

Origins and foundation of islamic medicine history essay



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Islam civilization began in the Arab (Hijjaz) Peninsula with Prophet Muhammad in the 7th century, the civilization grew beyond Arabia and covered vast areas such as Persia, central Asia, north Africa, Europe and India. With such a vast area, the Islamic civilization was not only made up of Arabs, but include people of other races as well, including Persians, Mongols, Africans, Europeans and Indians. The uniqueness of the Islamic civilization is that it was not made up of the same race, rather it was made up of different races with professing the same faith. At the same time, it should also be realized that not all who lived under the rule of the caliphate were Muslims. There was also non-Muslims who were Christians, Jews, Zoroastrians and other pagans. The Islamic Civilization was multi-racial and multi-religious with Islam being the official religion, and other faiths were free to be practiced.

The Islamic Golden Age or the Islamic Renaissance, is traditionally dated from the 8th to 13th centuries A. D., but has been extended to at least the 15th century by recent scholarship. During this period, artists, engineers, scholars, poets, philosophers, geographers and traders in the Islamic world contributed to agriculture, the arts, economics, industry, law, literature, navigation, philosophy, sciences, sociology, and technology, both by preserving earlier traditions and by adding inventions and innovations of their own. Howard R. Turner writes: “ Muslim artists and scientists, princes and laborers together made a unique culture that has directly and indirectly influenced societies on every continent.”

Knowledge of medicine that was developed in the medieval Islamic civilization (8th -15th century) and written in Arabic is known as Islamic
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medicine or Arabic medicine. However, despite these names, a significant number of scientists during this period were not Arab. Latin translations of Arabic medical works had a significant influence on the development of modern medicine, as did Arabic texts chronicling the medical works of earlier culture.

Islamic medicine was a genre of medical writing that was influenced by several different medical systems, including the traditional Arabian medicine of Muhammad's time, ancient Hellenistic medicine such as Unani, ancient Indian medicine such as Ayurveda, and the ancient Iranian Medicine of the Academy of Gundishapur. The works of ancient Greek and Roman physicians Hippocrates, Dioscorides, Soranus, Celsus and Galen also had a lasting impact on Islamic medicine.

Generally, Islamic medicine made many significant contributions to medicine, including anatomy, experimental medicine, ophthalmology, pathology, the pharmaceutical sciences, physiology, surgery, and others. Muslim physicians recorded their discoveries in encyclopedias which were translated into Latin and then disseminated in manuscript and printed form throughout Europe. They also set up some of the earliest dedicated hospitals, including the first medical schools and psychiatric hospitals.

Foundations of Islamic medicine

In Islamic tradition, the origins of Islamic medicine can be traced back to the time of Muhammad, as a significant number of hadiths concerning medicine are attributed to him. Several Sahaba are said to have been successfully treated of certain diseases by following the medical advice of Muhammad.

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The three methods of healing known to have been mentioned by him were honey, fire cupping, and cauterization, though he was generally opposed to the use of cauterization unless it “ suits the ailment.” According to Ibn Hajar al-Asqalani, Muhammad disliked this method due to it causing “ pain and menace to a patient” since there was no anesthesia in his time. Although purported by previous physicians like Imhotep, Hippocrates and Galen, Muhammad appears to be the first recorded as directly stating that there is always a cause and a cure for every disease, according to several hadiths in the Sahih al-Bukhari, Sunan Abi Dawood and Al-Muwatta attributed to Muhammad, such as:

“ There is no disease that Allah has created, except that He also has created its treatment.”

“ Make use of medical treatment, for Allah has not made a disease without appointing a remedy for it, with the exception of one disease, namely old age.”

“ Allah has sent down both the disease and the cure, and He has appointed a cure for every disease, so treat yourselves medically.”

“ The one who sent down the disease sent down the remedy.”

“ For every disease, Allah has given a cure.”

The belief that there is a cure for every disease encouraged early Muslims to engage in biomedical research and seek out a cure for every disease known to them. Many early authors of Islamic medicine were usually clerics rather than physicians, and were known to have advocated the traditional medical <https://assignbuster.com/origins-and-foundation-of-islamic-medicine-history-essay/>

practices of prophet Muhammad's time, such as those mentioned in the Qur'an and Hadith. For instance, therapy did not require a patient to undergo any surgical procedures at the time.

From the 9th century, Hunayn ibn Ishaq translated a number of Galen's works into the Arabic language, followed by translations of the Sushruta Samhita, Charaka Samhita, and Middle Persian works from Gundishapur. Muslim physicians soon began making many of their own significant advances and contributions to medicine, including the fields of allergology, anatomy, bacteriology, botany, dentistry, embryology, environmentalism, etiology, immunology, microbiology, obstetrics, ophthalmology, pathology, pediatrics, perinatology, physiology, psychiatry, psychology, pulsology and sphygmology, surgery, therapy, urology, zoology, and the pharmaceutical sciences such as pharmacy and pharmacology, among others.

Hospitals in Islamic world

Muslim physicians set up the earliest dedicated hospitals in the modern sense, known as Bimaristans, which were establishments where the ill were welcomed and cared for by qualified staff, and which were clearly distinguished from the ancient healing temples, sleep temples, hospices, psychiatric hospitals, lazarets and leper-houses which were more concerned with isolating the sick and the insane from society " rather than to offer them any way to a true cure." These contrasted with hospitals in Christian Europe which were more concerned with prayer. The Bimaristan hospitals later functioned as the first public hospitals, psychiatric hospitals and diploma-granting medical universities.

In the medieval Islamic world, hospitals were built in all major cities; in Cairo for example, the Qalawun Hospital could care for 8, 000 patients with a staff that included physicians, pharmacists, and nurses. One could also access a dispensary, and research facility that led to advances, which included the discovery of the contagious nature of diseases, and research into optics and the mechanisms of the eye. Muslim doctors were removing cataracts with hollow needles over 1000 years before Western physicians dared attempt such a task. Hospitals were built not only for the physically sick, but for the mentally sick also. One of the first ever psychiatric hospitals that cared for the mentally ill was built in Cairo. Hospitals later spread to Europe during the Crusades, inspired by the hospitals in the Middle East. The first hospital in Paris, Les Quinze-vingts, was founded by Louis IX after his return from the Crusade between 1254-1260.

Hospitals in the Islamic world featured competency tests for doctors, drug purity regulations, nurses and interns, and advanced surgical procedures. Hospitals were also created with separate wards for specific illnesses, so that people with contagious diseases could be kept away from other patients.

One of the features in medieval Muslim hospitals that distinguished them from their contemporaries and predecessors was their significantly higher standards of medical ethics. Hospitals in the Islamic world treated patients of all religions, ethnicities, and backgrounds, while the hospitals themselves often employed staff from Christian, Jewish and other minority backgrounds. Muslim doctors and physicians were expected to have obligations towards their patients, regardless of their wealth or backgrounds. The ethical

standards of Muslim physicians was first laid down in the 9th century by <https://assignbuster.com/origins-and-foundation-of-islamic-medicine-history-essay/>

Ishaq bin Ali Rahawi, who wrote the *Adab al-Tabib* (Conduct of a Physician), the first treatise dedicated to medical ethics. He regarded physicians as “guardians of souls and bodies”, and wrote twenty chapters on various topics related to medical ethics.

Another unique feature of medieval Muslim hospitals was the role of female staff, who were rarely employed in ancient and medieval healing temples elsewhere in the world. Medieval Muslim hospitals commonly employed female nurses, including nurses from as far as Sudan, a sign of great breakthrough. Muslim hospitals were also the first to employ female physicians, the most famous being two female physicians from the Banu Zuhr family who served the Almohad ruler Abu Yusuf Ya’qub al-Mansur in the 12th century. Later in the 15th century, female surgeons were illustrated for the first time in Āžerafeddin SabuncuoÄŸlu’s *Cerrahiyyetu’l-Haniyye* (Imperial Surgery).

Encyclopedias written by Muslim physicians

The first encyclopedia of medicine in Arabic was Ali ibn Sahl Rabban al-Tabari’s *Firdous al-Hikmah* (“Paradise of Wisdom”), written in seven parts, c. 860. It was the first to deal with pediatrics and child development, as well as psychology and psychotherapy. In the fields of medicine and psychotherapy, the work was primarily influenced by Islamic thought and ancient Indian physicians such as Sushruta and Charaka. Unlike earlier physicians, however, al-Tabari emphasized strong ties between psychology and medicine, and the need of psychotherapy and counseling in the therapeutic treatment of patients.

Muhammad ibn ZakarĀ« ya RĀ ĩ zi (Rhazes) wrote the Comprehensive Book of Medicine in the 9th century. The Large Comprehensive was the most sought after of all his compositions, in which Rhazes recorded clinical cases of his own experience and provided very useful recordings of various diseases. The Comprehensive Book of Medicine, with its introduction of measles and smallpox, was very influential in Europe.

Ali ibn Abbas al-Majusi (Haly Abbas)'s Kitab Kamil as-sina'a at-tibbiyya ("Complete Book of the Medical Art"), c. 980, became better known as the Kitab al-Maliki ("Royal Book", Latin: Liber regalis) in honour of its royal patron ' Adud al-Dawla. In twenty sections, ten of theory and ten of practice, it was more systematic and concise than Razi's Hawi, but more practical than Avicenna's Canon, by which it was superseded. With many interpolations and substitutions, it served as the basis for the Pantegni (c. 1087) of Constantinus Africanus, the founding text of the Schola Medica Salernitana in Salerno.

Abu al-Qasim al-Zahrawi (Abulcasis), regarded as the father of modern surgery, contributed greatly to the discipline of medical surgery with his Kitab al-Tasrif ("Book of Concessions"), a 30-volume medical encyclopedia published in 1000, which was later translated to Latin and used in European medical schools for centuries. He invented numerous surgical instruments and described them in his al-Tasrif.

Avicenna (Ibn Sina), a Hanbali and Mu'tazili philosopher and doctor in the early 11th century, was another influential figure. He is regarded as the father of modern medicine, and one of the greatest thinkers and medical

scholars in history. His medical encyclopedia, *The Canon of Medicine* (c. 1020), remained a standard textbook in Europe for centuries, up until the renewal of the Muslim tradition of scientific medicine. He also wrote *The Book of Healing* (actually a more general encyclopedia of science and philosophy), which became another popular textbook in Europe. Among other things, Avicenna's contributions to medicine include the introduction of systematic experimentation and quantification into the study of physiology, the discovery of the contagious nature of infectious diseases, the introduction of quarantine to limit the spread of contagious diseases, the introduction of experimental medicine, evidence-based medicine, clinical trials, randomized controlled trials, efficacy tests, clinical pharmacology, risk factor analysis, and the idea of a syndrome in the diagnosis of specific diseases, the first descriptions on bacteria and viral organisms, the distinction of mediastinitis from pleurisy, the contagious nature of phthisis and tuberculosis, the distribution of diseases by water and soil, and the first careful descriptions of skin troubles, sexually transmitted diseases, perversions, and nervous ailments, as well the use of ice to treat fevers, and the separation of medicine from pharmacology, which was important to the development of the pharmaceutical sciences.

Abū Rayhān al-Bīrūnī's *Kitab-al-Saidana* was an extensive medical encyclopedia which synthesized Islamic medicine with Indian medicine. His medical investigations included one of the earliest descriptions on Siamese twins.

Ibn Al-Thahabi (d. 1033) was famous for writing the first known alphabetical encyclopedia of medicine.

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Ibn al-Nafis (1213-1288) wrote *Al-Shamil fi al-Tibb* (The Comprehensive Book on Medicine), a voluminous medical encyclopedia that was originally planned to comprise 300 volumes, but he was only able to complete 80 volumes as a result of his death in 1288. However, even in its incomplete state, the book is one of the largest known medical encyclopedias in history, though only a small portion of *The Comprehensive Book on Medicine* has survived. During his lifetime, *The Comprehensive Book on Medicine* had eventually replaced Ibn Sina's *The Canon of Medicine* as a medical authority in the medieval Islamic world. Arabic biographers from the 13th onwards considered Ibn al-Nafis the greatest physician in history, some referring to him as "the second Ibn Sina", and others considering him even greater than Ibn Sina.

The last major medical encyclopedia from the Islamic world was *Åžerafeddin SabuncuoÄŸlu's* surgical atlas, *Cerrahiyyetu'l-Haniyye* (Imperial Surgery).

Though his work was mostly based on Abu al-Qasim al-Zahrawi's *Al-Tasrif*, he also introduced many innovations of his own.

Contributions of Muslim physicians in various fields of medicine

No.

Medical fields

Contributions

1.

Scientific methods

Muhammad ibn ZakarÄ« ya RÄ ¨ zi (Rhazes) introduced controlled experiment and clinical observation into the field of medicine, he also introduced urinalysis and stool tests.

Avicenna (Ibn Sina) introduced systematic experimentation and quantification into the study of physiology, he also introduced experimental medicine, clinical trials, risk factor analysis, and the idea of a syndrome in the diagnosis of specific diseases.

Ibn Zuhr (Avenzoar) introduced the experimental method into surgery and he is regarded as the father of experimental surgery.

2.

Anatomy and physiology

Muhammad ibn ZakarÄ« ya RÄ ¨ zi (Rhazes) is the first physician to prove Galen's theory of humorism using experiment in his Doubts about Galen

Ibn al-Haytham (Alhacen) had done many improvements in our understanding of the process of visual perception in his Book of Optics.

Ibn Zuhr (Avenzoar) was one of the earliest physicians known to have carried out human dissection and postmortem autopsy.

Ibn al-Nafis, the father of circulatory physiology, was another early proponent of human dissection. He was the first to describe the pulmonary circulation, coronary circulation, and capillary circulation, which form the basis of the circulatory system, for which he is considered one of the

greatest physiologists in history. Ibn al-Nafis also described the earliest concept of metabolism, and developed new Nafisian systems of anatomy, physiology and psychology to replace the Avicennian and Galenic doctrines, while discrediting many of their erroneous theories.

Avicenna (Ibn Sina) gave the first correct explanations of pulsation. Avicenna also pioneered the modern approach of examining the pulse through the examination of the wrist.

No.

Medical fields

Contributions

3.

Epidemiology, etiology, pathology

Avicenna(Ibn Sina) discovered the contagious nature of infectious diseases such as phthisis and tuberculosis, the distribution of diseases by water and soil, and fully understood the contagious nature of sexually transmitted diseases. In epidemiology, he introduced the method of quarantine as a means of limiting the spread of contagious diseases, and introduced the method of risk factor analysis and the idea of a syndrome in the diagnosis of specific diseases.

Muhammad ibn ZakarĀ« ya RĀ ĩ zi (Rhazes) identified chickenpox, and also identified differences between smallpox and measles. Al-Razi also discovered

“allergic asthma” and the occurrence of rhinitis (smelling allergy), he realized the relationship between allergic and immune system. He was the first to know that fever is a natural defense mechanism, the body’s way of fighting disease.

Ibn Zuhr (Avenzoar) was the first physician to provide a real scientific etiology for the inflammatory diseases of the ear, and the first to clearly discuss the causes of stridor. He also gave the first accurate descriptions on neurological diseases, including meningitis, intracranial thrombophlebitis, and mediastinal germ cell tumors. Avenzoar suggested the existence of Parkinson’s disease and attributed photoreceptor properties to the retina. Ibn Zuhr, through his dissections, was able to prove that the skin disease scabies was caused by a parasite, a discovery which upset the theory of humorism supported by Hippocrates, Galen and Avicenna.

Abu al-Qasim al-Zahrawi (Abulcasis) wrote the first description on haemophilia, a hereditary genetic disorder, in his *Al-Tasrif*.

4.

Dentistry

Abu al-Qasim al-Zahrawi (Abulcasis) gave detailed methods for the successful replantation of dislodged teeth.

Abu Gaafar Amed ibn Ibrahim ibn abi Halid al-Gazzar described methods of dental restoration. Al-Gazzar also recommended arsenic compound in his prescription for holes in the teeth, as well as against dental caries, loosening, and relaxing of the nerves as a result of too many fluids.

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Avicenna(Ibn Sina) provided his own treatment for dental caries, stating that carious teeth should be filled with cypress, grass, mastix, myrrh, or styrax, among others, with gallnut, yellow sulfur, pepper, camphor, and with drugs for pain relief, like arsenic or wolf's milk. He further stated that arsenic boiled in oil should be dripped into the carious defect.

Gaubari rejected the idea of caries being caused by tooth worms.

No.

Medical fields

Contributions

5.

Surgery

Abu al-Qasim al-Zahrawi (Abulcasis), regarded as the father of modern surgery, contributed greatly to the discipline of medical surgery with his Kitab al-Tasrif (Book of Concessions or The Method of Medicine). His influential al-Tasrif introduced his famous collection of over 200 surgical instruments. Many of these instruments were never used before by any previous surgeons. The surgical instruments he invented include the first instruments unique to women, as well as the surgical uses of catgut and forceps, the ligature, surgical needle, scalpel, curette, retractor, surgical spoon, sound, surgical hook, surgical rod, specula, bone saw, and plaster. His work also included orthopaedic surgery and ophthalmology.

Ibn al-Haytham (Alhacen) made important advances in eye surgery, as he studied and correctly explained the process of sight and visual perception.

Ibn Sina (Avicenna) was the first to describe the surgical procedure of intubation in order to facilitate breathing, and he also described the “soporific sponge”, an anesthetic imbued with aromatics and narcotics, which was to be placed under a patient’s nose during surgical operations. He also described the first known surgical treatment for cancer, stating that the excision should be radical and that all diseased tissue should be removed, including the use of amputation or the removal of veins running in the direction of the tumor.

Ammar ibn Ali al-Mawsili is also notable for inventing the injection syringe and hypodermic needle for the extraction of cataracts in the first successful cataract surgery.

Ibn al-Nafis described three stages of a surgical operation. The first stage is the pre-operation period which he calls the “time of presentation” when the surgeon carries out a diagnosis on the affected area of the patient’s body. The second stage is the actual operation which he calls the “time of operative treatment” when the surgeon repairs the affected organs of the patient. The third stage is the post-operation period which he calls the “time of preservation” when the patient needs to be taken care.

6.

Obstetrics

Ali ibn Abbas al-Majusi discovered that uterine contractions are in fact the cause of delivery of the fetus.

Abu al-Qasim al-Zahrawi (Abucalsis) pioneered the method of episiotomy for the delivery of obstructed labour.

Ibn al-Quff described embryology and perinatology more accurately .

Conclusion

The first physicians of Islamic civilization was Prophet Muhammad himself with a significant number of Sunnah (Prophetic traditions) on medicine, diet and health. Prophet Muhammad had propagated the idea that there is cure for every ailment except death. The belief that there is a cure for every disease encouraged early Muslims to engage in biomedical research and seek out a cure for every disease known to them. Many early authors of Islamic medicine were known to have advocated the traditional medical practices of prophet Muhammad's time. Islamic medicine was initially built on tradition, chiefly the theoretical and practical knowledge developed in Arabia, Persia, Greece, Rome, and India. Islamic scholars translated voluminous writings of the Greek physicians and Indian physicians such as Galen, Hippocrates, Sushruta and Charaka from Greek and Sanskrit into Arabic, Islamic scholars then produced new medical knowledge based on those texts.

Hospitals in the Islamic world had many unique features that different from their contemporaries and predecessors. Muslim hospitals had high standards of medical ethics. Hospitals in the Islamic world treated patients of all

religions, ethnicities and backgrounds, while the hospitals themselves often <https://assignbuster.com/origins-and-foundation-of-islamic-medicine-history-essay/>

employed staff from Christian, Jewish and other minority backgrounds.

Hospitals in the Islamic world also featured competency tests for doctors, drug purity regulations, nurses and interns, and advanced surgical procedures. Hospitals were also created with separate wards for specific illnesses, so that people with contagious diseases could be kept away from other patients.

The physicians of Islamic produced voluminous writings that made significant contributions to the development of medical knowledge of the world. The first encyclopedia of medicine in Arabic was Ali ibn Sahl Rabban al-Tabari's *Firdous al-Hikmah* ("Paradise of Wisdom"). Ali ibn Abbas al-Majusi (Haly Abbas) wrote *Kitab Kamil as-sina'a at-tibbiyya* ("Complete Book of the Medical Art"). Ibn al-Nafis (1213-1288) wrote *Al-Shamil fi al-Tibb* (The Comprehensive Book on Medicine). Abu al-Qasim al-Zahrawi (Abulcasis), regarded as the father of modern surgery, contributed greatly to the discipline of medical surgery with his *Kitab al-Tasrif* ("Book of Concessions"). Avicenna (Ibn Sina) is regarded as the father of modern medicine, and one of the greatest thinkers and medical scholars in history. His medical encyclopedia, *The Canon of Medicine* (c. 1020), remained a standard textbook in Europe for centuries. Abū Rayhān al-Bīrūnī wrote *Kitab-al-Saidana* which was an extensive medical encyclopedia which synthesized Islamic medicine with Indian medicine. The last major medical encyclopedia from the Islamic world was Ḥazrafeddin Sabuncuoğlu's surgical atlas, *Cerrahiyetu'l-Haniyye* (Imperial Surgery).

Muslim physicians and doctors developed the first scientific methods for the field of medicine. This included the introduction of mathematization, <https://assignbuster.com/origins-and-foundation-of-islamic-medicine-history-essay/>

quantification, experimentation, experimental medicine, evidence-based medicine, clinical trials, dissection, animal testing, human experimentation and postmortem autopsy, while hospitals in the Islamic world featured the first drug tests, drug purity regulations, and competency tests for doctors. In anatomy and physiology, Muslim physicians proved Galen's theory of humorism wrong. They discovered the pulmonary circulation, coronary circulation, and capillary circulation, which form the basis of the circulatory system. In etiology and epidemiology, Muslim physicians were responsible for the discovery of infectious disease and the immune system, they also made early hypotheses related to bacteriology and microbiology. Their discovery of contagious disease is considered revolutionary and is one of the most important discoveries in medicine. Muslim dentists were also pioneers in dentistry, particularly dental surgery and dental restoration. In surgery, Muslim physicians invented many surgical instruments, made advancements in orthopaedic surgery and eyes surgery, and also introduced the surgical procedure of intubation. In obstetrics, Muslims physicians were able to describe embryology and perinatology more accurately.