

INTERNATIONAL JOURNAL OF UNANI AND INTEGRATIVE MEDICINE



E-ISSN: 2616-4558

P-ISSN: 2616-454X

www.unanijournal.com

IJUM 2025; 9(3): 132-136

Impact Factor (RJIF): 6.59

Peer Reviewed Journal

Received: 12-09-2025

Accepted: 15-10-2025

Sajid Khan

PG Scholar, Department of
Manafeul A'dā (Physiology),
State Unani Medical College
and H.A.H.R.D.M. Hospital,
Prayagraj, Uttar Pradesh,
India

Farheen Naz

PG Scholar, Department of
Manafeul A'dā (Physiology),
State Unani Medical College
and H.A.H.R.D.M. Hospital,
Prayagraj, Uttar Pradesh,
India

Abdul Wahid

PG Scholar, Department of
Manafeul A'dā (Physiology),
State Unani Medical College
and H.A.H.R.D.M. Hospital,
Prayagraj, Uttar Pradesh,
India

Mohd Nasiruddin

Reader, Department of
Manafeul A'dā (Physiology),
State Unani Medical College
and H.A.H.R.D.M. Hospital,
Prayagraj, Uttar Pradesh,
India

Nehal Ahmad

Assistant Professor,
Department of Manafeul A'dā
(Physiology), State Unani
Medical College and
H.A.H.R.D.M. Hospital,
Prayagraj, Uttar Pradesh,
India

Corresponding Author:

Sajid Khan

PG Scholar, Department of
Manafeul A'dā (Physiology),
State Unani Medical College
and H.A.H.R.D.M. Hospital,
Prayagraj, Uttar Pradesh,
India

Contribution of Unani Physician in Manafeul A'dā (Physiology); A Historical Review

Sajid Khan, Farheen Naz, Abdul Wahid, Mohd Nasiruddin and Nehal Ahmad

DOI: <https://doi.org/10.33545/2616454X.2025.v9.i3b.392>

Abstract

The Unani System of Medicine, rooted in the Hippocratic theory of four humors (Akhlāt-e-Arba), Khilt-i-Dam (Blood), Khilt-i-Balgham (Phlegm), Khilt-i-Safrā (Yellow Bile), Khilt-i-Sawdā (Black Bile), emphasizes their balance for health and their imbalance as the cause of disease. This review explores classical concepts explained by eminent Unani scholars related with Manafeul A'dā such as Hippocrates, Galen, Raazi, Avicenna, Ibn Nafis etc. As per the principle of Unani System of Medicine, it is stated that Akhlāt are formed in the liver and distributed through vessels in different part of the body for different functions. The theory of Akhlāt concerned with many things but mainly it deals with the concept of nutritive function of human body. As Khilt-i-Dam nourishes organs and carries heat via arteries, while veins distribute deoxygenated blood. Bile (Khilt-i-Safrā), produce in liver-derived, supports digestion and blood vitality. Khilt-i-Balgham acts as a nutrient reserve, able to be converted into Khilt-i-Dam to nourish various organs, particularly during times of need. Khilt-i-Sawdā helps in increasing the viscosity of the blood. Some eminent scholar such as Aristotle stated that the heart as the centre of vital functions, Jālīnūs provided an important theory on blood circulation, and Ibn Nafis's pioneering insights into pulmonary circulation highlight the system's sophisticated understanding of anatomy and physiology. Buqrat (Hippocrates), Jālīnūs (Galen) Rabban Tabri, Raazi, Ibn Sīnā (Avicenna), Ibn-e-Nafis etc, has also given a comprehensive theory on the concept of Ṭabī'at. In Unani Medicine Ṭabī'at is considered the chief faculty for the maintenance of homeostasis. This review underscores the Unani system's holistic approach, integrating humoral theory, organ functions, and vital forces, offering a historical perspective on its contributions to medical science and its relevance in understanding human physiology.

Keywords: Unani System of Medicine, Manafeul A'dā, *Akhlāt*, Ṭabī'at

Introduction

Unani medicine, with its origins in the Hippocratic tradition and subsequent development by Greek, Arab, and Persian scholars, represents a significant role in the history of medical thought. The discipline of *Manafeul A'dā* is concerned with the functions of organs and their interrelationships, explained through the principles of Mizāj, *Akhlāt* and Ṭabī'at. Hippocrates established the foundations of humoral theory, while Aristotle, Jālīnūs, and later scholars such as Rabban Tabri, Razi, Ibn Sīnā, and Ibn Nafis enriched the system with detailed anatomical and physiological concepts. These physicians described the roles of the heart, liver, lungs, and brain in maintaining health, and their observations on circulation, sensory and motor functions, and homeostasis reflect a remarkably advanced understanding for their time. The classical perspectives of Unani scholars thus provide not only a holistic view of human physiology but also a historical framework that anticipated several principles of modern medical science.

Buqrat (Hippocrates)

Hippocrates played a crucial role in the development of Unani System of Medicine by laying its foundational framework through the introduction of the humoral theory. He is renowned for liberating medicine from superstition and magic, transforming it into a rational science based on careful observation and practical experience.

The concept of Akhlāt forms the fundamental base of Unani System of Medicine. According to this theory, health depends on the balance of four vital body fluids, i.e Khilt-i-Dam, Khilt-i-Balgham, Khilt-i-Safrā, Khilt-i-Sawdā and any disturbance whether in quantity or quality

can result in disease such as in hypertension etc. The four humors and their characteristic qualities are as follows:

1. *Khilt-i-Dam*: *Mizāj Hārr Raṭb*. It is regarded as the most important *Khilt*, providing nourishment and vitality.
2. *Khilt-i-Balgham*: *Mizāj Bārid Raṭb*. It serves to lubricate the body and is connected to cooling functions and immune defense.
3. *Khilt-i-Safrā*: *Mizāj Hārr Yābis*. This *khilt* is related to metabolic processes and the generation of body heat. *Khilt-i-Safrā* transforms fat into tiny droplets and then into micelles, helping in the overall digestion of fat [8].
4. *Khilt-i-Sawdā*: *Mizāj Bārid Yābis*. It is responsible for providing structural integrity and stability to the body.

In relation four humors Hippocrates and his followers further developed the concept of "humoral pathology" as a foundational medical theory.

Hippocrates also described *Ṭabī'at* as an inherent faculty that operates involuntarily and unconsciously, ensuring the well-being of the human body. It is responsible for initiating all movements and states of rest within the body. Functionally, it is be regarded as the master planner of bodily functions [2].

Aristotle

According to Aristotle, the heart is the primary source of all bodily functions, including nutrition, sensation, and movement ect. He also believed that the heart was the centre of intelligence and held the view that arteries carried both air and blood [3]. Now in present era it is well known, artery carry oxygenated blood.

He also states that, soul is formed in the heart, it becomes connected with the 'Nafs', which is the root of all faculties. However, only the function of the *Quwa Haywaniyya* (vital force) is apparent in the heart. The functions of the other faculties remain hidden. Then, when this soul travels to the brain and liver, etc., and acquires a new temperament there, the functions of the other faculties become manifest for example, in the brain, the functions of the *Quwa Nafsanīyya* (psychic faculty), and in the liver, the functions of the *Quwa Ṭabī'īyya* (natural faculty), and so on [17].

In relation with sensory function, he states that muscles are the tool of sensory function [18].

While describing simple organ Aristotle demonstrated through his research that the development of simple organs from the germ plasm of both the male and female is similar to the process of cheese-making. In this comparison, the male semen functions like rennet, serving as the active formative agent, while the female reproductive material resembles milk, acting as the passive raw material [3].

Aristotle clearly identified the core issues in biology, including sex, heredity, nutrition, growth, and adaptation. He introduced the theory of evolution and was the first to create a scientific classification of animals. His comparative study included the uterus in different species, a detailed description of the ruminant stomach, and observations on the embryonic development of the chick [3].

Erasistratus

He believed that arteries carry air. It was thought that air from the lungs reached the heart and transformed into the vital spirit. He identified various vessels such as arteries, veins, the pulmonary artery, and the pulmonary vein.

Regarding reverse circulation, he stated that the blood seen flowing from a cut artery actually comes from the veins, passing through tiny connecting vessels between the artery and vein [4].

Jālīnūs

Jālīnūs believed that the qualities responsible for initiating and developing life are naturally present in the seminal fluids of both males and females.

The brain is a soft organ that contains several cavities. According to Jālīnūs, the brain has four cavities that are spread out over one another, which are called the ventricles of the brain. Two of these cavities are located in the anterior part of the brain, third in the midbrain, and the fourth cavity is in the hindbrain. Near these passages, there are certain specific and compatible structures that sometimes close these passages and sometimes open them. Near the anterior ventricles, there are two protrusions, similar to mammary glands, that extend to the olfactory bone. These contain the smelling ability. The olfactory bone has many small, disorganized holes, and its location is beneath the skull, extending to the extreme edge of the nose [5].

In relation with organ Jālīnūs delineates certain organs like the heart perform primary functions, while others, such as the lungs, serve supportive or auxiliary roles. Some organs, like the liver, carry out both primary and secondary functions [5].

Jālīnūs established his theories of blood circulation through the dissection of prematurely born infants. Based on his observations, he concluded that a hole exists located between the two ventricles of the heart [6].

Jālīnūs stated about blood circulation in book *De Usu Partium*, that arteries carry blood rather than air. He believed that both veins and arteries transport blood to the body's extremities. He described two types of blood, arterial or 'spiritual' blood found in left side of heart, which nourishes soft and delicate organs like the lungs; and venous blood found in right side of heart, which supplies to heavier and denser organs like liver [7]. Here Galen denied the Erasistratus view that artery carry air.

He also described that the brain is the central commanding organ of the nervous system. He considered it as the primary centre responsible for regulating and coordinating all bodily functions and activities. According to him, the brain is the source of intelligence and the medium of mental expression. It governs cognition, memory, willpower, imagination, sensation, emotions, thought processes, understanding, and movement.

Another important contribution of Galen was identified three essential components for the perception of pain: a central controlling organ, a pathway for communication, and a sensory organ to receive the stimulus. He stated that any factor causing a disruption in the body's structural continuity either by gathering (aggregation) or scattering (dispersion) generates a signal. This signal is transmitted to the brain through sensory nerves. If the sensation is agreeable, it is perceived as pleasure; if not, it is experienced as pain [19].

Rabban Tabri

Rabban al-Tabari's work on the nervous system and senses, found in his comprehensive medical encyclopedia *Firdous al-Hikma*, was a detailed synthesis of Greco-Arabic medical knowledge. His theories were grounded in the idea that the

brain is the central command center for all sensory perception and bodily functions.

Al-Tabari viewed the brain as the ultimate organ of control and consciousness. He believed that it was the central processing unit for all information received from the senses. According to his writings, the brain not only processes sensory information but also initiates voluntary movements and governs mental faculties, including intellect and memory. He structured his discussion on diseases from head to toe, with a significant section dedicated to ailments of the head and brain, such as epilepsy, vertigo, and various types of headaches [9].

Tabari provided a systematic explanation of the five senses, explaining how each organ collects specific information and transmits it to the brain.

Sight (Vision): He discussed vision in detail, describing how the eye acts as the organ of sight. A notable aspect of his work on vision is his understanding of amblyopia, or "lazy eye." He wrote about a treatment for this condition that involved occlusion therapy covering the stronger eye to force the weaker one to work and strengthen. This is a remarkable historical precedent, as this therapy is still used today.

Hearing (Audition): Al-Tabari explained that hearing occurs when sound waves enter the ear and are perceived, he also related this process to conditions like tinnitus (a ringing sensation in the ears) and other ear ailments.

Smell, Taste, and Touch: His descriptions of these senses were less detailed than those for sight and hearing, he included them as vital components of human perception. He considered touch to be the most fundamental sense because it is essential for an organism's survival, and he saw taste as a specialized form of touch. He described the nose as the organ for smelling and the tongue for tasting, and he linked these senses to the overall balance of the body's humors.

Al-Tabari's work was a foundational text in the Islamic medical world and served as a crucial bridge between ancient knowledge and the advancements of later physicians. His methodical approach to the nervous system and senses laid the groundwork for future medical inquiry in the Islamic Golden Age [10].

Razi

Razi mentioned that Ṭabī'at ensures the nourishment and sustenance of the body and single-handedly governs every physiological process (*Af'al-e-Tabi'yah*). It satisfies the body's nutritional needs, replaces materials consumed during metabolic transformation (*Istehāla*), and eliminates waste. A key duty of Ṭabī'at is to shift harmful substances away from vital organs to less critical areas or out of the body altogether and to fine-tune the body's temperament (homeostasis) in line with internal demands. It also empowers the organism to fend off diseases and pathogens. When Ṭabī'at remains in balance, it generally restores health without any intervention from a physician [11]. It has been stated that intravascular clotting is avoided due to the influence of Ṭabī'at (natural force) or the anatomical structure of the blood vessels.

Motor faculty (Quwwat-e-Muharikah)

It is the faculty that causes contraction (spasm) in the muscles and then relaxes them, resulting in movement in the organs and joints. In other words, due to the action of the motor faculty, the organs either extend or bend (contract).

The passage (pathway) of the motor faculty lies in those nerves which are connected to the muscles.

The motor faculty is a single genus, which means there are many different types and forms under it. For example, chewing is one type of movement, and walking is another. Likewise, there are as many types of movement as there are muscles.

Each muscle has its own specific temperament, meaning that a particular kind of movement originates from it. The motor faculty operates under the command of the estimative faculty (*Quwwat Wahima*), which leads to determination or strong intent (firm resolution)."

Al-Razi proposed the theory of vision in which visual rays are emitted by objects and enter the eye. He also observed the effect of light on the pupil a unique or strong foundation / vision not found in earlier Greek texts. He explained that the iris has a central opening that expands or contracts based on the amount of light needed by the crystalline lens: it narrows in bright light and widens in darkness. He suggested the use of anaesthetics to manage intense pain. He also prescribed a mercury-based ointment to treat lice on the eyelids. In cases of chronic conjunctivitis, he recommended turning out the upper eyelid to check for the presence of trachoma [12].

Ibn Sīnā (Avicenna)

Ibn Sīnā was born in 980 AD near Bukhara, located in present-day Uzbekistan, Central Asia, and passed away in 1037 in Iran. Avicenna's accounts on the pulse are remarkable. Pulse examination remains one of the most basic, ancient, and revealing techniques in clinical practice. Each pulse beat consists of two motions and two intervals, eg expansion, then a pause, followed by contraction and another pause [13].

Almost all prominent Unani scholars described the determinants for assessment of Mizāj. However, the most acceptable and appropriate determinants have been given by Ibn-e-Sina (980-1037 AD) in his famous book *Al-Qanoon-fil-Tibb* that are ten in number and are applied and used universally for the assessment of Mizāj. They are known as *Ajnās 'Ashara*

The ten features of Ajnās 'Ashara are:

Malmas (Touch), Laham wa Shahm (Muscles and Fat), Sha'ar (Hair), Laun-e-Badan (Body Complexion), Haiyat-e-Aza (Physique), Kaifiyat-e-Infi'al (Psychological Functions), Naum wa Yaqzah (Sleep and Wakefulness), Af'al-ul-Aza (Functions of Body Organs), Fuzlat-e-Badan (Excreta of the Body) and Infi'alat- e – Nafsanīa [14]

Ibn Nafis:

Ala ad-Din Abu al-Hasan Ali Ibn Abi-Hazm al-Qarshi, famously known as Ibn Nafis Khilṭ-i-Damishqi, was born in Qarsh, a small town near Khilṭ-i-Damascus. He is recognized as the Father of Pulmonary circulation [7]. Ibn Nafis stated that normal blood is that which has been generated and refined to its purest form within the liver. The ideal *qiwam* (viscosity) of blood, regarded as one of its key characteristics, is described as *mu'tadil* (balanced), meaning it maintains an equal proportion between thinness and thickness [15]. In summary, Ibn al-Nafis's work primarily focused on several key aspects:

1. A detailed study of the anatomy of the heart's two ventricles.
2. His assertion that there are no openings or pores in the

interventricular septum.

3. The introduction of a porous network of blood vessels, forming a capillary system, which allows air to enter the pulmonary circulation a remarkable concept proposed without the aid of a microscope. He referred to this as the Nafisian system.
4. He explained that in the lungs, blood combines with air and then flows to left chambers of the heart.
5. Ibn al-Nafis also stated that the ventricles receive nourishment from the blood within their own vessel walls, referring to what we now know as the coronary arteries ^[16]

The Bridge Between Unani and Modern Physiology

The correlation between classical Unani theories and modern physiological parameters can be understood by applying ancient concepts as foundational, albeit metaphorical, frameworks that describe the same biological phenomena we measure today with precision. While Unani medicine lacks the empirical tools of modern science, its core principles of balance, regulation, and organ function directly align with key modern physiological concepts.

Humoral Theory (Akhlāt Arba) and Homeostasis

The Unani concept of the four humors Khilt-i-Dam, Khilt-i-Balgham, Khilt-i-Safrā, and Khilt-i-Sawdā is a classical attempt to explain the body's internal state. An imbalance in these humors was believed to cause disease. This directly correlates with the modern concept of homeostasis, the body's self-regulating process to maintain stable internal conditions. For example:

- **Khilt-i-Dam:** Represents the circulatory system and its functions, including nutrient transport and heat distribution. An imbalance (excess) could be a classical explanation for conditions related to high blood pressure or inflammation.
- **Khilt-i-Safrā:** Associated with heat and metabolic processes. Its excess could metaphorically represent an overactive metabolism, inflammation, or hormonal imbalances (e.g., hyperthyroidism).
- **Khilt-i-Balgham:** Linked to cold, moisture, and lubrication. Its functions are similar to modern concepts of the lymphatic system, mucus production, and immune responses.
- **Khilt-i-Sawdā:** Associated with structural integrity and stability. Its imbalance was linked to mood disorders and chronic diseases, which today are understood in terms of neurochemical imbalances and chronic stress.

The Inherent Guiding Force (Ṭabī'at) and the Immune System

Unani physicians referred to Ṭabī'at as an innate, self-healing force that governs all physiological processes and fends off disease. This concept is a remarkable precursor to our modern understanding of the immune system. Ṭabī'at's role in initiating fever to fight off infection or restoring balance after injury is a conceptual match for how the immune system triggers a coordinated response to pathogens and repairs tissue.

Circulation and Anatomy: From Galen to Ibn Nafis

Classical theories of circulation, particularly those from Galen, were based on the idea that blood flowed from the liver and was consumed by tissues. While flawed, it was a

step toward understanding a closed circulatory system. The groundbreaking work of Ibn Nafis, however, is a direct correlation with modern anatomy. His detailed description of pulmonary circulation blood traveling from the right heart, to the lungs, and then to the left heart precisely matches the modern understanding of the lesser circulatory loop. This discovery, made centuries before a microscope, showcases the sophisticated reasoning of Unani scholars.

The Brain as the Command Center

Unani medicine correctly identified the brain as the central command organ for cognition, sensation, and movement. Their detailed descriptions of sensory and motor nerves, along with the brain's role in controlling emotions and thought, laid the groundwork for modern neuroscience. The Unani concept of the brain as the "hegemonikon" directly aligns with the modern understanding of the central nervous system's role in coordinating all bodily functions.

Conclusion

The classical Unani concepts of Manafeul A'dā demonstrate a profound understanding of human physiology, rooted in humoral theory, organ-specific functions, and vital forces. Pioneering scholars like Hippocrates, Aristotle, Galen, Razi, Avicenna, and Ibn Nafis offered detailed perspectives on the formation and role of humors, the regulatory function of Ṭabī'at, and the physiological significance of key organs such as the heart, brain, liver, and lungs. Although early notions of circulation and organ activity were largely theoretical, Ibn Nafis's elucidation of pulmonary circulation anticipated modern anatomical discoveries. The Unani recognition of the brain as the central command organ, alongside the systematic study of sensory and motor faculties, underscores the system's holistic and observational approach. Many principles of modern physiology including homeostasis, immune regulation, and organ-specific functions find conceptual parallels in Unani thought, highlighting its enduring relevance. In essence, Unani medicine offers a historically rich, integrative framework that connects philosophical insights with empirical observation, contributing significantly to our understanding of human physiology.

Conflict of Interest: Not available

Financial Support: Not available

Reference

1. Amir MS, Ahmad W, Saltanat S. Understanding the pathophysiology of Akhlāt (humor) and their predisposing factors. *Journal of Research in Unani Medicine*. 2022 Jan;11(1):65-9.
2. Rahman A. Unani concept of Ṭabī'at (physic/nature) and its importance in the regulation of homeostasis in human body [Internet]. 2015. Available from: <http://www.journalcra.com>.
3. Shah.H.M: The canon of medicine, idara kitabul shifa, new delhi
4. Akmal M, Zulkifle M, Ansari AH. Ibn Nafis-a forgotten genius in the discovery of pulmonary blood circulation.
5. Razi ABMZ. Kitaab al-Mansoori [Urdu translation]. New Delhi: Central Council for Research in Unani Medicine (CCRUM); pp 51, 81.

6. Ashitiyani SC, Shamsi M. The discoverer of pulmonary blood circulation: Ibn Nafis or William Harvey? Middle-East J Sci Res. 2013;18(5):562-568. doi:10.5829/idosi.mejsr.2013.18.5.75133
7. Akmal M, Zulkifle M, Ansari A. Ibn Nafis - a forgotten genius in the discovery of pulmonary blood circulation. Heart Views. 2010 Mar;11(1):26-30.
8. Khan S, Imam A, Lari QH. Role of khilṭ-i-Safrā in digestion: scientific exploration. Int J Res Med Sci 2025;13:xxx-xx.
9. Sambhali HASH, translator. Firdaws al-Hikmah. Tabari AASHRA, author. Deoband: Faisal Publications; pp 53-54.
10. Khan MS. Ali Ibn Rabban al-Tabari, a ninth century Arab physician, on the Ayurveda. Indian J Hist Sci. 1990;25(1-4):1-4.
11. Rahman A, Aslam M. Unani concept of Ṭabī'at (physic/nature) and its importance in the regulation of homeostasis in human body – A review. Int J Curr Res. 2015;7(7):18181-18184.
12. Abudawood G, Alshareef R, Alghamdi S. Arab and Muslim scientists and their contributions to the history of ophthalmology. Vol. 34, Saudi Journal of Ophthalmology. Wolters Kluwer Medknow Publications; 2020. p. 198-201.
13. Hajar R. The air of history (Part V): Ibn Sīnā (Avicenna): The great physician and philosopher. Heart Views. 2013;14(4):196.
14. Avicenna. Al-Qanoon fi al-Tibb [Urdu translation Ghulam Husain Kantoori]. New Delhi: Idara Kitab-us-Shifa; 2005, Pp 133-136.
15. Mushir A, Jahan N, Ahmad G, Ali Ansari A, Ahmad G, Sofi G, *et al.* Concept of Blood in Unani Medicine [Internet]. Hippocratic Journal of Unani Medicine. 2019. Available from: <https://www.researchgate.net/publication/334450832>
16. Shehatha J, Taha Basrah A, Shehatha J, Taha AY. Ibn al-nafis and the discoverery of the pulmonary circulation and coronary blood flow ibn al-nafis and the discovery of the pulmonary circulation and coronary blood FLOW. Journal Review Article Of Surgery Bas J Surg. 2012.
17. Ibn Sīnā. Kulliyat-e-Qanoon (Tarjuma wa Sharah). Translated by Hakim Muhammad Kabiruddin. New Delhi: Idara Kitab-ul-Shifa; 2015. Pp 80.
18. Ibn Rushd AW. Kitab al-Kuliyat (Urdu translation). New Delhi: Central Council for Research in Unani Medicine (CCRUM), Ministry of Health and Family Welfare, Government of India; 1985-1988. Pp 44.
19. Tajyabi SF, Alam MK, Ahmed SKA. The concept of pain among two royal physicians: Galen and Ibn Sina. J Res Indian Med. 2023 Dec; [Internet]. Available from: <https://www.researchgate.net/publication/376617817>

How to Cite This Article

Khan S, Naz F, Wahid A, Nasiruddin M, Ahmad N. Contribution of Unani Physician in Manafeul A'dā (Physiology); A Historical Review. International Journal of Unani and Integrative Medicine 2025; 9(3): 132-136.

Creative Commons (CC) License

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.