

## AVICENNA'S CONTRIBUTION TO WORLD MEDICINE

Djamaldinova Shahlo Obloberdievna

SamGMI, Head of Department of Uzbek Language and  
Literature and Russian Language

Bekirova Elzara Seydaliyeva

SamGMI, Teacher

### ABSTRACT

The article describes the role of the works of Ibn Sino in the field of medicine and his great contribution to the treasury of human culture and the importance of Avicenna's views in medicine.

**Keywords:** "Canon of Medicine", research, hypotheses, disease, health, treatment, beliefs, result.

### INTRODUCTION

One of the greatest scientists in the history of the Islamic world is recognized as a doctor, philosopher and poet Abu Ali Hussein ibn Sina (Abugalisina), better known in the Western world as Avicenna. He is considered to be the most authoritative scientist of his time, not only in the Muslim East, but all over the world (980-1037). Many books and publications are devoted to his life and activity, revealing the diversity of this person. It is not without reason that the term "Avicennology" is used in scientific literature as a field of knowledge. Without detailing his life path and role in the development of philosophical views and a variety of scientific disciplines, widely and worthily reflected in the scientific literature, let us focus only on the significance of Avicenna's views in the field of medicine.

His real name was Abu 'Ali al-Ḥusayn ibn 'Abd Allah ibn Sina. He was born in the village of Avshana, near Bukhara. At 15 he began studying independently and by 18 had already formed as a mature scholar; at this time he became known in Bukhara as a skillful physician. In 1002, shortly after his father's death, he moved to Gurgandj (now Urgench), the capital of Khorezm, where his scientific life was centered around the "Academy of Mamun" that united outstanding scientists. In Bukhara, he studied mathematics, astronomy, philosophy and medicine, was the court physician of the Samanid and Dailemite sultans, for a while was a vizier in Gamadan, then settled in Ispahani and died in Gamadan in 1037 during the march of emir Alaed-Daud. Ibn Sina contributed to the treasury of human culture with his works on medicine. The achievements of Hippocrates, Galen, Egyptian, Persian and Indian physicians Avicenna brought together and complemented them with the results of his own research, brilliant discoveries and hypotheses. For example, he was the first to suggest that infectious diseases were carried by tiny invisible organisms, discovered only 9 centuries later and called viruses. He claimed that the visible image was not fixed in the crystalline lens, as had been thought before him, but in the retina. Avicenna left many works, among which the most famous is the "Canon" (Kanunfi'lTibb), which describes his system of medicine, in the main features having

much in common with the system of Galen. The Arabic text of the Canon was published in its entirety only once (4 vols., Rome, 1593), but there are many translations of it into Latin. The most thorough of them belongs to Plemy (Lvov, 1658). In addition, many other medical and philosophical writings of Avicenna have been published in Latin translation.

"Canon of Medicine" is the main and capital work in five books. The first book gives the definition of medicine, describes diseases, ways to maintain health and treatment. Physical exercise, water procedures, and proper nutrition play a huge role in prevention. By the way, according to Ibn Sina, it is recommended to eat 1-2 times a day; probably, to suffer from obesity with such a diet is unlikely.

The second book is devoted to pharmacology - the teaching of "simple" medicines, their nature and testing. In the Arabic alphabet are arranged 811 medicines of plant, animal and mineral origin, with an indication of their effects, rules of collection, processing and storage (just in case - not more than three years). Of medicinal plants I will cite only those used in food and today: radish, onion, garlic, mustard, pepper, vinegar (all bitter purifies the body), lemon, chicory, coriander, toloko, rhubarb, almonds, cinnamon, pumpkin, celery, dill, rose (jam and oil), poppy, ginger, barley. Medicines of animal origin: salted fish, honey, wax, beaver's worm, crayfish, antler, burnt silk, musk, burnt scorpions (for kidney stones), tar, coral, pearls. Medicines of mineral origin: gypsum, clay, vitriol, lapis lazuli, mercury, sulfur, antimony, oil.

The content of the third, the most extensive book, is pathology and therapy, describing individual diseases and their treatment.

The fourth book is on surgery - the treatment of fractures and dislocations, tumors and abscesses. Also a teaching on the crisis of disease and contagious diseases. Ibn Sina was a virtuoso with the surgeon's scalpel. He performed all kinds of operations and was especially proud of eye operations. He removed kidney and bladder stones if they could not be removed by medicine. Mixtures of opium, poppy, beladonna, and mandrake infused with wine were used for anesthesia. Surgical operations required a thorough knowledge of internal organs, and Ibn Sina dissected corpses to study them, just as his European colleagues did centuries later. Like them, he was in grave danger of being condemned for impious acts. But he was unwilling to study human viscera by analogy with animal viscera, the dissection of which was not forbidden. The result: he studied the human skeleton and viscera to perfection, as evidenced by the descriptions and anatomical drawings that accompany the relevant sections of the Canon.

Book five contains descriptions and methods of making "complex" medicines (containing up to 37 components), poisons, and antidotes. The poisons included aconite, bile of viper and leopard, bites of snakes, scorpion, caracourt, rabid dog, special poisons for arrows, millet, lead oxide, and poisonous mushrooms.

Like all the practical scientists of the time, Ibn-Sina was engaged in alchemy (chemistry grew out of it later), but he considered the search for a philosopher's stone that transformed simple metals into gold and gave immortality meaningless, he did not recognize the transmutation of metals. He saw the purpose of alchemy in the production of medicines. "Feeling death approaching, he made forty medicines that could resurrect him. He placed the medicines in forty vessels and instructed his disciple to apply them in a specified sequence.

When Ibn Sina died shortly thereafter, the disciple proceeded to revive him. The medicines had an extraordinary effect: not only did the body not decay, but it became more and more youthful and fresh: wrinkles and dead pallor disappeared, a blush appeared and the gray hair turned black. When the last vial of the medicine remained to be applied, Ibn Sina's body resembled a beautiful young man, it seemed that he was about to sigh and wake up. This so shook the disciple that when, trembling with excitement, he brought the fortieth jar to the Master's body, he could not hold it. The jar with the miraculous elixir slipped out, fell and broke." The legend is eerie, of course, but nevertheless it expresses unconditional faith in the power of knowledge of the Great Healer, who mastered the mysteries of life and death.

Avicenna's main scientific achievements in the field of medicine are manifold. Avicenna can be considered one of the founders of preventive medicine. His words that "To preserve health is the task of medicine, diseases to understand the essence and eliminate the causes," - no doubt relevant to the present time.

Avicenna was the first to point out that some diseases may be asymptomatic at first (what we call the latent course) and then appear quite suddenly (so-called manifestation of symptoms). His words on this subject are as follows: "There are signs of diseases, which from the age of ages have affected the health of man, And signs when an ailment is hidden, Which may become dangerous suddenly...". Avicenna can rightly be considered one of the founders of the personalized approach in medicine, which is an undoubted trend in its development at the present stage. He was the first to formulate a position on the individual susceptibility of patients to treatment.

Avicenna can be considered one of the founders of valeology (science of healthy living) and nutritiology (science of nutrition). He noted in particular the importance of maintaining a healthy lifestyle (undesirability of bad habits, importance of sleep and wakefulness, exercise, etc.) and the crucial role of nutrition as the basis for maintaining vitality. He paid special attention to the regime of the elderly ("... moderation in everything, peace of mind, it is useful for elderly people to have such a regime...").

Avicenna paid attention to the qualities required in medical practice ("the doctor must have the eyes of a falcon, hands of a girl, wisdom of a snake and heart of a lion"); undesirable side effects of certain medications ("Some medicines have properties that cause anxiety..."; "... Beware of the danger that medicine will bring, if the doctor has a wrong calculation...").

Avicenna paid much attention to other aspects of medicine as well. In addition to books on medicine, he published numerous poems and poems, eight of which are directly dedicated to medical issues. Among them is the largest of them - "Poem about medicine" (more than two thousand lines), which is by all means considered the second place after "The Canon of Medicine".

The scientist also played a great role in the development of psychological science. The main idea of his views is a statement about the dependence of human psychology on the structure of his body. Avicenna distinguished 4 main types of human character: hot, cold, dry and wet. These types in modern psychology correspond to the temperaments. The study of emotions is also given an important role in the works of Ibn Sina. He regarded them as animating mechanisms of the soul, affecting the human body. Emotions, in his opinion, are able to influence the individual,

causing certain changes. Avicenna was the first to describe the method of psychodiagnosis, characterized by the pulse rate under the influence of external factors. He also conducted the first experiments on the psychology of emotions. The essence of the experiment was to feed two rams with the same food. But one of them was fed under normal conditions, while a wolf was tied near the other. As a result of the experiment, the second ram lost weight and died. It was this experience that provided proof of the influence of emotions on the human body. For the first time he noted the undesirability of negative emotions, their possible deleterious effect on health ("fright and death sometimes walk side by side").

A philosopher, an encyclopedic physician and practitioner, a brilliant scientist-specialist in a variety of fields of knowledge - Avicenna, ahead of his time, left a huge Legacy of historical significance even now.

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