



# The Contribution of Muslim Doctors to the Development of Medicine during the Reign of the Arab Caliphates

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**Abstract:** This article examines the development of medicine in Central Asia during the Arab Caliphate. The works of such scholars as Al-Harith ibn Qalada at-Takafi, Abu al-Abbas ibn Abu Usaybia, Ibn Abi Ramta at-Tamimi, Ibn Baytar and Ali ibn Isa al-Kihal are very widely covered.

**Keywords:** Arab caliphates, medicine, disease, surgery, Islamic civilization.

First Almighty Allah created the earth, and then people, diseases and medicines. When all the world's civilizations realized the great plan of the Almighty, they began to look for ways to heal from various diseases. For many generations, people have developed medicine in such a way that today every civilization can boast of having made its contribution. Of particular note are the Arab and Islamic civilizations, which played a major role in the development of medicine.

The Golden Age of Islam is a historical period from about the middle of the VIII to the middle of the XIII century, at the beginning of which the Arab Caliphate was the largest state of its time. Within the framework of the caliphate, a general Muslim cultural space was formed, which continued to exist even after its collapse. Thanks to this, Islamic scientists, writers and artists of this period made a significant contribution to the development of world science and culture. After the collapse of the Arab Caliphate, the development of Islamic culture was briefly picked up by the Persian state of the Samanids, and subsequently by a series of Turkic empires of Ghazni, Karakhanids, Timurids, Seljuks, Hulaguids. Howard Turner writes: "Muslim artists and scientists, workers and princes together have created a unique culture that has a direct and indirect impact on every continent."

During the "Islamic Renaissance" mathematics, medicine, philosophy, physics, chemistry and other sciences developed. Islamic culture, which stretched from southern Spain to Iran, absorbed the achievements of scientists of various nationalities and faiths. She developed the knowledge of the ancient Egyptians, Greeks and Romans, achieving breakthroughs that paved the way for the Renaissance.

It was in the Arab Caliphate that hospitals and hospitals were built for the first time, and the first medical institutes appeared. Muslim doctors have been at the forefront of science in the field of eye diseases research for many centuries. The first hospital in the Caliphate was established in 707.

Arab medicine before Islam was closely connected with religious rituals, occultism, magic and divination, which fully satisfied the needs of people of that time. Many medieval doctors, including Abu al-Abbas ibn Abu Usaibia, the author of the famous essay "The History of Doctors", believe that Yemeni sorcerers were the first to lay the foundations of medicine on the Arabian Peninsula. There was a close connection between magic and medicine, so the sorcerer was primarily a doctor who treated patients with the help of witchcraft. K by the way, the priests treated their patients by

appealing to the gods with supplications and prayers, so medicine was one of the main specialties of the priest in the pre-Islamic era. On this occasion, the Iraqi historian Javad Ali wrote in his book "The History of the Arabs before Islam" that "people spread the news about the arrival of monks and preachers in Mecca, among whom were those who were engaged in the treatment of diseases."

A similar case occurred with the Prophet Muhammad. This is stated in the book "Ithaf al-wara biahbar Umm al-Qura" by Najm al-Din ibn Fahd al-Makki: "When the Messenger of Allah had a sore eye, his grandfather Abd al-Muttalib took him to a monk who was engaged in the treatment of eye diseases."

There were many medical practices on the Arabian Peninsula: cauterization of wounds with fire, bloodletting, suturing of wounds, amputation of limbs, treatment of purulent wounds and ulcers by applying bandages soaked in special tinctures based on herbs and honey. In addition, the Arabs tinted their eyes with antimony to treat inflammatory processes such as conjunctivitis, corneal or vitreous opacity. They also used olive oil to treat constipation and wound healing.

Most historians agree that the Arabs had a great influence on the formation of medicine as a science. Unfortunately, not so much documentary evidence about medical practices of that period has come down to us, but it is reliably known that Arab doctors gained knowledge during observations of nature and contacts with neighboring civilizations through trade and hajj. Thus, doctors appeared in the Muslim world who were not known to anyone before the dawn of Islam.

Al-Harith ibn Kalada at-Takafi traveled a lot and studied medicine at the Persian Jundishapur Academy. According to him, "himya (diet) is the source of all healing, and the stomach is the home of every disease. If he is healthy, then health spreads through the vessels, if he is sick, then poison spreads through the vessels through the body." There is even a hadith that says that when Saad ibn Abu Waqqas fell ill, the Messenger of Allah ordered him to go to Al-Harith for treatment.

Ibn Abi Ramta al-Tamimi lived during the time of the Prophet Muhammad and practiced surgical treatment of diseases and injuries. Dimad ibn Taalba al-Azdi was a friend of the Prophet Muhammad in the pre-Islamic era, so he treated the sick by turning to the wind for help.

The Baghdad physician Ali ibn Isa al-Kihal is the father of Arabic ophthalmology, who made a great contribution to the development of the doctrine of eye diseases. Al-Kihal systematized the knowledge of Arab oculists about eye diseases, symptoms, causes and methods of treatment. He described temporal and cranial arteritis, and also found a link between these diseases and vision problems with migraines. In addition, he was the first to suggest the use of hypnosis and narcotic anesthesia in surgical operations.

He also put forward a theory about the visual process. According to al-Kihal, the soul first leaves the eye, and then returns back and reproduces what it saw in the brain. His theory served as a starting point for the research of Al-Hasan ibn al-Haytham, who eventually shed light on the visual process.

Abu al-Hasan Alaa al-Din Abu al-Hazm, also known as Ibn an-Nafis al-Qurashi, is an outstanding Arab-Muslim physician and scholar of the Middle Ages. He is credited with many important medical discoveries that are used by scientists to this day. In addition, he has made significant contributions to many areas of physiology. Ibn an-Nafis' special merit is that he was the first to describe the structure of the lungs and pulmonary circulation, and also discovered that the heart is supplied with blood by coronary vessels, which completely contradicted Galen's theory.

The Arab scientist managed to discover that there is a gas exchange process in the lungs, the pulmonary veins are thicker than the pulmonary arteries, and there is no hole between the cavities of the right and left ventricles. He was also able to explain the relationship between the eye and the brain.

Ibn an-Nafis owns many of the most important medical works and writings, one of which is the "Comprehensive Book on Medical Art". This manuscript is considered the most voluminous medical encyclopedia in history, as it contains the most important information on medicine and pharmacy. In addition, he became famous for his comments on the section of anatomy in the "Canon" of Ibn Sina,

where he thoroughly described the small circle of blood circulation. Thus, Ibn Nafis became the first doctor who studied and described blood circulation in detail.

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