

DESCRIPTION OF *RUH* (PNEUMA) ACCORDING TO UNANI MEDICINE AND ITS MODERN PERSPECTIVES

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Abstract

Human body is considered to be composed of seven component of the body known as al-umur-al-tabiyah (factors of physic). *Ruh* (Pneuma) is one of the seven factors of physic, without which the maintenance of health is impossible. *Ruh* is gaseous substance, obtained from the inspired air. *Ruh* helps in all the metabolic activities of the body. When action and reaction among *Ruh* and *akhlatlat latifah* takes place then the energy and heat (*hararat-e-ghariziya*) are produced. *In Unani classical literature there are many views about Ruh*. In present paper general description about *Ruh according to Unani Medicine* has been discussed and tried to give it a scientific orientation and correlate the ancient insights with the modern perspectives.

Key words: Unani Medicine, *Ruh*, Factors of physic, Inspired air, *Hararat-e-ghariziya*.

1. Introduction

According to Unani system of Medicine, the human body is composed of three kinds of things: (1) The solid parts are known as *aza* (organs) (2) The liquid parts are known as *rutubat asliyah* (real fluids) (3) The gaseous part which is the source of vitality and continuation of life, is known as *Ruh* (Pneuma). The concept of *Ruh* is ambiguous, which is misleading because it is used as different meanings in religion, philosophy and Unani Medicine. *Unani* physicians have described *Ruh* in different ways. Some Unani physician has mixed up psyche (*Nafs*) with pneuma (*Ruh*). Some have described *Ruh* as a non-physical entity. In religion and philosophy it has been described as synonymous to soul and psyche (*nafs*). However this meaning is not taken in Unani system of Medicine. Some physicians have misconceived *Ruh* as energy and contained that *Ruh* is produced by *istihala* (metabolism) of *akhlat latifa*. *Ruh* is a gaseous substance, obtained from the inspired air, which produces energy and heat by oxidation of energy yielding substances. Unani physicians have divided *Ruh* into three categories; *Ruh-i-ḥaiwāni* (Vital Pneuma), *Ruh-i-nafsāni* (Mental Pneuma) and *Ruh ṭabīʿī* (Natural Pneuma).

2. The literal meaning

The meaning of word *Ruh* is described in some dictionaries, are given below:

- *Ruh* is an Arabic word which is synonymous with *reeh*, which means air.
- Ingredients derived from medicinal plants, etc.

- Sometimes it is used for that thing on which life depends.
- Sometimes it is used for those minerals which evaporate after converting in to vaporous, like salamonia, mercury, etc.
- Sometimes it is used for power (*quwwat*)
- In religion and philosophy, *Ruh* has been described as synonymous to soul and psyche (*nafs*)

3. Definition of Pneuma (*Ruh*)

Majusi and Some physician have described *Ruh* as a non-physical entity and they have held *Ruh* as a vehicle of *nafs*.

Ibn sina says “The air is element (*unsur*) for our body and *arwah*. He says further “This air is a constituent of our body and soul, In addition, it is a sort of help which constantly reaches to soul and sustain it .He states at another palace that *Ruh* is produced by delicate and vaporous part of humours in the same way as organ are formed by dense and earthen part of humours.”

According to Galen

“*Ruh* is a part of atmospheric air which entered the lungs from the air through the respiration and then into the heart.”

Abu Sahl Masihi has the same opinion as Galen said about *Ruh*. He writes:

“*Ruh* is inhaled inside through the respiration and there it undergoes some changes and gets converted into *Ruh-e-haywani* (animal soul)”.

Hakim Ali Gilani accepts that production of the *Ruh* begins in lungs.

S.I. Ahmad defines:

“*Ruh* is a gaseous substance, obtained from the inspired air; it helps in all the metabolic activities of the body; it burns the *akhlat-e-latifah* to produce all kinds of *quwa* (powers) and *hararat garijiah* (innate heat); it is the source of vitality for all the organs of the body”

Substance (*Madda*) of *Ruh* and Its Genesis

According to Ibne Sina and his followers substances of *Ruh* are *jouhar Ruh* (essence of inspired air) and *khilt lateef* (fine humours). When *Lateef akhlat* (fine humours) reaches the left ventricle of heart together in blood, then it stops there for a while. That is why further *nudj* is occurred in that *lateef akhlat* (fine humours) in presence of essence of inspired air, resulting in a very fine gaseous matter that is called *Ruh*. Hence, *Ruh* cannot be called the only oxygen, present in the body.

According to Galen and Abu Sahl Masihi, Substance of *Ruh* is the air which is inhaled through the respiration.

It has been established by Unani scholars that when the air is inhaled through inspiration, it reaches the alveoli of the lungs, the *roohi* part (O₂) of the air is absorbed into the blood and becomes a part of body; and then it is called as *Ruh*. The air or oxygen outside the body is not called as *Ruh*. However, it enters inside the body and virtually becomes its part, it becomes *Ruh*.

- 4. Types of *Ruh*:** Unani physicians have described *Ruh* into three categories; *Ruh-i-haiwāni* (Vital Pneuma), *Ruh-i-nafsāni* (Mental Pneuma) and *Ruh ṭabī‘ī* (Natural Pneuma).

Explaining these three kinds of *Ruh*, *Ibn Abbas Majūsī* writes, *Ruh ṭabī‘ī* (natural pneuma) is found in the *Kabid* (liver) and is distributed throughout the body by veins. The existence, growth and functions of *quwwat-i-ṭabī‘ī* depend upon *Ruh-i- ṭabī‘ī*. It is produced in the liver by pure blood devoid of other humours. *Ruh-e-Nafsaniya* (Mental pneuma) is generated in the heart and reaches every part of the body through its arteries. *Quwwat-i-haiwāni* is maintained, nourished and protected by this *Ruh*. It is produced in the heart by pure and clean blood and air which enters the body by inhalation.

Abu sahl Masihi says that *Ruh-i-haiwāni* (Vital Pneuma) is generated in the heart and reaches the brain through two arteries and is transformed in to the *Ruh-i-nafsāni* (Mental Pneuma) and then substance of Ruh goes from the heart to liver and is transformed in to *Ruh ṭabi'ī* (Natural Pnuma).

S.I.Ahmad says that when the Ruh reaches to the liver it is called as *Ruh-e-Tabiyah* (Natural Pneuma). Similarly when it reaches to the heart it is called as *Ruh-e-Haiwaniyah* (Vital Pneuma); and likewise when the Ruh reaches to the brain, it is called as *Ruh-e-Nafshani* (Mental Pneuma). Thus, the essence of Ruh is the same, but the difference is only of the name according to respective aazae raisah (vital organs) particularized for each of the faculties.

The average human body of 139 lb (63 kg) consumes 250 ml of O₂ each minute. The major single-organ oxygen consumers are the liver, brain, and heart (consuming 20.4%, 18.4%, and 11.6%, respectively), while the sum total of all the body's skeletal muscles consume about 20%. In addition, the kidneys use up about 7.2%, and the skin uses 4.8% the rest of the body consumes the remaining 17.6% of the oxygen. Oxygen use can also be measured per 100 gm of an organ to indicate concentrations of use; as such, heart usage is highest, followed by the kidneys, then the brain, and then the liver.

Table: 01

Consumption & Concentration of Oxygen in different vital organs

Name of the organ	Oxygen Consumption	Oxygen concentration
Liver	20.4%	4% to 14%
Heart	18.4%	4% to 14%
Brain	11.6%	0.5% to 8%

5. Functions of Ruh:

- (1) *Ruh* produces energy in the body which keeps all the *quwā* (faculties) functioning.

The body can be described as a combustion engine. The fuel needed for this process comprises sugars and fatty acids (fat deposits in our cells), which we gain by eating food. In order to burn this fuel, Rooh (oxygen) is needed, as it is with any fire. Thus, we breathe because oxygen is needed to burn the fuel (sugars and fatty acids) in our cells to produce energy. Aerobic cellular respiration is the process by which cells use oxygen to help them convert glucose into energy. This type of respiration occurs in three stages: glycolysis; the Krebs cycle; and electron transport phosphorylation. Oxygen is not needed for glycolysis but is required for the rest of the chemical reactions to take place. During this stage, every molecule of glucose is broken down into a carbon-based molecule called pyruvate, two ATP molecules, and two molecules of NADH. Once this reaction has occurred, the pyruvate goes through a further chemical reaction called fermentation. During this process, electrons are added to the pyruvate to generate NAD⁺ and lactate. In aerobic respiration, the pyruvate is further broken down and combined with oxygen to create carbon dioxide and water, which are eliminated from the body. The second stage is called the Krebs cycle. This cycle consists of a series of complex chemical reactions that generate eight more molecules of NADH and two molecules of another electron transporter called FADH₂. The final stage is called electron transport phosphorylation. During this stage, NADH and another transporter molecule called FADH₂ carry electrons to the cells. Energy from the electrons is converted to ATP. Once the electrons have been used, they are donated to atoms of hydrogen and oxygen to make water.

Ruh has also important role in beta-oxidation, in which, fatty acids are converted to acetyl-CoA in the presence of air, various cofactors and enzymes. Each cycle of beta-oxidation shortens the fatty acid chain by two carbon atoms and produces one equivalent each of acetyl-CoA, NADH, and FADH₂. The acetyl-CoA is metabolized by the citric acid cycle to generate ATP, while the NADH and FADH₂ are used by oxidative phosphorylation to generate ATP. Dozens of ATP equivalents are generated by the beta-oxidation of a single long acyl chain.

- (2) *Ruh* produces *ḥarārat-i-gharīziyya* (innate heat) in the body.

Heat in our bodies is mostly the by-product of the normal metabolic functions. *Ruh* helps in all the metabolic activities of the body. When action and reaction among *Ruh* and *akhlātlat latifah* takes place then the energy

and heat (*hararat ghariziya*) are produced. Thereby the organs of the body become able to continue their respective functions. It is why *Abu Sahl Masihi* has called the *ghiza* (nutriments) as *waqud* (fuel) and external air as *maddah al- ruh* (precursor of *Ruh*).

(3) *Ruh* keeps all the organs of the body alive.

Ruh (oxygen) supports our life, and *plays a vital role in the breathing processes and in the metabolism of the living organisms*, build-up of new tissue, replacement of old tissue, conversion of food to energy, disposal of waste materials, reproduction - all the activities that we characterize as "life." All of our muscular movements, the heartbeat, brain and nerve actions, and nearly all the rest of our physiology depend directly or indirectly on an energy-transfer molecule called ATP. Life would cease without it, and we have only enough ATP in the body to support a human life for less than 1 minute. Thus, life of human body, every organ and every cell depend upon *Ruh* (Oxygen)

Unani physicians' say the source and sustainer of life is *Ruh* which is the cause of vitality in the organs. It is our day to day observation that any obstruction in the respiratory tract which stops entry of air into the lungs causes sudden death of the individual. Similarly, obstruction of blood supply to any organ causes death of the organ, resulting in gangrene, hence blood is known as *hamil-i-Ruh* (carrier of pneuma). This is all due to the cessation of supply of *Ruh*. *Ibn sina* says, in the opinion of Aristotle, first of all *mabda al awwal* or *nafis ula* or *tabi'at* (human nature/physis) pays its attention towards *Ruh*, thereby all the *quwā* of the body are produced.

6. Conclusion and Discussion

From the above description, it can be inferred that *Ruh* is *light and gaseous matter*; obtained from the inspired air. When the air is inhaled through inspiration, it reaches the alveoli of the lungs, the essence of the air (O₂) is absorbed into the blood, *Ruh* (Oxygen) comes into existence. So, *ruh* is nothing but Oxygen. *Ruh* is found everywhere in the body. Of course, there is difference in its concentration and consumption. Thus, the essence of *Ruh* is the same, but the difference is only of the name according to respective *aazae raisah* (vital organs) particularized for each of the faculties. *Ruh* helps in all metabolic activities of the body. It burns with *akhlat-i-latifa* (light part of humours) to produce heat (*hararat-e- ghariziah*) and energy, which keeps all the organs of the body functioning and alive.

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