

ORIGINAL ARTICLE

Medical Developments During the Reign of Salah al-Dîn al-Ayyûbî and the Famous Physicians of the Period

Abstract

During the reign of Salah al-din al-Ayyubi (Saladin), the founder of the Ayyubid state, the activities in the field of medicine and pharmacy have made considerable progress. Saladin gave great importance to the medical science and medical institutions and constructed the hospitals in important regions such as Egypt, Bilâd al-Sham and al-Jazirah, and these hospitals gradually became medical centers where theoretical and applied medical courses were processed. From these hospitals, the Bîmâristan al-Nûrî in Damascus and the Bîmâristân al-Nâsiri in Cairo continued to operate as two important medical centers, and Muslim, Christian and Jewish physicians came to these hospitals from various parts of the world and practiced medicine. Clinical medicine has emerged as the result of medical researches conducted in these hospitals. One of the most important developments in this period is the establishment of a madrasah by Rais al-Atibba Muhazzab al-Dîn al-Dakhwar, who only teaches medicine in the history of Islam. Famous physicians who have made great contributions to the medical science have lived during Saladin reign. Maimonides, Abd al-Latif al-Baghdadi, Muhazzab al-Dîn al-Dakhwar and Ibn Baytar are the leading figures of these physicians. In the present article medical education in the reign of Saladin and the famous physicians of the period will be examined and developments in the field of medicine will be evaluated.

Key words: History of Medicine, Bîmâristân, Physician, Egypt, Syria, Saladin, Ayyubids

Received: 1 Oct 2018; Accepted: 11 Nov 2018; Online published: 20 Feb 2019

Research on History of Medicine/ 2019 Feb; 8(1): 3-18.

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Introduction

The reign of Saladin can be considered as a period of revival in Islamic thought and culture. Saladin's establishment of the political union among the Muslims, the achievement of great successes against the Crusaders, and the preservation of science and scholarship made Egypt, Damascus and Al-Jazirah centers of attraction for scholars. The vitality of the science and knowledge fields has gained a strong representation with a considerable number of scholars and intellectuals in all kinds of mental and transnational sciences.

The reign of Saladin and the subsequent Ayyubid periods is one of the most brilliant periods of Islamic history in terms of famous scholars. In his time many important scholars of religion, politics and philosophy appeared in cultural life. Among them al-Shatibi, Ibn Asakir, Ibn Qudama, Ibn Munqiz, al-Suhrawardi, Maimonides, Sayf al-din al-Amidi, and Abd al-Latif al-Baghdadi are the major scholars and thinkers of the time.¹

The provision of political unity among the Muslims by Saladin allowed to come many scholars from North Africa and Andalusia to Egypt, Damascus and al-Jazirah, and to revive the scientific activities in these regions. Jews also came from the Maghrib. The Jews who were oppressed in Andalusia and Europe had emigrated to Egypt, under the rule of Saladin, and took refuge in his justice. Among the Jews who came to Egypt, the famous physician and philosopher Maimonides who will later become the doctor of Saladin and receive his protection.² On the other hand, Saladin's appreciation of the scholars enabled a multi-faceted scholar Abdullah al-Baghdadi to come to Jerusalem, Damascus, and Egypt. Later, Saladin and his sons appointed him in the Damascus mosque as a professor (mudarris).³

In this article, we discussed the medical education of Saladin and the famous physicians of his time. Our aim is to contribute to the studies in this area by examining the medical education and the functioning of medical institutions during the Saladin period.

1. Medical Activities During the Reign of Saladin

In the medieval Islamic world, special attention was paid to medical science, and almost all rulers encouraged medical education and built hospitals in various places. The importance of Islamic religion to human health has been an important factor in the development of medicine among the Muslims. The traditions of the Prophet concerning medicine and treatment are among the leading factors in the developments in medicine and pharmacy. Muslim scholars who have

1- Basuguy, 2009: 73-195.

2- Al-Qifti, 1984: 426-8.

3- Zaghul Sallam, 1990:303-6.

received the message of “science divided into two, medicine and religion knowledge” from their prophet have made important activities to gain depth in medical science.⁴ In this context, the Ayyubid period is one of the most prevalent periods of medical science and medical institutions. Saladin gave great importance to medical science and medical institutions such as his predecessor Nur al-din, and he built hospitals in important regions such as Egypt, Damascus and al-Jazirah, and these hospitals gradually became medical centers where theoretical and practical courses were processed. During the reign of Saladin 2 hospitals in Damascus, 4 in Mosul, 2 in Harran, 1 hospital in Cairo, Haleb, Hama, Rakka, Mardin, Nusaybin, Meyyâfârikîn and Jerusalem were actively serving.⁵ From these hospitals al-Bîmâristân⁶ al-Nâsirî (Salahiyyah Hospital), which was built by Saladin in Cairo and al-Bîmâristân al-Nûrî (Great Hospital) which was built by Nûr al-Dîn in Damascus continued its activities as two important medical centers in this period. Muslim, Christian, and Jewish physicians came to these two medical centers from various parts of the world, thus creating a strong medical school based on theory and practice.⁷

The hospitals established by Nur al-din in Damascus served during the reign of Saladin. The famous traveler Ibn Jubayr who visited Damascus in 580/1184 uses the following statements about the hospitals established in Damascus. “When I entered Damascus in 580, I saw the two old and new hospitals. The daily expenses of the biggest of which were around 15 gold. The officers working in one of these hospitals provide patients needs by visiting them with their prescriptions filled with the patient names and the names of drugs and foods required for the patients. The physicians were coming early every day. After examining their patients, they gave directions to their assistants to prepare the medicines and adequate meals for them. Another hospital was established in the west of Jami’ al-Mukarram where mental illnesses were being treated and medicines were being prepared for them. These hospitals are at the top of the knowledge and charity institutions that Muslims should be proud of.”⁸ According to the information given by Ibn Cubeyr, great care was given to the care and treatment of the patients, and a separate recipe was prepared for each patient. In addition, the establishment of an independent hospital for the treatment of mental patients at that time is an important development. At the same time, the application of medication to psychiatric patients should also be considered as a medical reform. Ibn Abi Usaibia, while referring to the treatment method of his master Muhazzab al-Dîn al-Dakhwar says: “He improves mental patients with

- 4- Ibn Abi Usaibia, 1965: 7.
- 5- Şeşen, 1995: 223.
- 6- Saharîf Kaf, 2002: 41.
- 7- Şeşen, 1995:221.
- 8- Ibn Jubair, 1985: 208.



opium.”⁹

Salahiyah hospital established by Saladin in Egypt has a special importance in terms of being a hospital where practical and theoretical medicine are applied together. Saladin has transformed one of the most beautiful palaces of the Fâtimids into this hospital after destroying the Fatimid state.¹⁰ According to Saladin’s vizier Qadi al-Fâdil Saladin supported this hospital which he founded for sick and depressed people with rich foundations. Many doctors and surgeons specialized in their field worked in this hospital.¹¹ One of the important features of the Salahiyah hospital is that it has an independent department that serves only female patients.^{12,13} Ibn Cubayr uses the following expressions for the Salahiyah hospital in his work *al-Rihlah*. “This hospital is a big palace. The Sultan made this palace hospital for the salvation of God and appointed a doctor who specializes in his field as the manager of the hospital (mutawalli). Saladin also built a large pharmaceutical warehouse for the treatment of patients in the hospital. There were physicians working under the supervision of the hospital manager and examining the patients in the morning and evening. There was another building beside the hospital that is separated from the women’s disease and another bigger building next to this buildings, which was allocated to mental illnesses. Mental patients were treated on a daily basis with care and treatment.”¹⁴ The famous doctors such as Maimonides, Ibrahim the son of Maimonides, Radi al-din al-Rahbî, Ibn Abi Usaybia and al-Sadîd Abû al-Bayân worked in Salahiyah hospital.^{15,16,17,18}

The hospitals during the reign of Saladin also served as educational institutions where modern medical research was conducted. Expertise in medicine in this period was carried out in similar ways to contemporary medical education. The assistants who were in the side of the physicians checked the patients in the hospitals in groups and so did the specialization. Medical students would give great importance to the experience of their teachers about illnesses and treatment methods. The young physicians were able to examine the prescriptions written by their masters and to observe which methods they approached with which diseases. In this way, it is called “mulâzamah” for young physicians to constantly benefit from an expert physician. For example, the famous physician of the reign al-Dakhwar became mulâzamah with the Raîs al-Atibbâ Ibn Matrân in his youth and with this method became medical specialist.¹⁹ Maks Meyerhof, in his book which examines medical developments in the history of Islamic civilization, emphasized that Muslim scholars and physicians are very careful in observing and in this context

9- Ibn Abi Usaibia, 1965: 730.

10- Ragab, 2015: 3.

11- Isa Bey, 1981: 77.

12- Ibid: 78-9.

13- Gehan, 2015: 90.

14- Ibn Jubair, 1985: 42.

15- Ibn Abi Usaibia, 1965: 583.

16- Ibid: 672.

17- Ibid: 699.

18- Isa Bey, 1981: 79-82.

19- Şeşen, 1995: 224.

they are more successful than their European counterparts.²⁰ Muslim physicians have not only observed diseases, but have also determined the plants (nabatât), which are used to make the necessary medicines for the treatment of the diseases.

One of the most important developments in this period is the establishment of a madrasah by Rais al-Atibba Muhazzab al-Dîn al-Dakhwar, who only teaches medicine in the history of Islam. al-Dakhwar wedded his home as a medical madrasah in 622/1225, and this house was used by him as a madrasah and a house in his health. After the death of al-Dakhwar in 628, it was completely used as a medical school. al-Dakhwar also dedicated his library and medical equipment to this madrasah. After the death of al-Dakhwar, Sharaf al-din Ali-al-Rahbi, one of the well-known physicians of his time gave theoretical and practical medical lessons in this madrasah.²¹

The works of Hippocrates and Galinos and their commentaries were the most widely read medical books in the Saladin period. The famous physician of the period al-Dakhwar appreciated Galinos's books and benefited from them. Ibn Abî Usaibia states that when al-Dakhwar received information from Galinos's books on a disease he expressed his satisfaction by saying "medicine is this."²² Another physician who benefited from Galinos's books during this period was the Melkite physician Ya'qub b. Siqlâb.²³ According to Ibn Abi Usaybia, when asked for an opinion from Ibn Siqlâb on a medical issue, he answered "Galinos says this on this issue." and he referred to his treatment methods. In addition, Ibn Abî Usaibia states that he took medical lessons from Ibn Siqlâb and states that Ibn Saqlab explained the words of Hippocrates in a very good way.²⁴

Hunain ibn Ishaq's *al-Masâil fî al-Tibb*, the works of Abu Bakir al-Razi, *al-Majusi's al-Kâmil al-Sina'ah al-Tibbiyah* and Ibn Sina's *al-Qânûn fî al-Tibb* and its commentaries are among the most popular medical books in the Saladin period. The books most frequently used in this period for drugs and medicinal plants are *Kitâb al-Hashaish (De Materia Medica)* of Dioscorides and *Kitâb al-Nabât* of Abû Hanîfa al-dinawarî. Likewise, one of the most important pharmacy books of the Middle Ages, *Kitâb al-Jâmi' li-Mufradât al-Adwiya wa-l-Aghdhiya* was written in this period.²⁵ This book written by Ibn Baitar is the most important and most reliable Arabic books on simple medicines. It is a pharmaceutical encyclopedia containing detailed descriptions of more than 1,400 medicinal plants, foods, and drugs and giving their therapeutic values and medicinal uses. The book also includes references to 150 earlier Arabic authors and 20 Greek authors.²⁶

During the reign of Saladin medical lessons were given

20- Meyerhof, 1935: 49-61.

21- Ibn Abi Usaibia, 1965: 731.

22- Ibid: 733.

23- Kohlberg, et al, 1988: 113-126.

24- Ibn Abi Usaibia, 1965: 697-8.

25- Şeşen, 1995: 226.

26- Vernet, 1986: 737.



in hospitals, madrasas and houses. At the Nuriyyah hospital there was a wide classroom established for the theoretical medical education. Abu al-Majd ibn Abi al-Hakam who worked as the first surgeon general of the Nuriyyah Hospital, taught medical courses at this classroom. "A group of physicians and researchers came and took lessons from him, renewed their knowledge and discussed their learning among themselves".²⁷ The same system was also established in the Nasiriyah hospital in Egypt. Radi al-din al-Rahbî was giving medical lessons in this hospital.²⁸ On the other hand, it was also common application for physicians to teach medical lessons in their own homes. In this context, al-Dakhwar in Damascus and Abd al-Latif al-Baghdadi in Cairo gave medical lessons in their homes. One of the places where medical education was conducted in this period was the military camps. For example Ibn Abi Usaibia received medical lessons from Ibn Saqlab and from al-Dakhwar in the al-Malik al-Adil's camps.²⁹

Saladin was said no less than eighteen physicians at his service (eight muslim, five Jews, four Christians and one Samaritan), among them Ibn Maymun, who, as we will see, was born and educated in Cordoba.³⁰

2. Prominent Physicians of the Reign of Saladin

2.1. Ibn Maymun

Abu 'Imran Musa b. Maymun b. 'Ubeydullah al-Qurtubi al-Andalusi al-Israili was born in Andalus, Cordoba on 30th of March, 1135³¹ and died on 13th of December, 1204 in Cairo.³²

The name of Musa b. Maymun, who is a famous philosopher, physician, astronomer and theologian in the history of Mûsevî theology and philosophy, in Hebrew is Rabbi Moses ben Maimon. In Jewish literature, he is often referred to as Rambam, a name composed of the first letters of his original name.³³ Ibn Maymun, also called as "al-Raîs" due to his leadership in the Jewish community during his stay in Egypt with Muslims,³⁴ is referred to as Maimonides in Western sources.³⁵ Ibn Maymun, who was considered the greatest Jewish philosopher who lived in the Middle Ages, was Saladin's special physician, who lived in the same era. Ibn Maymun, who offered significant contributions to Jewish philosophy and theology through his ideas and works, improved his intellect by reading the works of Muslim philosophers and physicians such as, Farabi, Ibni Sina, Ghazzali, Ibn Rushd and Ibn Bacce. As a matter of fact, Ibn Meymun had no hesitation in expressing his influence by the Islamic philosophy in *Dalâlet*

- 27- Ibn Abi Usaibia, 1965: 628.
- 28- Şeşen, 1995: 225.
- 29- Ibn Abi Usaibia, 1965: 689, 731.
- 30- Prioreshi, 2004: 302.
- 31- Wilfinson, 2006: 1.
- 32- Ibn Meymûn, 1974: VII.
- 33- Mittwoch, 1988: 272-4.
- 34- Ibn Abi Usaibia, 1965: 582.
- 35- Çağrıç, 1999: 194.

al-Hâirîn and his other works. In this respect it would not be possible to interpret the thoughts of Ibn Maymun without acknowledging the tradition of Islamic philosophy.

The work that enabled the worldwide recognition of Musa b. Maymun was his *Dalâlet al-Hâirîn*, in which he explained his system of thought comprehensively. This work represents the peak point that Jewish philosophical and religious thought reached in the Middle Ages.³⁶ This work of Ibn Maymun, which exhibits a great interest in philosophy, focuses on the basic principles of the philosophy that finds its source in reason. In this work, written to address his disciple, Yusuf b. Aknin, Ibn Maymun states that this work was written for “those who studied philosophy, those who learned something about the self and all its forces”³⁷ and continued that he wrote the book “Yusuf b. He wrote to his student Aknin that this book he wrote for his book for “the people, for those who were absolute with their morals and religion, who read and understood the essence of philosophical sciences, not for the that did not learn the shari’ah knowledge”.³⁸ The work was translated into Hebrew by Samuel ibn Tibbon while the author was still alive, and later translated into Hebrew, Latin, Italian, Hungarian, German and English and many commentaries were made on the work.

Ibn Maymun, who started his medical education in Andalusia, continued his education in Morocco, where he later migrated, and studied with the famous physicians of his time. The place, where he had the opportunity to reveal his experiences in the field of medicine, was Egypt, there he acquired comfortable conditions in every respect. Most of Ibn Maymun’s works on medicine written in Arabic language between the years 1167 and 1200 in Egypt were translated to Hebrew and several were translated to Latin.

The most important work of Ibn Maymun in the domain of medicine, which reached to present time, is the work *Kitâb al-Fusûl fi al-Tibb*, which is also known as *Fusûl al-Qurtubî*, *Fusûl-u Mûsâ*. He wrote *Fusûl*, his most prominent work in terms of volume and fame, between the years 1187 and 1190. The work contains 1500 medical laws, cited from Galenus and other Greek physicians, making use of the works of Islamic physicians Ibn Zühr, Nuhammed b. Ahmed et-Temimi and Ibn Rıdvan and the analysis, criticism and annotations belonging to Ibn Meymun.³⁹ The book was composed of 25 chapters. The book generally includes detailed information on the tasks of living beings, internal diseases, signs and symptoms of diseases, causes and medicines, application methods for preparation of medicines, and on subjects such as gynecological diseases.⁴⁰ A Hebrew translation of the work, com-

- 36- Wilfinson, 2006: 57.
- 37- Ibn Meymûn, 1974: 174.
- 38- Ibid: 9.
- 39- Wilfinson, 2006: 143.
- 40- Ibid.





pleted in Rome, was published by Natan ha-Meathi in 1279 (Lemberg 1805, 1834-35; Vilna 1888). Another translation of the book in Latin emerged in the 13th century, of which the translator was unknown.⁴¹

Arab scholars referred a work named *Kitâb al-Muhtasar* which is a summary of the famous Greek physician who lived in the exilic 2nd century, Galenus's views on medicine, also to Ibn Meymun. In preparation of this compendium, the disciple Yusuf b. Aknin provided an important contribution. A copy of the work in Hebrew language, of which the original in Arabic does not exist, reached the present day (Meyerhof, XI (1929), p.142).⁴²

Ibn Maymun's work *al-Sumum wa-al-Mutaharriz min al-Adwiya al-Qitalah*, also known as *al-Maqâla al-Fâziliyya* and was dedicated to al-Qadi al-Fazil in 1198, comprises valuable information on the science of medicine. In this work, the author expresses his personal opinions about medical science and his special experiences in medicine. The dedication of the work to al-Qadi al-Fazil should not mean that it could be understood by everyone. On the contrary, this manuscript included an extensive array of technical terms and problems and was penned down for those who would understand the terminology. The work was translated to Hebrew from Arabic by Musa b. Tibbon and to Latin by the Christian scholar Armengaud Blasisus. The work was also translated to French from the Hebrew manuscript by French M. Rabbinowicz (Paris 1865), and to German by Moritz Steinschneider (Berlin 1873).⁴³

Apart from the works mentioned above, Ibn Maymun has many works written on various subjects, such as *Maqâla fî Tedbîr al-Sihhâ* written for the son of Saladin, al-Malik Af-dal, *Fî al-Cimâ'* written for Taqiy al-din Omar, the sultan of Hama, and *Maqâla fî al-Rabv*, *Risâla fî al-Bavâsîr*, *Şarh-u Asmâ' al-'Ukkâr* written for a noble patient in 1190.

2.2. Abd al-Latif al-Baghdadi (629/1231)

Muwaffaq al-din Abd al-Latif b. Yûsuf b. Muhammad b. Ali al-Baghdadi was born in Baghdad in the year 557/1162 and died in Baghdad, his birthplace, on Muharram 12, 629/ November 9, 1231.⁴⁴ Abd al-Latif al-Baghdadi, a physician-philosopher and a sophisticated Islamic scholar, was also known as the name Ibn Lebbâd, which means Ibn Nokta and "Keçecizâde", due to his short, weak and naïve build.⁴⁵

An extensive list of works by Baghdadi is mentioned in the sources. Accordingly, there exist more than 160 works, especially in the domains of medicine, philosophy and reasoning. The number of works reaching to present day, composed by

41- Wilfinson, 2006: 144.

42- Ibid: 145.

43- Ibid: 146.

44- Kutubî, 1974: 385.

45- Zahabî, 1985: 320.

the author, who worked on many dissimilar and various subjects such as hermeneutics (*tafsir*)-hadith, doctrines-remarks (*kalam*), literature-criticism, botanics, grammar-syntax, Islamic law (*fiqh*), zoology, mathematics and mineralogy, are relatively few. Among these works, his most famous work acknowledged in the West and Islamic world is *al-İfâda wa al-İ'tibâr fî Umûr al-Mushâhadat wa al-Hawâdis al-Mu'ayanat bi-Arzi Misr*.⁴⁶ This work, also known as *Akhhâr Misr*, is a small in volume but rich in content work written by Baghdadi while he was in Egypt. The work provides significant information on the geographical, social and economic situation and topography of Egypt as well as the events the author witnessed and experienced in Egypt. His work, *al-İfâda wa al-İ'tibâr*, which was a first order source for the socio-cultural history of Egypt, was started to be acknowledged in the Western world in the early 19th century, and was translated to Latin, German and French languages.⁴⁷

The most significant contribution of Abdüllatîf al-Baghdadi, one of the leading medical and philosophers of his era, to the science of medicine was being the first physician to determine that diabetes disease was related to the liver. In this respect, it is widely believed that his work *Maqâla fî al-Diabetas wa al-Adviyya Nafi'a Minhu*, written on diabetes, was an imperative work in the world medicine history. Another significant contribution of Baghdadi to the science of medicine was the corrections he made to the misinformation provided by Galenus regarding osteology (bone science) through the research he conducted with 2000 skeletons while he was in Egypt. Abd al-Latif al-Baghdadi refuted the Galenus' finding that the mandible bone was composed of two bones, identifying that was a single bone through his research on skeletons.⁴⁸

2.3. Ibn al-Baitâr (646/1248)

Abu Muhammad Ziya al-din Abdullâh b. Ahmed al-'Ashab al-Nabati al-Maleki was born as a child of a well-known family in the city of Malaga in Andalusia, and the birth date of Abu Muhammad, who took the nickname of Ibn al-Baitâr due to his father being a veterinarian, was addressed to different dates such as 575/1179, 585/1189 ve 593/1197.⁴⁹ Ibn al-Baitâr suddenly died in Damascus in 646.⁵⁰

Ibn al-Baitâr is accepted as the most prominent botanical scientist of his era. He introduced the materials, composed of plant species and nutrients, to be used in the art of the medicine, with all their characteristics, and wrote their names in Arabic, Berberî, Latin, Greek, and Persian and accentuated these names in order to remove confusion. Ibn Abu Usaybi

46- Kaya, 1988: 254.

47- Ibid.

48- Ađırakça, 2004: 247-248.

49- İbn al-Baitâr, 1989: 18.

50- İbn Abi Usaibia, 1965: 602.



declared that Ibn al-Baitâr was the most important person in the era of recognizing and utilizing medical plants.⁵¹

The work that introduced Ibn al-Baitâr worldwide was the *al-Jami li-Mufradat al-Adwiya wa al-Aghdhiya*. This work, also known as *al-Mufradât*, was regarded as the most important and reliable book written in Arabic on the subject of simple medicines. This alphabetical work written towards the end of the author's life included 2353 items. In this work based on the observations of Dioscorides and Galenus along with the own observations of the author, the names Ibn Sînâ, Râzî Dinâwarî and Gâfiqî were frequently mentioned. In the work based on the inspector's own testimony. Islamic physicians comprehensively examined *al-Mufradât* and various books on treatment were developed using it as a source.⁵²

2.4. Muhazzab al-din al-Dakhwar (628/1230)

Muhazzab al-din al-Dakhwar, who was one of the most active physicians of the Sultan Saladin and his son al-Meliku'l-Adil eras, was born in Damascus on 1170 and died in the same city on Monday, in Safar 15, 628 / December 23, 1230.⁴³

He took language and literature courses from Taj al-din Abu al-Yumn al-Kindî. Consequent to completing his first education on medicine with Radiy al-din al-Rahbî, he studied several chapters of *Qânûn* by Ibn Sînâ with Fakhr al-din al-Mardînî, who came to Damascus in 589. Although he practiced as an ophthalmologist similar to his father and brother in the beginning, he later focused on the other fields of medicine. Through this occasion, he got in touch with Ibn Matran, the famous physician of the period and took applied medical courses from him. Al-Dakhwar, who started to practice as a physician in the large hospital built by Sultan Nur al-din in Damascus, soon reached a superior level in the art of medicine.⁵⁴

Al-Dakhwar, who received great affection by the rulers, was assigned as the army physician by al-Adil, with a monthly salary 30 nasiri dinar in the month shawwal of 604.⁵⁵ Once he treated al-Adil, who became sick due to a severe illness, and he was rewarded with 7,000 denarii. Therefore, he was proclaimed as the shief physician in Damascus and Egypt and his monthly salary was increased to 100 denarii. As he treated a-Malik al-Kamil, the son of al-Adil, who caught ill in the plague epidemic in Egypt in 612, he was rewarded by al-Kamil with 12,000 denarii and various valuable items.⁵⁶

After returning to Damascus, he started giving medical courses. In the meantime, he patronized physicians such as Rashid al-din al-Sûrî and the father of Ibn Abî Usaibia. Ibn Abi Usaibia also took medical courses from him while he

51- Ibn Abi Usaibia, 1965: 601.

52- Baytop, 1985: 44.

53- Ibn Abi Usaibia, 1965: 733-4.

54- Ibid: 728.

55- Ibid: 729.

56- Ibid: 730-1.



was living in Damascus. Aware of the books of Galenus, al-Dakhwar enjoyed his thoughts on his diseases and methods of treatment.⁵⁷

Ibn Abi Usaibia, who communicates the daily life and courses of Mühezzebüddin al-Dakhwar, provides important information in terms of shedding a light on the medical education in the era. According to this, “Muhazzab al-din went to the Nuriyya hospital early in the morning and treated his patients. After he finished his work in the hospital, he visited the elders of the state who were sick, and after their examination he returned back his home. He then started to contemplate on the books and to teach. The physicians and the disciples arrived in groups and received courses from him. The teacher made the necessary explanations and resolved the intricate matters that required attention. He kept the manuscript of the book ready during courses for the precision of the course. The transcripts he taught in courses were highly substantial and most were in line with his tradition. He kept the important resources, that he could need in the courses, at hand. He kept Jawhari’s *Sihâh*, Ibn Faris’ *al-Mujmal*, and Abu Hanifa al-dinawari’s *Kitâb al-Nabât* with him at all times. Once the courses were finished, he returned to his private errands and ate. He spent the rest of his day with book reviews and course preparation. In his spare time, he had conversations with Seyfuddin al-Amidi. He received philosophy courses from his long acquaintance, Amidi. He also read the works of Amidi, such as *Daqâiq al-Haqâiq*, *Rumûz al-Kunûz*, *Abkâr al-Afkâr*. He also studied astronomy and astrology and took astronomy courses from Abu al-Fazl al-Israel. He acquired books and instruments necessary for this discipline, that were not to be found by anyone else. According to what I heard from him, he had sixteen precious relics of various scholars on astrology”.⁵⁸

Among his books on medicine are *Ikhtisâr*, *Maqâla fi al-İstifrâg*, *Ikhtisâr Kitâb al-Agânî* and *Kitâb al-Janîne* written for *al-Hâwî* of Râzî.⁵⁹

2.5. İbn Matran (587/1191)

Ibn Matran, who was the special physician of Saladin and the chief of the physicians in Damascus (Rais al-Atibbâ, Shaykh al-Atibbâ) during that time, attended theoretical and applied courses in medical science. Ibn Matran, who mostly took courses on the method of medicine, had a decent education also in sciences of philosophy, literary arts, grammar and syntax.⁶⁰

Ibn Matran also joined military campaigns as the chief physician of the army as well as being the private physician of

57- Ibn Abi Usaibia, 1965: 731.

58- Ibid: 732-733.

59- Ibid: 735.

60- Ibid: 651.



Saladin. Ibn Matran, who was a generous, benevolent, charitable, voluptuous physician wandered through poor patients, treated and helped them for free. He even supplied medicine and bath fees.⁶¹

Ibn Matran, who was born as the child of a Christian family in Damascus, became a Muslim after he met Saladin. It is reported that he was highly fond of collecting books had a library consisting of 10,000 volumes. Majority of these books were related to the art of medicine.⁶² Most famous work of Ibn Matran, who himself was extremely eager to write, was the work *Bustan al-Atibba' wa Rawdat al-'Alibba*, which was a collection of literary stories, anecdotes and rarities about medicine. It is reported that he died before completing this book. The two fascicles of this work, which he wrote in the style of *Da'wah al-Atibbâ*, was edited and published by his most famous disciple, al-Dakhwar.⁶³ Except this work, another important work was the *al-Maqâla al-Nâsiriyya fi Hifz al-Umûr al-Sihhiyya*, written for Saladin the Sultan, which was composed of aphorisms on protecting the health. Ibn Matran also wrote a work for Najm al-din, father of Saladin, called *al-Maqâla al-Najmiyya fi al-Tadâbîr al-Sihhiyya*. In addition, he has an incomplete work, *Kitâb al-Adwiya al-Mufrada*, in which he mentioned all diseases and medications.⁶⁴ Once the names of the work of Ibn Matran were examined, it could be possible to assert that he valued preventive medicine. He mainly produced works on protecting health. Since he was the special physicist of the Sultan, his work mostly mentioned measures regarding the protection of the health.

2.6. Fakhr al-din al-Mardini (594/1198)

Fakhr al-din al-Mardini, who was a scholar in the "Ulûm al-Hikma", was born in Mardin in 512/1118, and died in Amid in 594/1198.⁶⁵ Fakhr al-din al-Mardini, who in fact lived within the boundaries of the Artukids, was well educated in the fields of medicine and philosophy and was one of the important personalities of his time. Mardini read Ibn Sînâ's works on medicine and went to Damascus in 587. Fakhr al-din, who was soon recognized in Damascus, gave lectures on medicine in the assemblies he established there. Al-Dakhwar, who was one of the most important physicians in Saladin period, was his disciple in Damascus and studied *al-Qânûn* of Ibn Sînâ with him. Fakhr al-din al-Mardini had a prominent position in the community, with his knowledge and interpretation of the book *Qânûn*.⁶⁶ Mardini stopped at Haleb on his way back from Damascus. There, he was honored by the compliments of al-Malik al-Zahir.⁶⁷

61- Ibn Abi Usaibia, 1965: 654.

62- Ibid: 655.

63- Ibid: 658.

64- Ibid: 659.

65- Ibid: 402-3.

66- Ibid: 728.

67- Ibid: 403.



Shaykh al-Israq al-Sukhrawardi al-Maqtûl met with Mardini at a young age, became one of his disciples, and influenced Mardini with both his intelligence and his courage to express his ideas. Mardini said that he could not find a young person who was more intelligent and eloquent than him, back then. Mardini, who previously stated that Sukhrawardi would be troubled because of his courage, told what he feared of had happened.⁶⁸

Prior to his death, he transferred his library composed of precious works, to the madrassah, which was ordered to be built by Artukoglu Husam al-din, also known as a philosopher. The commentary he narrated on Ibn Sînâ's *al-Qasîda al- 'Ayniyya* of Ibn Sînâ was one of his most recognized works.⁶⁹

2.7. Ibn al-Sa'ati (618/1221)

Fakhr al-din Ridwan b. Muhammad Ali b. Rustam al-Khorasani al-Sa'ati was born in Damascus. His father was Muhammad was from Khorasan and emigrated to Damascus and resided there until his death. Since his father, who was a muwaqqid, was also involved in clock making and maintenance, he was known by the name of Ibn al-Sa'ati.⁷⁰

Muhammad, father of Ibn al-Sa'ati, was a strong authority back then regarding astronomy and horology. A clock made by Muhammad during the reign of Sultân Nur al-din was located in the Bab al-Mosque area.⁷¹ One of Muhammad's children, who left two behind after his death, Baha al-din was acknowledged as a famous poet. The poem court of Baha al-din, who died in Cairo, was renowned. His other son, Fakhr al-din, followed his father's path and studied astronomy and horology. Being a good physician simultaneously, Fakhr al-din was also a scholar person in terms of reasoning and philosophy.⁷²

Ibn al-Sa'ati, who started his medical education with Radiy al-din al-Rahbî, was his disciple for a long time and received theoretical and practical medical courses from him. Later he also took medical courses from Fakhr al-din al-Mardini, who arrived Damascus. He studied literature with the famous linguist of his era, Taj l-din Abu al-Yumn al-Kindi. Yâqût stated that Ibn al-Sa'ati was fond of poetry and music and played the lute very well, being in his council several times.⁷³ Ibn al-Sa'ati, who was the vizier of al-Malik al-Fa'iz, son of al-Malik al-Adil and the vizier and special physician of al-Malik al-Muazzam Isa, was highly intelligent and passionately keen on science.⁷⁴ The work of Ibn al-Sa'ati, who was familiar with clock making and maintenance as his father, called *'Ilm al-Sâ'ât wa-al- 'Amal bi-hâ; Ma'a Majmû' fî al-Mikânîk al-Islâmî*, written on the repair and maintenance of clock, which

68- Ibn Abi Usaibia, 1965: 642.

69- Ibid.

70- Ibid: 661.

71- Ibid.

72- Al-Hamawî, 1982: 141.

73- Ibid: 142.

74- Ibn Abi Usaibia, 1965: 662.



was made by his father and was placed in Damascus, reached present day and was published in a compilation with other works mentioning clocks by Muhammed Ahmed Dehman (Damascus 1981). Ibn al-Sa'ati, who said that he wrote the book due to the death of his father and due to the deformation on the instruments and the clocks his father made, also expressed that his writing saved the works of his father from being forgotten.⁷⁵ In this work, Ibn al-Sa'ati, who gave information on the history of horology, also provided important information about the parts of the clock, shape, form, dimensions and the working principles of these parts, maintenance and repair of the clock.

Ibn al-Sa'ati, who is also a good physician, wrote an annotation and an addition on the Ibn Sina's books, *al-Qânûn fî al-Tibb and Kitâb al-Qulanj*, respectively. He is also mentioned for another work, named *Kitâb al-Muhtârât* that included selected works of the Arab poetry.⁷⁶ As reported by Yaqut al-Hamawî, he died in Damascus in 618/1221.⁷⁷

Conclusion

During the reign of Saladin, the activities related to medicine and pharmacy advanced considerably. Saladin attributed a great importance to medical science and medical institutions such as his successor, Nur al-din Zangi, and constructed hospitals in important regions such as Egypt, Damascus and al-Jazirah, and in time, these hospitals became medical centers where theoretical and practical courses were given. From these hospitals al-Bîmâristân al-Nûrî (the Great Hospital), which was built by Nur al-Din in Damascus, and al-Bîmâristân al-Nâsirî (Salâhiyye Hospital), which Saladin built in Cairo continued their activities as two important medical centers during the Saladin era. Muslim, Christian and Jewish physicians came from the various places of the world both of these medical centers and a strong medical ecole based on theory and practice emerged. Clinical medicine developed as a result of the medical education provided and the medical research conducted in these centers. One of the most important innovations in this period is the establishment of a madrasah who only teaches medicine in the history of Islam by Rais al-Atibba Muhazzab al-Dîn al-Dakhwar.

There are important physicians trained in the Saladin era. Ibn Maymun, who demonstrated the power to criticize Galenus' ideas in his works, wrote treatises on preventative medicine as a palace physician and these treatises became an example for the succeeding medical publications. Abd al-Latîf al-Baghdadi, again one of the leading physicians and philosophers of the period, contributed the science of

75- Ibn al-Sâ'âtî, 1981: 3.

76- Al-Hamawî, 1982: 142.

77- Ibid.



medicine by being the first physician to determine that diabetes was related to liver. His work, *Maqâla fi al-Diabetes* is extensively acknowledged as a significant research in the world history of medicine. Another important contribution of Baghdadi to the science of medicine was the corrections he made to the misinformation provided by Galenus regarding osteology (bone science) through the research he conducted with 2000 skeletons while he was in Egypt. Abd al-Latif al-Baghdadi refuted the Galenus' finding that the mandible bone was composed of two bones, identifying that was a single bone through his research on skeletons. The work of Ibn al-Baytar, who was accepted as the greatest botanical scholar of his era, known worldwide as *al-Câmi' li-Müfredâti'l-Edviye ve'l-Ağziye*, was written on the simple medicine and was a widely used and trusted pharmacological (science of medication) study. The characteristic that made the work prominent for centuries was the knowledge Ibn al-Baytar acquired through solid observations and experiences on botanics.

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