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## Review Article

### A REVIEW ON ḤARĀRAT-E-GHARĪZIYYA (INNATE HEAT): A KEY CONCEPT IN THE UNANI SYSTEM OF MEDICINE

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#### ABSTRACT

The Unani system of medicine is based on certain fundamental principles and concepts. One such concept is Ḥarārat-e-gharīziyya which is known as innate heat. According to Jalinoos and Razi, innate heat is an elemental heat that is produced by the Unsur-i-istihala (metabolism) of the human body. Ibn Sina considered it heavenly heat, which is gifted by God. According to Allama Ghilani, in human beings, the intermixing of elements results in the production of heat. As long as this heat remains in moderation, it is known as Ḥarārat-e-gharīziyya. It is the body's natural heat generated from blood, which is a substance of Ḥarārat-e-gharīziyya. It requires rooh, which is produced from external air during respiration and is preserved by rutubat ghareeziyyah. It acts as a tool (machine) for tabiyat, which is considered the ultimate power in regulating and maintaining the functions performed by all organs of the body through various quwa (faculties). It is essential for the normal functioning of organs with respect to temperament and structure and for the maintenance of life in the body. Any morbidity or excess immoderation in Ḥarārat-e-gharīziyya or its constituents causes illness and disease. Hence, its extinction means the extinction of life, i.e., the death of a person. This paper aims to explain the concept and importance of Ḥarārat-e-gharīziyya for maintenance of health and the factors which affect and corrupt it; evaluated as well.

**Keywords:** Ḥarārat-e-gharīziyya, rutubat ghareeziyyah, Tabiyat, Quwa, Akhlat, Health

#### INTRODUCTION

Since the beginning of the scientific era; researchers have been paying attention to explaining the distinctive physiological properties of warm-blooded animals in particular and human beings in general. It is the ability of the human being to maintain body heat in spite of continuous exposure to the external environment. Scientists of ancient times postulated the presence of a source of heat within the body in order to account for the body's ability to maintain a temperature/warmth above its environment. But the question is, what account of the ancient scholars who were unequipped with a microscope and unaware of biochemistry, microbiology, and physiology at the cellular level explains this occurrence? <sup>1</sup>

Hippocrates and other great scholars of the Unani system of medicine, such as Jalinoos (Galen), Ali ibn Abbas majoosi, and Ibn Sina, propounded the humoral theory for explaining health and illness. According to humoral (body fluids) supposition, one can stay healthy only when the four akhlat (humours), i.e., dam(blood), balgham (phlegm), sauda (black bile), and safra (yellow bile) are balanced in the body, and diseases occur when there is an imbalance in the humours. This imbalance can be caused by poor diet, a sedentary lifestyle, or a change in climate. <sup>2</sup>

On the other hand, four akhlat (humours) did not appear to explain the origin of life in the body. Some kind of driving force was thought to be involved in elucidating (a) the production of akhlat (humours) and its sustenance by food, (b) the cause of possessing dynamic motion in humors, (c) the force required to mix akhlat,

expelling fuzlat (superfluities) and regaining equilibrium, and (d) the formation of fuzlat (wastes). These contemplations introduce this driving force as the concept of Ḥarārat-e-gharīziyya (innate heat). It is a vital force in the form of energy, described as fire by Heraclitus. It is an embodiment of the dynamic motion of all existing things. In the Unani medical system, it is considered essential for the existence of life. It is assumed that all body functions are maintained by different capacities/faculties of the body, and these abilities depend on Ḥarārate gharīziyya (natural warmth).

To define innate heat, we should know heat. Heat is energy in transit as a result of temperature differences. Temperature is an intensive property that is used to define the state of a system and determine the direction in which energy flows as heat. <sup>3</sup> The synonyms used for Ḥarārat-e-gharīziyya are innate heat, vital heat, tabai hararat(natural heat), or caladium innatum in Latin. According to Ibn Rushd, Ḥarārat-e-gharīziyya can be defined as hararat-e-tabiyah (normal body heat) and hararat-e-qalb (heat in the heart) responsible for the functions of the organs of the body. <sup>4</sup> According to Yousuf Harwi, Ḥarārat-e-gharīziyya is the heat present in the body of an animal that is responsible for maintaining the life and form of the animal. <sup>5</sup>

According to Jalinoos (Galen), innate heat is the heat of living creatures that makes the body grow instead of consuming it. According to Akbar Arzani, Ḥarārat-e-gharīziyya is the hararat-e-nariyah ansuriah, i.e., produced while attaining mizaj(temperament), and is responsible for the body's consistency and remains in the body throughout life. <sup>6</sup> The

Ḥarārat-e-gharīziyya (innate heat) comes to the embryo through the semen that resides in the arterial blood of the left ventricle when the heart is formed.<sup>7</sup> According to Qarshi, innate heat can be mizaj of rooh-e-haiwani (temperament of animal spirit) or the whole body temperament, or hararat-e-unsar-e-nari or a type of hararat-e-gharibah. If moderate, it is called tabai (natural) or gharizi and when immoderate, it is called ghareebah. Contradictorily, whenever innate heat increases in quality and strength, it results in potentiating the natural functions, which can be understood by the stages of life. Both the rooh and the body do not possess this type of mizaj because when heat and dryness increase, they result in humma-e-yaum and humma-e-diq (in aza-e-asli) respectively. Therefore, Ḥarārat-e-gharīziyya cannot be Rooh-e-haiwani's Mizaj or body heat (temperamental). Similarly, when there is Hararate-Ghareebah, it disturbs the moderation of Mizaj-e-haiwani and the innate heat resists it with utmost intensity. In fact, Ḥarārat-e-gharīziyya is the tool for tabiat due to which the adverse effects caused by the Tehreek (excitation) of pneuma in the body are removed.

### ḤARĀRAT-E-GHARĪZIYYA STOCKPILE

Regarding the source of innate heat, there are two different views: According to Galen, the brain is the source of innate heat and it is spread by nerves throughout the body, whereas according to Aristotle, as said by Ibn Rushd, the heart is the source of innate heat and the brain plays the role of an attendant. He explained this with an instance like when a person walks, heat spreads in his body that was initially present in it, and certainly the heart is the sole organ responsible for the distribution of heat throughout the body. Also, when a person is terrified or frightened excessively, the innate heat returns to the heart, resulting in shivering of their leg muscles to such an extent that sometimes the person falls down. Quwwat-e-mudabbirah (tabiat), the primary faculty which maintains the quality and quantity of heat in a particular manner, is responsible for this movement which is present in the heart.

Therefore, it is known that an animal performs movements due to innate heat, and thus it is proved that quwwat-e-moharikah (motor faculty) exists in the heart while the brain acts as an attendant by bringing moderation either by nerves or by rooh-e-nafsani (psychic spirit) perfusing the nerves.<sup>4</sup> The temperament of the body is dependent on the temperament of the heart because the heart is the prime vital organ and the source of innate heat, and all the organs get jawhar (substance) of rooh haiwani from the heart.<sup>8</sup>

### DISPERSION OF ḤARĀRAT-E-GHARĪZIYYA IN THE BODY

According to Jalinoos (Galen), a number of arteries from the heart to the liver, and their function is to provide heat (Ḥarārat-e-gharīziyya) to the liver.<sup>4</sup> During the diastole of the heart, the dilation of the arteries results in the drawing in of air through the pores in the skin and blood from the veins. The arteries serve the function of nourishing the innate heat throughout the body. He explained that this concept can be explained by tying a ligature around a limb tight enough to cut off the arterial pulse. Below the ligature, the limb would become cold and pale because the arteries were no longer able to supply the innate heat.<sup>9</sup> Therefore, HG from the heart is distributed to the organs of the body by means of arteries.

### SUBSTRATE FOR ḤARĀRAT-E-GHARĪZIYYA

Blood formed from foods and drinks, rooh produced from air when it goes to the heart after mixing with blood in the lungs, and rutubat ghariziyah, which is pervaded to an individual at the time

of conception, are the three substrates attributed to the production and maintenance of Ḥarārat-e-gharīziyya by ancient Unani physicians (zygote formation).

### ḤARĀRAT-E-GHARĪZIYYA AS AN INSTRUMENT/TOOL FOR QUWA (FACULTIES)

Every organism, whether living on land or in water, possesses innate heat, which is responsible for maintaining the functions (actions and responses) of the body. All the body functions are carried out by various quwa (faculties) through their tools or instruments. There are three main quwa (faculties) in the body, i.e., quwwat-e-nafsaniyah (psychic faculty), quwwat-e-tabiah (nutritive faculty), and quwwat-e-haiwaniyah (animal faculty). The psychic faculty arises from the brain, and its vehicle is rooh-e-nafsāni (psychic spirit), which employs nerves as a tool. The heart is the source of animal faculty, with animal spirit serving as its vehicle and arteries serving as its tool. The natural faculty originates from the liver. The natural spirit is its vehicle and is carried via veins. The common tool for all these faculties is innate heat, for which the psychic faculty is capable of harkat (motivity), animal faculty has the capacity to perfuse the whole body, and the natural faculty is capable of digestion of food and furnishes the body with nutrition. The origin of this innate heat and of all the spirits comes from the heart. But its seed did not possess the ability to always produce innate heat and spirit. Therefore, by means of roohe tanafas, resorting to the external air, the innate heat present within the cells of the heart benefits the spirit, and this is the reason that the animal faculty is superior to all other faculties. If this ability does not exist, it creates a natural warmth that cannot perform the functions of the remaining abilities, and also because other faculties and their functions appear only after the appearance of animal faculty and disappear in the absence of it.<sup>10</sup>

The psychic functions that appear in all organs are carried out with the help of innate heat. The brain mobilises and activates the respiratory organs in order to carry the substance of animal spirit from outside to within the heart, and in this way, the brain is like a tool for the heart. The heart then supplies the brain with innate warmth.<sup>10</sup>

Every compound organ is made up of simple organs (aazā-e-baseetah/tissues) in such a way that there is an admixture of simple organs, which is possible only when concoction /maturation occurs, and this maturation is brought by heat. Thus, it is necessary that heat be the tool for nutritive faculty, and in the formation of part or whole, it is needed equally. In this situation, the presence of this heat is a must in the liver and other organs associated with nutrition and digestion. It is not correct that the liver is self-sufficient among organs of nutrition and that all organs of nutrition, except the liver, complete their functions with the help of the liver while the liver itself performs its functions as stated by Galen and others. Because "Galen has himself admitted that a number of arteries from the heart reach to the liver and their function is to provide heat to the liver, and if the liver was self-sufficient, then this heat would have been meaningless." The movement of the heart (contraction and relaxation) is like a blazing flame, so when the body has enough or sufficient oil, the flame does not extinguish but remains burning continuously. The same is true for the human body's innate heat, which keeps the heart active (movement). Innate heat is maintained by the rutubat (aquosity), which is always present in sufficient quantities in the human body. The innate heat ascends from the heart to the brain through two vessels, and the brain becomes warm and works as a tool for nafs-e-natiqah. Nafs-e-natiqah uses the organs and senses of the body during wakefulness and guards these senses during sleep. The brain does not remain always active, rather it

sometimes sleeps and sometimes remains awake, but the heart always remains active because its movement/activity is nari (combustive) and stops only at the end of life, i.e., death.

According to Ibn Rushd, different quwa (faculties) need different amounts of Ḥarārat-e-gharīziyya. He also mentions that the heat for each sense is different and that the heat involved in nutritive faculty is not the same heat that is responsible for sensation and perception. Psychic heat-related to sense is different from that psychic heat, which is related to movements, and the difference between the two is according to the specific/special temperamental heat of each and every organ due to which it performs its functions. Therefore, the temperament of the asabe moharrika (motor nerves) must be the same as that of the asabe hissia (sensory nerves) so that the heat (innate heat) required for carrying out their functions can be maintained at an optimum level.

#### DISEASES AND ḤARĀRAT-E-GHARĪZIYYA (INNATE HEAT)

Any alteration, i.e., decrease, loss, or disturbance of function of the body or an organ, is referred to as a disease in the Unani system of medicine and is attributed to Sue Mizaj, Sue Tarkeeb, and Tafarruq Ittisal. But as explained earlier, the normal functioning of all organs with normal mizaj also depends upon the innate heat, as mentioned by Ibn Rushd, saying that it is the tabai hararat (natural heat).

In Galen's analysis of disease causation, the other significant components apart from the humours are Ḥarārat-e-gharīziyya (innate heat) and roohe ghareezi (innate pneuma). Sigerist elaborates that the body mobilises all its defensive forces and attacks the raw, faulty humour, which under the influence of innate heat becomes cooked, ripe, and ready to be expelled. The expulsion is quick in the form of a crisis, or slow and gradual. Thus, when the innate heat is not enough to concoct the offending humor, it leads to its retention in the body and may result in its putrefaction, causing fevers and other diseases. When the concoction in the liver is abnormal, the innate heat is compromised and the digestive powers are weakened. Less blood and more melancholic humours are formed, causing congestion and obstruction to the flow of spirits. It is observed that maintaining the balance of heat to produce healthy humour is important.

#### FACTORS CONTRIBUTING TO ḤARĀRAT-E-GHARĪZIYYA

1. Excretion and retention: excretion of the waste matter and retention of the useful matter improve Ḥarārat-e-gharīziyya. Any increase in excretion and retention weakens the powers.
2. Sleep: Normal sleep powers the Ḥarārat-e-gharīziyya and it increases life, especially for old people. Ibn Sina wrote, "Every type of sleep helps digestion, but sleeping on the left side over the stomach is more helpful because it covers the liver." Sleeping on the right side, due to the position of the stomach on the upper part of the stomach. Sleeping under the Chinar tree powers the Ḥarārat-e-gharīziyya.<sup>11</sup>
3. Normal air influences the Ḥarārat-e-gharīziyya and increases life expectancy. It should be clean and have a pleasant odor. It should not contain vapors, carbon dioxide, or any other impurities. It should be neither too cold to cause shivering nor too hot to cause sweating.
4. Sweet Almonds
5. Ma-ul leham

#### FACTORS DECREASING HARARAT-E-GHARIZIYA<sup>10,11</sup>

1. Sorrow
2. Farah Mufrat (Excess of Happiness).
3. Anger
4. Fear and anxiety
5. Excessive food intake
6. Abundance of water.
7. Excessive consumption of sour foods
8. Excessive consumption of salty foods
9. Excessive sexual intercourse
10. Excessive stays in a hammam
11. Excessive use of cold water.
12. Excessive thirst.
13. Unpleasing air
14. An abundance of wakefulness
15. Exposure with an abundance of chill and hot air.

#### CONCLUSION

Ḥarārat-e-gharīziyya is a key concept in the Unani medical system and a tool of Tabiyat. With the help of Ḥarārat-e-gharīziyya, tabiyat maintains all body functions performed through various Quwa. Each faculty needs Ḥarārat-e-gharīziyya for its functions. Any deviation in this hararat results in disturbed body functions and illness, and in such cases, one always tries to bring the normal Ḥarārat-e-gharīziyya back, so that all power can work properly. Heat is one of the factors to which Avicenna attributes the existence of life; he states, "Life is sustained by heat, and grows by moisture." He attributes health preservation to the normal level of innate heat, senescence to its weakness, and its extinction to death. Innate heat is either elemental or God-gifted and acquired at the time of fertilisation with rutubate Gharizia (innate fluid). Innate fluid acts as a medium for innate heat, and both are responsible for generating simple and compound organs and bestowing a complete temperamental shape to the body. The very small amount of innate fluid that is continuously lost during bodily functions on a daily basis, causes a gradual decrease in innate heat, causing a gradual decrease in innate heat. Since innate heat is elemental or temperamental heat, reduction may lead to Sue- Mizaj (abnormal temperament) at the organ level, and the faculties of that particular organ get weak and, ultimately, functions are disturbed. At a particular time, when the innate fluid is utilised by innate heat completely, the person will die. This is the concept of natural death in the Unani System of Medicine.

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