

## The Concept of Lifestyle Factors, Based on the Teaching of Avicenna (Ibn Sina)

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### Abstract

According to the definition stated in the beginning of the “Al-Qanun fi al-Tibb” (the Qanun of Medicine); medicine is a science, from which one learns the states of the human body; health and disease and what causes them, in order to preserve good health when it exists, and restore it when it is lacking. Based on this issue, Avicenna believes that medical science belongs to all human without any limitation, and maintenance of health is one of its prime objectives. He states that many disorders are related to errors in the 6 factors, which are essential for maintaining health and preventing diseases. Avicenna described these six essential factors (lifestyle factors) in his masterpiece, Qanun of Medicine, as “Asbab-e-Settah-e-Zaruriah.” Based on the teaching of Avicenna, the first step for maintaining health and approaches to treatment is modification of lifestyle factors, including of nutrition, physical activity, etc.

**Keywords:** Al-Qanun fi al-Tibb, Asbab-e-Settah-e-Zaruriah, Avicenna, Ibn Sina, lifestyle factors

### INTRODUCTION

According to research carried out suggestive evidence supports that non-pharmacologic treatment modalities like lifestyle modification play an important role; alone or alongside effective modern pharmaceutical, surgical and device therapies in relieving symptoms and improving prognosis of a large number of different diseases.[1,2,3,4,5,6,7] For instance, as much as 70% of cardiovascular diseases can be prevented or delayed with dietary and lifestyle modifications.[8] This study presents Avicenna's treatise “Al-Qanun fi al-Tibb” (the Qanun of Medicine) and its lifestyle factors-related chapters.

### METHODS

The traditional concepts of medicine discussed in this article are based on four major sources; they are comprised of Al-Qanun fi al-Tibb by Ibn Sina, Zakhirah-E-Kharazm Shahi by Jorjani, Al-Aghraz al-Tibb va al-Mabahes al-Alaieah again by Jorjani and Kholasatol Hekmah by Aqili Khorasani. We also consulted the contemporary work of Anwar Ansari Z “Quillat-Un-Naum on body weight.” In order to establish a relationship between Traditional medicine and modern medical findings we searched PubMed, Scopus, and ScienceDirect. Finally, the information gathered from all sources was compiled in 6 sections to cover the subject of six essential factors.

### AVICENNA AND HIS MASTERPIECE

Abu-Ali al-Husain Ibn Abdullah Ibn-Sina, more commonly known as Ibn Sina (or Avicenna) was an Iranian physician of the tenth and eleventh centuries. He is a great scholar, who belongs to all people and nations all over the world, regardless of any ethnic, religious, and political constraints. Should be noted that, “Avicenna” is merely the eastern transliteration of the “Ibn Sina.” He was a great clinician and teacher and one of the most important scientists of the ancient world.[9] Avicenna's medicine was the symbol of world medical mainly through the influence of his famous book “Al-Qanun fi al Tibb.” This book was used as a reference book for students of medical sciences in the medical school. Avicenna's masterpiece; Canon of Medicine (al-Qanon fi al-Tibb), which is a general treatise on medicine, is divided into 5 books.

The first book concerned with medical principles and general anatomy (Kolliat), the second is a reference for materia medica (mofradat), the third contains organ-specific diseases, the fourth discusses systemic illnesses (i.e. fevers) and traumatic injuries, and the fifth contains descriptions of compound drugs (Qarabadin).[10,11] Avicenna in Qanun of Medicine scientifically reviews all the medical knowledge studied by the ancient Greek and Muslim scientists. Ibn Sina in his textbook similar to researchers in the modern era stated analysis of diseases, which affect different organs will lead the methods of keeping these organs in ideal health.[12] The Qanun as a medical text of great authority follows the philosophy of the ancient tradition of four elements (air, water, fire, and earth) and the four humors (blood, phlegm, yellow bile, and black bile).[13,14] The Qanun was translated in to the Latin in the 12<sup>th</sup> century, and for more than 6 centuries it remained the principle medical textbook ever written and was studied in the European schools through the 17<sup>th</sup> century.[15]

### **LIFESTYLE FACTORS; BASED ON THE “AL-QANUN FI AL TIBB”**

Based on the foundation of traditional medicine texts and literatures; Ibn-Sina and most of the Hakims (The wise master physicians of Iranian traditional medicine),[14] are all of the opinion that; there are six essential factors for maintaining health and preventing diseases called “Asbab-e-Settah-e-Zaruriah”. These six affairs are essential for the continuation of life, and one cannot escape from any of them for a long time. Their imbalances primarily cause dystemperament and thereby give rise to various diseases.[16,17,18,19] The second section of the first book of “Qanun fi Al Tibb”, principally deals with various kinds of lifestyle factors “Asbab-e-Settah-e-Zaruriah”. This section is divided into six discourses: Air, bodily movement and repose, sleep and wakefulness, psychic movement and repose, food, drinks, and evacuation and retention, respectively. Each of the discourses proportional to every case is subdivided into some chapters. Each chapter focuses on explaining the different aspects of each of these factors. The section opens with a chapter describing the reasons of health and disease (Asbab-e-Sehat VA Maraz). Then he has explained that the reasons of health and disease are essential “Settah-e-Zaruriah” or nonessential “Gheire Zaruriah”. Avicenna stated that a man cannot escape during his life from essential causes.[16,20]

#### **Air**

In the discourse of the air, he explains the effect of environmental air on the body and then describes the different seasons and characteristics of healthy air.

According to the Qanun of Medicine; air is a strengthening factor which acts as a modifying and purifying in the human body. Modification is attained by the air coming in contact with the pneuma during inhalation and purification is attained by the air departing from it during exhalation. As long as the air is attempered and pure, unmixed with any extraneous substance (unpolluted) contrary to the normal temperament, it is effective in achieving health and in preserving it. However when it gets impaired (polluted), it performances, contrary to its function.

The air changes divided into two categories:

- Normal changes
- Abnormal changes.

Normal changes mean the seasonal changes because in every season the air changes into another temperament.

Avicenna stated that each season has a special temperament. The temperament of spring is “equable”. Summer is “hot and dry.” Autumn is “cold and dry” and winter is “cold and wet.”

Abnormal air changes are of two types:

- Change in the substance
- Change in the quality.

When changes occur in the substances, the substances lose their healthy characteristics and become morbid.

Changes in the qualities, means that occur an intolerable excess of heat, cold, moisture or dryness. The change in the quality divided into two categories:

- Homogeneous, for instance intense heat during summer
- Heterogeneous, for instance intense cold during the summer (owing to atmospheric disturbance).

Abnormal air changes produce disorders in the human bodies. When air undergoes the putrefaction (Polluted), it putrefies the humors. He explained that good and healthy air is that which is fresh and pure, with which are not mixed up smoke and vapors rising from lakes, ditches, and damp land.[16,20]

### **Physical activity (body movement)**

In the second discourse, Ibn Sina explains bodily movement and repose and their various effects on the body. Ibn Sina stated that, the effect of physical activity on the human body depends on whether the movement is severe or mild, whether it is prolonged or moderate, whether it is accompanied by the rest. Considering the person's job (i.e., ironsmith or washer man), each of these physical movements has different effects on the body. However, it should be noted that all types of movements such as severe, prolonged, short or accompanied by the rest, act together in stimulating heat. On the contrary, the rest is always cooling because there is no excitation of heat, and there is congestion, which soothes the heat. Moreover, rest is moistening because there is no scattering of the superfluities.[16]

### **Sleep and wakefulness**

In the third discourse, Avicenna explains sleep and wakefulness and their mechanisms and effects on the body. Based on the Qanun of Medicine sleep is quite similar to rest and wakefulness quite similar to the movement. However, each one has certain characteristics. Sleep reinforces all the physical capacities, restrains excessive depletions because of the movement, relaxes the psychological features, removes some types of fatigues and takes up the digestion and maturation of food and converts it into the blood. He believes that, sleep must be moderate and properly timed. He has noted that, the night is the best time to sleep and to sleep during the night is more beneficial.[21] Wakefulness performances are contrary to sleep. But excessive wakefulness vitiates the temperament of brain by producing dryness and weakens. When sleep is excessive causes an opposite effect such as dullness of the psychological features, heaviness of head and cold diseases.[16]

### **Psychic movement and repose**

In the fourth discourse, Ibn Sina explains psychic movement and repose like Fear, anger, happiness, embarrassment, upset... and their mechanism, effects and complications on the body.

He stated that all psychic conditions are the result of inward or outward movement of pneuma. Based on the principles of the Qanun of Medicine the outward movement of pneuma leads to the coldness of the interior and inward movement of pneuma causes the coldness of the exterior and heat of the interior. These movements of pneuma can be sudden or gradual. For instance; anger is a sudden outward movement, and moderate happiness or pleasure are gradual outward movement. In fear, the inward movement of pneuma is sudden and in sorrow is gradual. It should be noted that the lack of moderation in each of these mentioned cases disrupt the normal functioning of the body and cause disease. Finally, he argues that the human body is also influenced by psychic states (other than psychic notions) which influence physical factors.[16]

## Foods and drinks (Waters)

In the fifth discourse, he explains food and drinks. In this section firstly describe the effect of various foods and drinks (Waters) on the body and then explains the quality and quantity of different foods. At the end, he discusses about the variety and quality of different waters like.[16]

**Foods** At the beginning of this section, Ibn Sina states that foods and drinks act in the human body in three ways:

- By their quality only: Meaning that foods in this category affect the body by changing the four main qualities, which are hotness, coldness, moistness and dryness without being absorbed or becoming a part of the body. In other words, they possess a pharmaceutical property rather than nutritional property. The examples include pepper, ginger and clove
- By their element: Meaning that foods in this category undergo the process of digestion and absorption and ultimately become a part of the body. In other words they possess a nutritional property rather than the pharmaceutical one. The examples are meat and bread
- By their substance as a whole: Meaning that foods in this category exert their action due to their specific form, which is very distinct and cannot be explained by quality or element. The examples of this group are antidotes of traditional medicine which correspond to antioxidants in modern medicine.

He emphasizes that food changes the state of the human body through its quality and quantity. Effect of food quality on the body has been described previously. As regards the quantity, high food intake or overeating causes indigestion, obstruction (such as atheroma plaque) and then the putrefaction. However, reducing food intake, causes emaciation or cache.

According to Ibn Sina, foods are divided into three categories:

- Light food (produces diluted blood)
- Heavy food (which produces concentrated blood)
- Moderate food.

Each of these three kinds of food is either rich or poor in nutrition:[16]

- Light food, rich in nutrition, such as extract of meat
- Heavy food, poor in nutrition, such as cheese
- Light food, poor in nutrition, such as apples
- Heavy food, rich in nutrition, such as beef.

**Waters** Water is one of the four elements (air, water, fire, and earth) and a part of all foods and drinks. Based on the Qanun of Medicine, water does not nourish the body, but only it helps to liquefy and carries food into the vessels and the channels and rectifies consistency of the food. Therefore, role of water in completing the process of nutrition is necessary.

There are different kinds of water, due to what is mixed with it and the quality which dominate it. Based on the Avicenna view point, the best one is the water of springs, provided that the following conditions:

- Not dominated by any quality
- Not polluted by extraneous elements
- Be exposed to the sun and winds
- Situated on pure earth.

Ibn Sina in this section has pointed out the water purification and its method. He believed that the pure and not muddy soil cleanses water and absorbs the superfluous material in it. Furthermore, he states that one-way of making water healthy is boiling. Another way to identify the quality of water is its weight. The weight could determine by taking two pieces of linen or wool (should be equal in weight), and soaking each of them into one of two different kinds of water that we want to identify any of them. Then, they should be completely dried and weighed. Accordingly, by using this method one can be separated the light

and heavy water.[16,20]

### Depletion and retention

The final section is about the importance of natural depletion and retention. In this section, Ibn Sina states that impairment the normal function of retention and vomiting can lead to certain diseases. There are different reasons for each disorder. Based on the principles of traditional medicine, he explains the various reasons for the failure of any of these functions.

Based on this issue, the causes of abnormal retention are as follows:

- Weak repulsion
- Strong retentive force
- Weakness of digestion (dyspepsia), which leads to long remains in the digestive system to complete digestion. It should be noted that dyspepsia is one of the worst causes of these disorder
- Structural disorder such as narrowing and obstruction of the intestines
- Concentration and viscosity of the material and hence that the repulsion force is unable to conquer them
- Dystemperament, (diseases of temperament), such as putrefaction
- Secondary diseases, such as rupture of intestines (channels)
- Compound diseases, such as swelling (intestinal swelling).

In continue, Avicenna mentions several reasons for abnormal depletion, such as:

- Strong repulsive force
- Weakness of the retentive
- The different effects of substances (foodstuffs) which are in the digestive system such as their heaviness; distension; irritation
- The watery nature of what has been eaten with the help of dilated channels as occurs in spermatorrhea
- Obstruction, occasionally, because of the extreme dryness and occlusion of the channels.

Based on the Qanun of Medicine, every kind of depletion causes coldness and dryness of temperament. Balanced depletion and retention and their occurrence in the time of need, are beneficial and maintain health.[16]

## CONCLUSIONS

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Studies of the history of medicine and the pertinent sections of the Qanun of Medicine have revealed that Ibn Sina was the first author to discuss the lifestyle factors. He had a clear understanding of the lifestyle factors and their impact on human health. He believes that lifestyle modification should be considered the cornerstone in preventing or reducing a large number of diseases, and healthy and prolong life lies in their balance. Therefore, he has tried to express and classify these factors in accordance with their importance and effectiveness in maintaining optimum health and elimination of disease.[16]

## Footnotes

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