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ISSN 2321 - 6328

Review Article

CLASSIFICATION OF TANAFFUS (RESPIRATION) WITH SPECIAL REFERENCE TO UNANI MEDICINE: A REVIEW

Farukh Hasan ¹, Azizur Rahman ^{2*}

¹PG Scholar, Dept of Mahiyatul Amraz, National Institute of Unani Medicine, Kottigepalya, Magadi Main Road, Bangalore, India

²Assistant Professor, Dept of Mahiyatul Amraz, National Institute of Unani Medicine, Kottigepalya, Magadi Main Road, Bangalore, India

*Corresponding Author Email: azizalig@gmail.com

Article Received on: 03/05/24 Accepted on: 20/06/24

DOI: 10.7897/2321-6328.12495

ABSTRACT

Breathing or respiration has been essential in human life since ancient times. Philosophers and physicians of ancient times such as Hippocrates, Galen, and others had already written about breathing in literature. These antiquated viewpoints established the foundation for contemporary respiratory physiology and medicine. The Hippocratic literature established the importance of breath in maintaining the body's humour balance, whereas Galen elaborates on the anatomical and functional elements of respiration. Literature related to respiration is surveyed from various Unani classical books and their translations, commentaries, previous dissertations, journals, proceedings, etc. Hippocrates and Ibne Sina mentioned ten and seventeen types of respiration respectively. Ibne Sina also explained five special types of respirations. This research paper aims to explore and analyse the understanding and significance of respiration in the Unani system of medicine. And also provides a comprehensive overview of how ancient philosophers understood respiration.

KEYWORDS: *Tanaffus*, *Nafas*, Respiration, *Nafas Azim*, Unani medicine.

INTRODUCTION

Throughout history, various medicines and treatments have been developed for Respiratory health. One of the ancient systems with a unique explanation of respiration is the Unani system of medicine (USM), which dates back to Greco-Arabic times. This broad, integrated perspective borrows heavily from philosophy, physiology, and therapeutic practices, focusing on the equilibrium of bodily humours and the interaction between physical and environmental components. Respiration, the process of exchanging gases with their environment is fundamental to life. It involves many structures and mechanisms of the body to provide oxygen and remove carbon dioxide from the body as well. In human health, respiration is essential to maintaining homeostasis and overall health.

According to USM, the lungs are made up of five different types of essence.¹ Tracheal branches, commonly known as '*Urūq khashna*' (Bronchioles), Lung essence, Pulmonary artery, Pulmonary vein, and Pleural membrane that covers the lungs. Ibn Hubal Baghdādī stated in his book *Kitāb al-Mukhtārāt fi'l Tibb*, the expansive movement of the diaphragm facilitates the breathing process.²

Galen and other physicians often explained two benefits of respiration. The first benefit is to receive fresh air through breath to optimise the innate heat, and the second is to expel bad air because inappropriate or bad air may disturb the innate heat. And according to some other physicians, the second benefit is that the innate heat takes its food from the air that enters and acts as a substitute for the dissolved part of the soul.³⁻⁶

The most vital organ in the body, the lungs is primarily impacted by *Asbāb Bādiya* (External Causes i.e., trauma, cold, heat, hot or cold food as well as psychological factors like anger or fear). The stimulating faculty *Quwwat Ḥaywāniyya* (vital faculty) of the lungs, the respiratory organs, and the need to breathe are the factors, that are responsible for inhaling fresh air and exhaling hot and unpleasant air. If these three factors remain in a normal state, respiration will be normal and natural. If there is an alteration in one or two factors then respiration deviates.⁷ According to Unani's concepts, exposure to different types of air could affect a person's temperament. Thus, a person's constitution and health can be influenced by many types of air, including hot, cold, moist, and dry.⁸

In Unani medicine, there are various types of respiration, each with special features and purpose. These include not just simpler forms of respiration but also complex mechanisms that involve the entire respiratory system. The goal of this review is to clarify the heterogeneous concepts of respiration with historical background and discuss the theoretical basis of the respiratory system in Unani Medicine.

CLASSIFICATION OF RESPIRATION: Figure 1.

According to Ibn Sīnā, the following are the types of Respiration:

***Nafas 'Azīm* (Deep Respiration):** ^{3,7}

In this type more than a moderate amount of air is inhaled in a single inhalation, causing an unnatural expansion in the respiratory organs and the smoky vapours are ejected in a single exhalation.

Nafas Shadīd: ^{3,7,9}

It is a type of deep respiration that occurs when the faculty of the lung is strong, and the body needs more air. However, the respiratory organs do not obey and support them. So, in this case, both the inhalation and the exhale have increased in strength and intensity.

Nafas Shāhiq (Long and Deep Respiration): ^{3,7}

It is also a type of deep respiration in which the extra accessory muscles of the upper chest are involved, while the diaphragm and the lower chest muscles remain stationary. This condition develops when there is a severe need for fresh air or blockage of the airways, and the diaphragm and lower side of the chest cannot move for any reason. This type of respiration is typically associated with epidemic fever. It is also called respiratory distress.

Nafas Şaghīr (Shallow Breathing): ^{3,7}

Nafas Şaghīr is the opposite of deep respiration, in that, the lungs inhale less air than moderate quantity and have less expansion in the respiratory organs. As a result, a small amount of smoky vapour is emitted. The causes of shallow breathing are weakening of vital faculty, less need for respiration, and dysfunction of the respiratory organs. Frequent shallow breathing indicates a weakness in faculty, and if it is infrequent, it indicates a decrease in the need for breathing.

Nafas Tawīl (Long Breathing): ^{3,7}

In long breathing, the period of inhaling fresh air and exhaling smoky vapour is prolonged. Deep respiration differs from long breathing in such a way, that more air is inhaled in deep breathing than in moderate respiration. Similarly, more air is inhaled in long respiration, but the difference between the two is that, the air is absorbed rapidly in deep respiration and slowly in long breathing. In long breathing, the lungs are not able to absorb the air rapidly due to pain or tightness.

Nafas Qaşīr (Short Breathing): ^{3,7}

Compared to deep breathing, this kind of breathing takes less time to inhale and exhale. The reason for this type is a weakness in the respiratory organs, which includes the diaphragm and muscles also, or a malfunction in those organs. Frequency is the result of pain and dysfunction in the respiratory organs or their environs, whereas infrequency denotes the absence of innate heat.

Nafas Sarī (Rapid Respiration): ^{3,7}

In this type, the movement is completed in a short time and the need is also fulfilled at the same time (The need for respiration is to inspire fresh air and exhale smoky vapours). The reason for this breathing is an extreme demand that cannot be fulfilled by prolonged breathing; consequently, to fulfil the body's need, *Ṭabī'at* (medicatrix naturae) increases the breathing rate.

Nafas Baṭī (Slow Respiration): ^{3,7}

It is opposite to rapid respiration, which is characterised by a breath that takes longer than usual to finish in one breathing cycle. Furthermore, the causes contradict rapid breathing, and pain also leads to slow breathing.

Nafas Mutawātir (Frequent Respiration):

Breathing of this type are characterised by a shorter duration of rest between two movements. This condition arises when there is an extreme need for breathing that cannot be fulfilled by rapid, deep breathing.

Nafas Mutafāwīt (Irregular Respiration): ^{3,7}

This type of respiration is opposite to frequent respiration. That is characterised by an increase in the duration of rest between two

movements. It is caused by severe coldness or *Suqūṭ al-Quwwa* (loss of vitality).

Nafas Ḥār (Hot Respiration): ^{3,7}

In this type of breathing the heat is felt in the respiratory organs as well as in the breathing itself, the reason for breathing is the domination of heat.

Nafas Bārid (Cold Respiration): ^{3,7}

It is opposite to hot respiration, which is due to the suppression of innate heat and the dominance of the cold on the heart and it indicates the loss of vitality. Cold breath is the worst symptom, especially in hot diseases.

Nafas Muntin (Fetid Respiration): ^{3,7}

In this type, foul smells come in respiration. It differs from other types of foul smells in such a way that other types of foul smell occur all the time, whereas fetid breath occurs only during exhalation, and this condition indicates the presence of a '*Ufūnat* (sepsis) in the chest or infected humour or pus in the trachea and lungs.

Nafas Mankharī: A very serious type of dyspnoea, characterised by the movement of the ala of the nose. Which is caused by severe narrowness or accumulation of pus and humours in the lungs. ³

Tanaffus during Dhubaha (Acute Inflammation of Muscles of Fauces) and Ikhtināq al-Raḥim (Hysteria): In this breathing, expansion of the lungs is deep, associated with frequent and rapid respiration according to the need for moderation of vital pneuma. ³

Changes in Tanaffus in Different Ages based on Kayfiyāt Arba'a (Physical Properties) or Aḥwāl-i-Badan (States of the Body):

In children, because their faculties are still developing, so, they require more frequent, rapid, and deep breathing to eliminate waste (*Dukhān/smoke*) through respiration. The respiration of a young man is *Nafas 'Azīm* but it is slow and less frequent because azam is sufficient for the fulfilment of the needs of breathing. *Sinn-i-Kuhūlat* (age of decline) means those whose age is from thirty-five years to sixty years, their respiration is lesser in deep, rapid, and frequent, but not as low as elderly persons. The respiration of *Mashā'ikh* (elderly persons) is short and shallow, slower and infrequent. ^{3,10,11}

Effects of Seasons and Water on Respiration:

The respiration becomes Deep, rapid and frequent during the hot season. However, in contrast to the hot season, Short, shallow, slow, and infrequent breathing occurs during the cold season. In the Autumn season: Respiration is irregular and inclines towards weakness during this season. The irregular respiration is caused by the winds fluctuating rapidly at night, morning, and evening throughout this season. Because of the frequent changes in the external atmosphere of the body, the faculty becomes weak, resulting in irregular respiration. In the Spring season: Respiration is moderate but powerful. During bathing with hot water, the respiration becomes Deep, rapid, and frequent and while bathing with cold water: It is opposite to hot water i.e., Short and shallow, slow and infrequent. ^{10,11}

Tanaffus during Marz (Respiration during Diseases):

Any condition where the temperature rises. For example, breathing becomes deep, rapid, and frequent during a fever, especially when there is more heat inside or around the heart. On the other hand, in some diseases where the temperature is low, breathing is lessened or sometimes absent entirely such as in *Ikhtināq al-Raḥim* (Hysteria). ¹¹

Nafas Mumtali (Full Respiration):

It is a type of *Nafas Şaghîr* (Short Breathing) that occurs due to increased intra-abdominal pressure. e.g., in pregnancy, ascites, and after taking food. The diaphragm is unable to expand or move because of these preceding causes that have compressed and constricted it.

Respiration during Bath: In a person who takes a bath in warm water, respiration will be deep due to the need for vital pneuma moderation or softening in respiratory organs. When bathing in cold water, the breathing will be opposite i.e., shallow, slow, and infrequent.

Respiration during Sleep: If the *Quwwa* (Faculty) is strong, the breathing will be deep and infrequent, and the contraction will be stronger and faster than the relaxation because digestion is more active during sleeping.¹⁰

Respiration during Pain: When a person has chest pain, respiration is more inclined towards slow breathing than short and shallow breathing, because there is a need for more retention and less lung expansion. So, they required slower expansion than rapid expansion.

Intiqāl-i-Nafas (Changes in the State of Respiration):

This is a description of the transitions and changes between *Aẓîm* (Deep), *Sarî* (Rapid), and *Mutawâtîr* (Frequent) breathing, as well as their opposites. When there is more need (Moderating the heat of the vital pneuma and removing smoky vapours through respiration) with no difficulty in respiratory organs, the respiration becomes deep. If still there is more requirement for air, the rate of respiration also increases, and if further air is required, breathing becomes frequent.³ If the need turns to decrease, there will be a decrease in the frequency, and after that the speed decreases, and finally, the deep respiration comes to a normal state. Similarly, if there is no difficulty in breathing, all three characteristics of respiration depend upon the need.^{11,12}

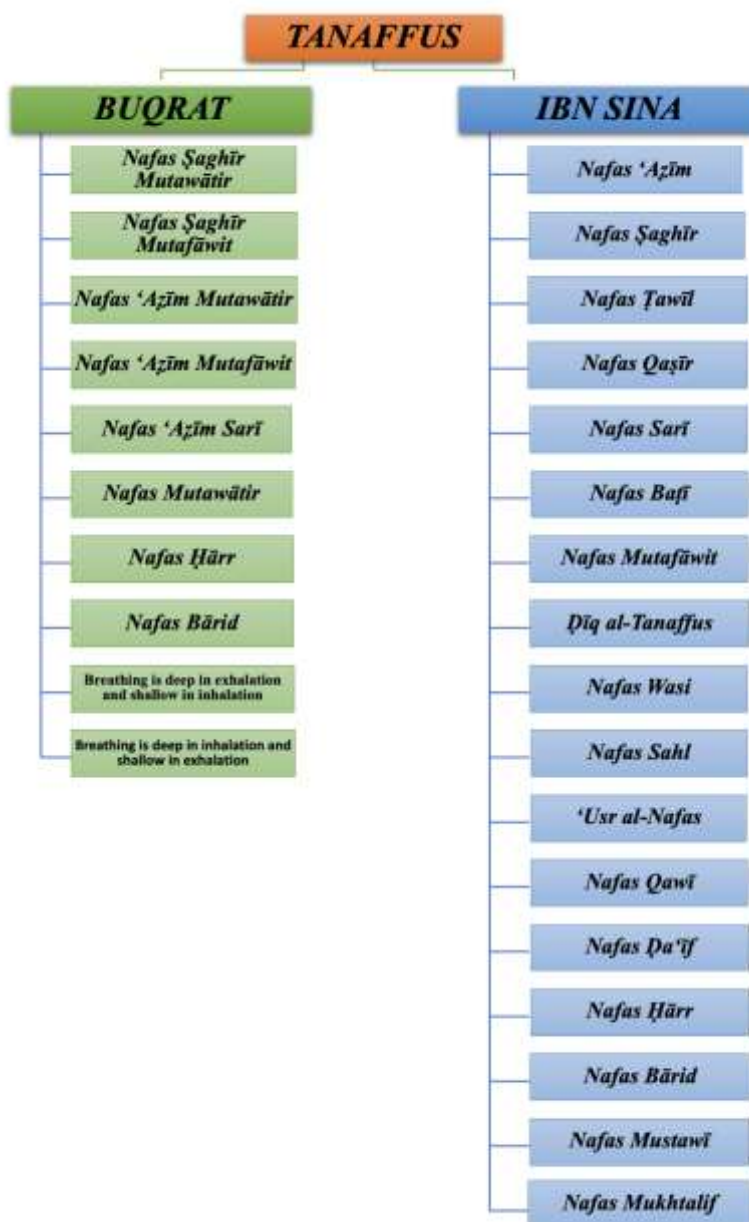


Figure 1: Classification of Tanaffus



Figure 2: Special types of Tanaffus

ACCORDING TO BUQRĀṬ, RESPIRATIONS ARE FOLLOWING TYPES: ^{12,13}

- 1- *Nafas Ṣaghīr Mutawātir* (short and Shallow Frequent Breathing).
- 2- *Nafas Ṣaghīr Mutafāwit* (shallow and Infrequent Breathing).
- 3- *Nafas 'Azīm Mutawātir* (deep and Frequent Breathing).
- 4- *Nafas 'Azīm Mutafāwit* (deep and Infrequent Breathing).
- 5- Breathing is Deep in Exhalation and Shallow in Inhalation.
- 6- Breathing is Deep in Inhalation and Shallow in Exhalation.
- 7- *Nafas 'Azīm Sarī* (Deep and Rapid Breathing).
- 8- *Nafas Mutawātir* (Frequent Breathing).
- 9- *Nafas Hārr* (Hot Breathing).
- 10- *Nafas Bārid* (Cold Breathing).

ACCORDING TO IBN SINA, THE FOLLOWING ARE SOME SPECIAL TYPES OF RESPIRATION: ^{3,14,15}
(Figure 2)

- 1- *Nafas Munqati'* (Interrupted Respiration)
- 2- *Nafas Mutadā'if* (Double Respiration)
- 3- *Nafas Khunāqī* (Asphyxic Respiration)
- 4- *Nafas Mustakrah* (Forced Respiration).
- 5- *Nafas Dhu'l Fatra* (Intermittent Pulse) occurs in diseases like *Sakta* (Unconsciousness).

CONCLUSION

The lungs are crucial organs for the survival of individuals. The purpose of the lungs is to be as light as a sponge, porous, soft, and fragile to permeate the air and remove waste easily. In *Kitāb al-Mukhtārāt fi'l Tibb* Ibn Hubal Baghdādī, the expansive movement of the diaphragm facilitates the breathing process. According to Galen, the act of breathing is a function of voluntary faculty (*Quwwat Irādiyya*), which means the ability to choose whether or not to breathe. There are various types of respiration described in USM based on diseases, sleep, bath, seasons, pain, etc. Unani's theory holds that the quality of air a person is exposed to can affect their temperament. Different types of air, such as hot, cold, moist, and dry, can influence a person's constitution and health. In this study, classification of the respiration has been described in the context of Unani literature. In conclusion, Unani knowledge of respiration not only contributes to the historical and

cultural background of medicine but also has practical applications for improving respiratory health.

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Cite this article as:

Farukh Hasan and Azizur Rahman. Classification of Tanaffus (respiration) with special reference to Unani medicine: A Review. *J Biol Sci Opin* 2024;12(4):41-44. <http://dx.doi.org/10.7897/2321-6328.12495>

Source of support: Nil; Conflict of interest: None Declared

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