5. Tabri, R. (2002), Firdaus ul Hikmat. (Urdu Translation by Hakeem Mohd Awwal Shah Sambhali) New Delhi. Idara kitab ul shifa, 58-59, 86, 251.
6. Azmi, A.A. (1993), Basic Concepts of Unani Medicine- A Critical Study, 1st Edition, Department of History of Medicine, New Delhi, Jamia Hamdard, 57-59, 73-79.
7. Zakariya, R. (1991), Kitab Al Mansoori, Urdu Translation, CCRUM, New Delhi, 59-80.
8. Jurjani, A.H. (1902) Zakhira Khwarizm Shahi, Vol 1, Urdu Translation By Hadi Hasan Khan, Lukhnow, Matba Nawal Kishore. 14, 18, 25, 235, 242.
9. Azrani, A. (1939), Akseerul Quloob, Urdu Translation of Mufarrehul Quloob By Baqar, M.S. Matba Munshi Nawal Kishore, Lukhnow, Pp: 54: 308, 317.
10. Sina, I. (1993), Al Qanoon Fil Tibb, Book 1, English Translation of Critical Arabic Text, New Delhi, Jamia Hamdard, Pp: 7-13, 65, 190-197.
11. Sina I. Al Qanoon Fil Tibb, Urdu Translation By Kantoori, G.H. Idara Kitab ul Shifa, Pp: 83: 133-138.
12. Nafees. B. (1954) Kuliyat-e-Nafisi, Vol-1st. (Urdu Translation by Hkm. Kabiruddin) New Delhi: Idara Kitabus shifa, Pp.136: 266-280.
13. Gruner, O.C. (1983), The Four Temperament Avicenna's Tract on Cardiac Drugs and Essays on Arab Cardio Therapy, New Delhi, IHMMR, Pp: 119-123.
14. Sina, I. (1993), Al Qanoon Fil Tibb, English Translation, Jamia Hamdard, New Delhi, Pp: 7-13.
15. Mansoori, Y.B.A. (1915), Kefaya Mansoori, Urdu Translation By Hadi, H.K.M. Matba Munshi Nawal Kishore, Kanpur, Pp: 66.
16. Shah, m.h. (2007), the general principles of avicenna's canon of medicine, new delhi, idara kitab ul shifaPp: 24-29.
17. Hock, R.C. The Four Temperament, The Angelicum Academy, Cited From <http://angelicum.net/newsroom/the-four-temperament-by-revcarrad-hock>.
18. Azmi, A.A. (1993), Basic Concepts of Unani Medicine- A Critical Study, 1st Edition, Department of History of Medicine, Jamia Hamdard, New Delhi, Pp: 57-59, 73-80.
19. Raaz A. (1999) Determination of female temperament with reference to skin colour and texture, Aligarh, U.P.
20. Ahmad V. (2008) Scientific assessment of Malmas (hardness and softness of skin) for detection of individual temperament, Aligarh, U.P.
21. Khan, N.A. (2008) An experimental study of thermal variation in different temperament, Aligarh, U.P.
22. Naaz, S. (2014) Comparative study of skin roughness and smoothness in females of different temperament by self designed Frictiometer, Aligarh, U.P.
23. Khalid, M. (2004) Mizaj balghami wa safrawi me shehmiyat-e-damwi ka muta'la, Aligarh, U.P.
24. Neyaz, G. (2008) Assessment of Shahmul Badan (body fat) for the detection of individual temperament in females, Aligarh, U.P.
25. Anwar, A.K. (2008) Assessment of Shahmul Badan (body fat) for the detection of individual temperament in males, Aligarh, U.P.
26. Kaifi, A. (2010) A study to evaluate variation in total skeletal muscle mass in phlegmatic and bilious temperament, Aligarh, U.P.
27. Ahmer, S.M. (2013) A study of total serum protein in bilious and phlegmatic temperament (mizaj), Aligarh, U.P.
28. Khan, T.N. (2010) Assessment of colour of skin by dermal photometer in determination of temperament in males, Aligarh, U.P.
29. Sultana, S. (2016) Assessment of skin complexion variables in different temperament through a self designed complexionmeter (direct method), Aligarh, U.P.
30. Rehman, N. (2011) Comparison of physiognomy of the persons of balghami wa safrawi temperaments, Aligarh, U.P.
31. Ali, S. (2013) Study of somatic variations in males of different temperament, Aligarh, U.P.
32. Akram, M. (2014) Anthropometric variables of thorax and extremities in males of balghami and safrawi mizaj, Aligarh, U.P.
33. Khan, I. (2015) Comparative study of spleen size by USG in males of bilious and phlegmatic temperament (a part of hayat-Al-Aza), Aligarh, U.P.
34. Khan, F.A. (2015) A comparative study of liver size by USG in males of bilious and phlegmatic temperament, Aligarh, U.P.
35. Firdaus, S. (2017) A comparative study of liver size by Ultrasonography in females of bilious and phlegmatic temperament, Aligarh, U.P.
36. Nasir, M. (2010) A study to develop method for measuring various characteristics of hair for determination of temperament, Aligarh, U.P.
37. Nauman, Z. (2017) A study of scalp hair density in two different temperament through self designed trichometer, Aligarh, U.P.
38. Lari, Q.H. (2006) A study for the determination of bilious and phlegmatic temperament with the help of bio-chemical marker of liver function, Aligarh, U.P.
39. Alam, T. (2007) Assessment of Quwat-e-samiyah having threshold level in different temperament, Aligarh, U.P.
40. Aijaz, A. (2011) Assessment of IQ in bilious and phlegmatic temperament, Aligarh, U.P.
41. Sallallah. (2013) Comparative study of Pulmonary Function Test in balghami and safrawi temperament, Aligarh, U.P.
42. Mujeeb, K. (2016) A comparative study of quwat-e-hafizah in individuals of bilious and phlegmatic temperament, Aligarh, U.P.

43. Saleem, S. (2016) Comparative study of reaction time in individual of bilious and phlegmatic temperament, Aligarh, U.P.
44. Ahmad. S. (2015) A comparative study of anxiety in persons of bilious and phlegmatic temperament, Aligarh, U.P.