



## Medical Sciences Activity in Egypt and the Levant During the Mamluk Era (648–923 AH / 1250–1517 AD)

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### Abstract

This study explores the flourishing of medical sciences in Egypt and the Levant during the Mamluk era (648–923 AH / 1250–1517 AD), focusing on the educational and healthcare institutions that were established during this period. It highlights the crucial role played by scholars, physicians, and Mamluk sultans in promoting medical knowledge and practice. Adopting a historical-analytical approach, the research examines the religious, political, social, and economic contexts that fostered this intellectual revival. Particular attention is given to **bimaristans** (hospitals) as centers for both medical treatment and education, in addition to mosques, libraries, and scholars' residences that functioned as academic hubs. The study also reviews the medical curricula adopted at the time, alongside major scholarly contributions by Levantine physicians in fields such as preventive medicine, ophthalmology, surgery, and pharmacology. The findings indicate that a combination of supportive political governance, interfaith social harmony, and scientific patronage transformed the Levant into a leading center of medical advancement during the Mamluk period.

**Keywords** Islamic Medicine, Mamluk Era, Bimaristan, Medical Education, Levant, History of Medicine, Levantine Physicians, Waqf, Islamic Libraries

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### Introduction

Praise be to Allah, the praised among those who give thanks, and prayers and peace be upon the truthful and trustworthy Messenger of Allah, and upon his family, companions, and those who follow his path and trace his footsteps until the Day of Judgment...

The flourishing of medical sciences in the Levant during the Mamluk era represents a bright chapter in the history of Arab civilization. The Levant witnessed in the seventh and eighth centuries AH remarkable progress, sophistication, flourishing, and activity in its scientific life, as evidenced by the abundance of diverse scientific and educational centers, the multitude of scholars skilled in various arts, and their numerous writings. The impact of these scholars on their nation clearly indicates the high level of scientific life in the Levant during these two centuries, especially in medical sciences. The scientific renaissance in any city is often measured by the number of schools, hospitals (bimaristans), and centers of knowledge established during its revival period.

The Levant saw the founding of many scientific institutions across its cities. During the Mamluk era, it became the Islamic world's capital after Baghdad and a hub of intellectual activity. This was not only the work of

Levantine scholars but included many from across the Islamic world. The flourishing of scientific activity had multiple contributing factors—both external and internal.

Externally, it was driven by the Crusades and the Mongol invasions of the Islamic world, including the conquest of Jerusalem and the destruction of Baghdad, which resulted in the killing of many scholars and the burning of books. This devastation created a desire to compensate for the losses suffered by the Arab scientific renaissance. Internally, factors included the widespread dissemination of knowledge and the active role of sultans, princes, and state officials who supported science and scholars. Many of these leaders were themselves scholars, writers, or poets. Their contributions directly stimulated scientific activity through sponsorship of study and authorship and their interest in scientific affairs.

Alongside this, the scholars of the Levant and others who worked in the region exerted significant efforts that greatly contributed to the intellectual movement throughout the Levant. The establishment of schools, hospitals, and other centers of knowledge was not limited to state officials alone but also included various social classes. The societal cooperation created a distinctive cultural unity that encouraged many scholars and students to turn their attention to the Levantine cities and collaborate with their people to enrich Islamic civilization with their knowledge and innovations. This was all achieved through a process of exchange between the Levantines and those who came to them from elsewhere.

Physicians of this era adopted diverse methods and means to teach medicine, encompassing both theoretical and practical aspects. Hospitals served both as treatment centers and as places for teaching medicine theoretically, where discussions and debates on medical issues were held, diseases described, and treatment methods examined through reading and studying medical books. Levantine physicians heavily relied on earlier works by figures such as Hippocrates and Galen.

One prominent feature of the medical scientific movement was the emergence of a large number of renowned physicians in the Levant, especially those whose fame spread in the field of medicine. Their number reached more than seventy, as documented by Abu Isba'a in his "Classes of Physicians," while the physicians who appeared after his death exceeded twenty.

The topics covered in this research include an introduction and a prelude about the religious, political, social, and economic conditions in the Levant during the Mamluk era.

The first chapter discusses the sultans' interest in science and scholars. The second chapter covers the places of medical education in the Levant during the Mamluk era:

Mosques

Libraries

Hospitals (Bimaristans)

Scholars' residences

The third chapter discusses the activity of medical sciences in the Levant during the Mamluk era:

Medical education and its curricula

Scientific production of Levantine physicians

## **Conclusion**

## **Sources and References**

**The first topic: the general conditions in the Levant during the Mamluk era**

## Religious Conditions:

In terms of religion, most of the population of the Levant of Sunni Muslims as well as the presence of some other religious sects such as Christians and Jews, and Sunni Muslims were distributed in the cities of the Levant, villages and valleys <sup>(1)</sup>, especially after the Shiite doctrine was confined with the end of the Fatimid state until it reached its extent in the Ayyubid era, and that the Ayyubids are Sunnis <sup>(2)</sup>The migration of the Kurdish Turkmen to the Levant in the fifth century AH / eleventh century AD also had a role in increasing the number of Sunnis.

With the presence of Sunni Muslims in the Levant, it was a good number of Shiites also or so-called Alawites, and they inhabited specific areas of the Levant in Tyre, Sidon, Safad, southeast of Damascus and some castles <sup>(3)</sup> and Christians lived in various parts of the Levant, as they lived next to Muslims in villages and cities, and they reside in their churches or in their own neighborhoods called the Christian Lane <sup>(4)</sup>The Christians under the Mamluk state enjoyed great tolerance that helped to create a social atmosphere in the spirit of brotherhood among the various population groups <sup>(5)</sup>, and this atmosphere of tolerance added to daily mixing, and continuous cooperation in many professions and businesses <sup>(6)</sup>.It had an impact on social relations between them and their Christian neighbors in the joys and sorrows has agreed in 642 AH / 1226 AD Eid al-Fitr and Eid Jews promise of wonders and celebrated everyone Eid and they were exchanging congratulations and gifts <sup>(7)</sup>, and was marveling Ibn Jubayr of the good social relations between Muslims and Christians says: "It is strange that the Christians neighboring Mount Lebanon if they see one of the interrupted Muslims brought them sustenance and good to them and say those of He was cut off to God, and they must be shared..."<sup>(8)</sup>.

As for the Jews, they spread in several areas in the Levant, the Arab-Islamic sources did not refer to their areas of residence and numbers, but the traveler Benjamin Al-Tutuli pointed out in his trip that visited the Levant in the first half of the sixth / twelfth century AD to their numbers and areas of presence, and they are generally a minority representing a very small percentage of up to three thousand people approximately, most of their concentration: In the city of Damascus, Aleppo, Jerusalem and some villages and castles if the narration of the traveler is true <sup>(9)</sup>.

The Jews were divided into three sections: the Rabbinic Jews, the Karaite Jews, and the Samaria Jews<sup>(10)</sup>, and they worked in the textile industry, dyeing, banking and other craft work, as well as being translators and guides for Christian pilgrims during their visit to the holy places<sup>(11)</sup>.

There was cooperation and mixing between Muslims and Jews in all fields, as the Jews deposited their goods with the Muslims to be transported to commercial caravans on Saturdays because they did not travel on Jewish holidays <sup>(12)</sup>.

During the period of the Crusades, the dhimmis enjoyed ample freedom in practicing their religious rites and lived with their Arab brothers, who constitute the majority of the population.

As for the Kurds, their arrival in the Levant also dates back to the fifth century AH / eleventh century AD to invade the Turkmen, their original homeland in Armenia and Diyarbakir, as well as the proximity of their original homeland to the Levant, which facilitated their entry into it <sup>(13)</sup>.

Imad al-Din Zengi used them to recover the citadel of Shiraz from the Crusaders and cut them off in return as fiefdoms in Aleppo.<sup>14</sup>

He also found other minorities of Islamic and non-Islamic elements in the Levant, such as Al-Diyata, Karaj and Armenians, who were famous for their constructive activity in the Islamic community, it has more Osama bin Munqidh in mentioning their news and skills in shooting, hunting and war <sup>(15)</sup>, and also lived in the Levant budget who inhabited the mountains north of Tripoli and were famous for supporting the Crusaders and anti-Muslims.

## Social Conditions:

The Levantine society was divided in that era into two prominent categories: the private one, which included statesmen such as kings and their assistants, ministers, veils, senior state officials, army leaders, scholars and jurists who contacted the ruling authority, and scholars and jurists gained a respectable position.

As for the general category, they constitute the majority of them, as it includes many categories of merchants, manufacturers, craftsmen, owners of singing, hobbies, arts, music and others <sup>(16)</sup>.

Yaqut al-Hamawi described this group, saying: (And its people have the care to reform themselves.... Say what you see from those who raised it who did not accept the morals of his parents)<sup>(17)</sup> preserving their customs and traditions that they inherited from their ancestors.

It also included the general class peasants who were working in the fiefdoms of soldiers and senior statesmen, and despite the interest of the rulers peasants and reform their affairs digging canals and canals, but that their situation was bad for their submission to the system of military feudalism, and the large number of taxes, and exposed to raids Crusaders who were raiding their lands destroy and burn their planting as well as lethal them slaughter and kill <sup>(18)</sup>.

Despite the dominance of the idea of jihad in the minds of the Mamluks, but they have an interest next to the holidays and these holidays begin on the Islamic New Year on the first of Muharram of each year, preparing sweets and foods in the palaces of the Mamluks to be distributed to members of society in various categories of ranks and owners of Diwans and other people <sup>(19)</sup>, and therefore to preserve social cohesion between the various classes of the people to form one solid front in the face of enemies.

Muslims also celebrated the month of Ramadan, as they were interested in cleaning and painting mosques and increasing lighting in them <sup>(20)</sup>, in which the quantities of sweets and alms for students, the poor and the needy doubled, and in the twenty-seventh of the Ramadan celebrates the Night of Power in mosques and schools and distributes them to jurists and students stuffed pieces <sup>(21)</sup>.

In Eid al-Fitr, they perform prayers in the mosque and exchange congratulations and then go to visit the graves in commemoration of the purified Sunnah, which urges to visit the graves for sermon and remembrance, and then take the pilgrims to prepare to perform the Hajj, as their relatives and friends celebrate their farewell <sup>(22)</sup>, and the people of Damascus celebrate the day of Arafat, as they go to the mosques to stand where the detectors of the heads after the afternoon prayer in search of the blessing of the pause, and they are still standing praying to God Almighty until sunset, and then alienate The pilgrims are also alienated, and they cry asking God to deliver them to his sacred house <sup>(23)</sup>, and upon the return of the pilgrims, some of the inhabitants of the Levant, men and women, go out to meet them, shake hands, wipe them and give charity to their poor with money, and sacrifice sacrifices on Eid al-Adha and distribute them to the poor.

The people of the Levant also celebrate the Prophet's birthday <sup>(24)</sup>, Ashura and the rotation of the loader and the exit of the caravan and the nights of revival as they light candles and lanterns in the mosques on the night of the first of Rajab and the night of Miraj and the night of the half of Shaaban and people gather to remember and read <sup>(25)</sup>.

The Levant also witnessed public celebrations on certain occasions, such as the celebration of circumcision of children, for example, when Nur al-Din Mahmoud, his son, the righteous king, was circumcised on Eid al-Fitr in 569 AH / 1173 AD, Aleppo was decorated on that occasion and all the children of the princes were circumcised with him, and Nur al-Din gave many alms and clothing to the poor and orphans, while the parents also celebrate the circumcision of children, each according to his ability.

The people of the Levant used to celebrate the occasion of marriage in accordance with Islamic traditions to some extent, and gifts were given to the newlyweds at the wedding ceremony.

Just as they celebrate at weddings, there were ceremonies to hold funerals and condolences, which vary according to social strata.

The celebrations and holidays were active social seasons in which decorations and weddings are held, including what is officially to receive delegations or receive the Sultan, including what is related to public affairs such as conquests or military victory, jihad has imposed certain means of entertainment in the Levantine community, such as going out to hunt, as the Levantine were interested in hunting animals according to the order as if the order of war <sup>(26)</sup>. They practiced the sport of throwing hazelnuts, which moved to them from Iraq, and it was common in the Levantine society to show shadow imagination and representation by puppets, which arose since the Fatimid era and continued in the Ayyubid era <sup>(27)</sup>, and then the Mamluk era.

Finally, it is necessary to give a glimpse of the situation of Levantine women, as they received a lot of attention in social life as a teacher and educated, Ibn Asaker has mentioned about a large percentage of his elders of women, including those nicknamed scientist in the Levant <sup>(28)</sup>.

Women used to learn and rise in the stages of education until they reached the rank of scholars in homes and mosques, and some of them traveled to seek knowledge, and participated in listening councils.

#### **Political Situation:**

The Mamluks did not adhere to the principle of heredity in governance, they have shown the idea of survival of the strongest, most courageous and influential among the princes and sultans, the Mamluks have become after the battle of Ain Jalut, the owners of the solution and the contract, so as to defeat the Mongols for the first time in their history in the east, a decisive defeat and their army was completely destroyed, and the Mamluks eliminated the myth that the Mongols are people who do not overcome, and the Mamluks controlled after Ain Jalut the whole Levant until the Euphrates <sup>River</sup> <sup>(29)</sup>. They achieved the unity of the Levant and Egypt after the weakness of the sons of Salah al-Din and their conflict led to its dismemberment, and in fact the victory achieved by the Mamluks in Ain Jalut saved Islam and Muslims from their danger, the battle of Ain Jalut made the Mamluk Sultanate the main force in the Near East in the next two centuries until the Ottoman Caliphate <sup>(30)</sup>.

It is worth noting that the Mamluks, who accounted for the rule of Egypt in the middle of the thirteenth century AD, were usurpers of the authority of their legitimate owners, as well as being wounded because of their origin, and they were when establishing their state in dire need to do a job that gives them a kind of honor, and earns their rule a share of importance and legitimacy, and makes it acceptable to the general Muslims, after the opposition by the supporters of the Ayyubid state In Egypt and the Ayyubid rulers in the Levant, from here the importance of their victory in Ain Jalut, because this victory achieved their wishes, and showed them the image of the protective shield, and the impregnable dam of the Islamic world, and the only force that can stand in the face of the Mongols and repel them, and even break their <sup>thorn</sup> <sup>(31)</sup>, the Ayyubid leadership ended completely from the Levant, and the Mamluks were able to unite the Levant and Egypt under the banner of one state.

The Islamic State looked at them with reverence, appreciation and love, and recognized the great role they played in defending Islam.

#### **Economic conditions:**

The economic factor formed a basic pillar on which the Mamluk state relied in its establishment and continuation, and the mediator in the history of this state, finds that it enjoys a solid economy based on active foreign trade, and a balanced internal situation based on security and stability, and the striking force that is respected and feared by enemies <sup>(32)</sup>, the Mamluk political system has taken care of lands and endowments and

linked them to military preparation, and emerged in the seventh and eighth centuries AH that trend, has divided economic activity. The Mamluks have three main areas: agriculture, trade, industry and finance.

### **Agriculture**

It seems that agricultural crops increased in the Levant in the era of the Mamluks because of the great care of agricultural facilities of bridges, canals and arches, the sultans have taken care of bridges so that they sent every year a number of princes to various works for the architecture of bridges and called Prince "detector bridges" and bridges engineers working with the detector.

As for the agricultural crops in the Levant, it is olives and other crops, which sometimes overflows the country's need, but the progress of agriculture does not mean that the peasants were in a good living condition, but the Shami farmer lived tied to the land and served by it and has little of its bounties, because the crops and crops were the share of princes and sultans, and the farmer remains only tired and effort.

### **Industry**

Industry flourished in the Mamluk era as a result of the large number of wealth, and the mastery of manufacturers in industry and interest in goods to display them in the markets, and sell them at good prices, with the presence of wealthy people who acquired materials and goods, and thus the industry rose and overflowed the treasury with funds, and the impact of this was reflected in the emergence of high-end industries. Because the Mamluk state is basically a military state, the Mamluks grew up on military education, the Mamluks were interested in military and military industries, from the crossbow, spear and sword, and was associated with the military industry ship industry, so the Mamluks established a naval fleet to repel enemy raids and protect its shores, and the manufacture of warships on the types are Al-Shawani, Al-Hariq, Al-Taraj, etc., wood may be local or imported from Egypt and Asia Minor.

### **trade**

Trade was one of the basic manifestations of Mamluk activity, has helped the strategic location of the Levant and its cities and gaps in this distinction, and contributed to the Crusades in increasing trade exchange between Muslims and Crusaders in the Levant, and commercial ships played a major role in the transfer of goods from Mamluk ports to European trading cities such as Venice, Pisa, Genoa and others, and the Crusader entities relied in their supply on the products of the various regions in the Levantine coast, and exported sugar and cloth to Western Europe. Especially to include their relations with the Mamluks on an economic agreement to achieve special privileges for European merchants in the Mamluk regions, and despite the tension of Mamluk relations with the papal but they soon return due to their desire for the harvests of the East.

Damascus has emerged as an ancient historical and civilized city with a political and civilized role, and then turned to exercise a commercial role in the Mamluk era, where it was famous for its beauty, diversity of goods, quality, multiplicity of markets, and its industries of sweets, textiles, copper utensils, perfumes, glass and silver and copper. Trade in the Levant was not only external, but also internal between major cities and smaller cities.

### **The second topic: manifestations of the interest of the Mamluk sultans in science and scientists**

One of the recognized facts in the history of Islamic civilization is that kings, rulers, princes and statesmen had the greatest impact on the prosperity of the civilized side, as the Mamluk era is considered one of the most beautiful eras scientifically and culturally after the third century AH, as this era has been characterized by the abundance of scientists produced by the nation at that time, leaving for future generations a huge heritage in various arts of knowledge, especially when the Islamic world was hit in the seventh century AH by treacherous attacks at the hands of the Mongols and the Crusades. In addition to what happened from the displacement, division and extermination of the Islamic presence in Andalusia <sup>(33)</sup> by Christians, which made the situation in

those areas unstable, migrated a lot of people, including scientists to Egypt and the Levant, which was under the rule of the Bahri Mamluks at the time, who supported scientists and built them many types of scientific facilities such as schools that spread in Egypt and the Levant and provided with houses for accommodation and hospitality and each library had a bookcase<sup>(34)</sup>, and the school was distinguished from the mosque by the presence of student housing attached to schools for students to live in, and what contributed to the stabilization of its pillars is the presence of endowments founded by the Bahri Mamluk sultans and exerted their efforts for the advancement of the Islamic nation scientifically and civilized. Tying<sup>(35)</sup> was also used to deliver lessons, and ligaments spread in many parts of Islamic countries.

#### **4- The support of the Mamluk sultans for science and scholars:**

Preoccupied Mamluk sultans in jihad against two fronts are the Crusaders and Tatars to defend their religion they were great jealousy of the interests of Muslims, Vmagmoa scientists and Astoqohm in the supreme matters of the state, which made religious scholars enjoy wide authority for the abundance of their knowledge and the wisdom of their mind and asceticism in the world, so that some sultans feared the power enjoyed by some clerics <sup>(36)</sup> This is evidenced by Sultan Zahir Baybars, who feared the judge Izz bin Abd al-Salam (d. 660 AH / 1262 AD) and respected his views when the Sheikh died said Zahir Baybars "What settled royal only now "<sup>(37)</sup> and infer from that the high status and prestige enjoyed by the scholars when the Mamluks.

#### **6- The establishment of the Mamluk sultans houses for knowledge and monitoring of endowments on them:**

The Mamluk sultans walked on the policy of their predecessors, so they cared about the role of science and encouraged scientists and their encouragement exceeded the sultans of Bani Ayyub, where they have ample money and the appropriate time, unlike the Ayyubid state, which was busy most of its time defending the country and harnessed most of its potential in that <sup>(38)</sup>, and the Mamluk sultans established large numbers of science houses in Cairo and the Levantine cities, and made endowments on them to contribute to their continuation, which helped in the expansion of the education movement in their time, and the recovery of the authorship movement The same scholar had tens or hundreds of works such as: Jalal al-Din al-Suyuti (d. 911 AH/1505 CE), Ibn Taymiyyah al-Harrani (d. 728 AH/1328 CE), and Taqi al-Din al-Sakbi (d. 756 AH/1355 CE)<sup>(39)</sup>.

The reasons for building the Mamluk sultans for the role of science differed according to their goals, some of them wanted to get closer to God under the auspices of a division scientifically and civilized, and some of them dominated by the spirit of competition to leave a distinctive imprint for him different from the rest of the sultans with his exploits, and some of them wanted to feel proud, which will leave a scientific legacy that benefits the people of science, and some of them draw some money in the hands of their children through the endowment appointed to the school, and the endowment system ensures the continuation of the role of education flourishing students of science and scientists.

Among those scientific edifices: the school and the virtual library in Damascus, and the Qartaiya school in Tripoli, the Levant, also became the Umayyad Mosque in Damascus in the Mamluk era collector of science in that era, as the Mamluk sultans were interested in establishing schools to teach orphans and the distribution of food, medicine and clothing on them, making each school polite and corporal to help him teach young people to write, and stipulated in the polite and corporal important conditions, including reason, religion, good manners and distance from violence <sup>(40)</sup>.

#### **7- The establishment of the Mamluk sultans houses of huge books:**

The Mamluk sultans were concerned with the establishment of houses for books and made them attached to the role of education and providing them with precious literature, because the sultans wanted to help scientists and students of science in their scientific jihad, and one of the most famous bookcases in that era is the treasury

of the Al-Hakim Mosque by the command of God (403 AH / 1012 AD), which was provided by Sultan Baibars in (703 AH / 1303 AD) with scientific books of all disciplines, and the treasury of the Mansuriya dome Established by Al-Mansur Qalawun in 683 AH / 1284 AD, some senior princes and scholars also owned their own offices, such as: Al-Qadi Najm al-Din, where he had a library of more than three thousand volumes of precious books <sup>(41)</sup>; this indicates the culture and awareness of the Mamluks with science and knowledge.

Where the prosperity of scientific life in the era of the Mamluks indicates the scientific wealth that we have received from that era, the houses of books around the world were filled with hundreds of manuscripts of various sciences, scientists competed in various fields of science and knowledge such as literature, history, jurisprudence, language, geography, medicine and various religious sciences, and they made a broad scientific renaissance, and the sultans had a major role to support and encourage scientists by fiefdoms, grants, or financial rewards, or by assuming high positions in the state and bringing them closer to the councils of the sultans and taking with their advice <sup>(42)</sup>.

We conclude from this that the sultans contribute effectively to the prosperity of scientific and literary life by encouraging scientists and building educational houses for them, which encouraged scientists to renew and innovate in science, and there became a mixture of knowledge because of scientists who migrated to Egypt and the Levant, and transferred their sciences and literature to the Mamluk state, and book houses included hundreds of thousands It is known that scientists enjoyed an audible opinion, the just ruler is striving hard to find the valid lining that is suitable for his state, when the ruler does well with the righteous lining his state remains strong and steadfast in the face of all dangers and challenges, as long as it applies the law of God and stays away from grievances, and the Mamluk sultans did not find better than the scholars To help them to run the helm of the country, take their advice and listen to them and their guidance.

#### **B) The councils of the Mamluk sultans to imitate the scholars on educational facilities:**

The Mamluk sultans were keen to establish various educational institutions, whether schools or khanqat or linking or book houses or bimaristans, to upgrade their state culturally and become a beacon for students of science among other countries, as some of the Mamluk sultans established great schools that lasted for centuries from which knowledge of various sciences is spread and provides students of science from all Islamic countries such as virtual schools, and Sultan Hassan School, and the teaching profession had a great deal when the Mamluk sultans when the teacher is appointed to a major school, the Sultan honors him and dethrones him , either in the place of the school or in the iwan House of Justice and then writes him the Sultan signature of the Diwan of construction <sup>(43)</sup>, in which the teacher advises several things, including: to provide his knowledge to students in a good spirit and high morals <sup>(44)</sup>; Jurists and judges in the courtyard of the school, as the Sultan appoints the school staff of teachers and jurists, and polite and poor and others <sup>(45)</sup>.

#### **The third topic : places of medical education in the Levant during the Mamluk era**

The scientific movement reached the height of its prosperity during the seventh and eighth centuries AH in all mental and transport sciences, and the education of medicine was remarkably active and spread widely in all Levantine cities and villages, and the places of education varied, so the first place for education was the mosque in the case of other sciences, and then moved to several educational institutions, such as private schools, bimaristans, ligaments, gorges, scientists' homes and others.

Then established places for teaching medicine and medical sciences in the era of the Abbasids, where the House of Wisdom is the first institution to teach medical sciences properly <sup>(46)</sup>, so scientists translated many mothers of books in various sciences <sup>(47)</sup>.



The Levant did not differ much from the rest of the Islamic cities, as it focused on teaching medicine in Bimaristans, and with the development of medicine, schools specialized in teaching this medical industry appeared, as the Levant was unique from the rest of the Islamic cities <sup>(48)</sup>

In this chapter, the study of medical education in the Levant will be theoretical and practical.

## **1- Mosques**

The role of the mosque in Islam was not limited to the mere performance of the five daily prayers, but went beyond that to become a social and educational institution that the world has never known.

The mosque is the initial nucleus of education, where the start of the education of medicine in it and set off to the farthest horizons, it was teaching medicine in the mosque is normal for Muslims, medicine from the existing Sunnah because peace be upon him did and ordered it, Osama bin Shrek said: I was with the Prophet peace be upon him and came the Arabs and they said: O Messenger of Allah! Left said: A man fell ill during the era of the Prophet (peace and blessings of Allaah be upon him) and he said: "Call a doctor" and they said: "O Messenger of Allaah, does the doctor sing?" He said, "Yes."

Medication is important to preserve health and strength of the body and enjoy life, and it is not strange to enter medicine in the mosque, it originated from it was the Prophet peace be upon him authorized the treatment of patients inside it, so how about education! , He ordered the companions Rufaida Ansari to erect a tent inside the Prophet's Mosque to treat the sick and injured from the Battle of the trench year 5 AH, and said: "Make him in the tent of Rufaida until I return from near "<sup>(49)</sup>There is no doubt that all these texts indicate the honor of medicine and its status among Muslims, and the condition based on those who learn medicine to be clever and become by it and therefore Galenius said: (The ignorant doctors enters the patient with fever and comes out of it and has two mother-in-law, and that for poor treatment and lack of knowledge) <sup>(50)</sup>

Mosques in the Levant have played their role in teaching science in general and medicine in particular, and scientific councils have been held for it, as mosques are considered the supreme chest for education at that time.

However, the sources did not mention news about the seminars for teaching medicine in mosques, perhaps due to the separation of medical education from mosques early, in addition to the presence of those who teach medicine from the dhimmis outside the mosque <sup>(51)</sup> 'as they do not have the right to enter it for education as Ibn al-Qaf al-Karaki from the Christians of Karak, but there are some references to the councils of medical education in the mosque, which is what Ibn Usayba mentioned in the writing of the eyes of news by Sheikh Ibn Sahnoun Abdul Wahhab bin Ahmed Abi Al-Fath bin Sahnoun Al-Tanukhi Al-Dimashqi <sup>(52)</sup>, was a doctor and preacher, grew up in Damascus and the guardian of rhetoric and teaching at the Mosque of Neirab before the year 694 AH, and was familiar with many sciences and famous for the industry and education of medicine.

## **2- Libraries**

The phenomenon of building libraries is an ancient phenomenon in the Islamic state, and it has received great care in its construction by the caliphs and princes, especially in the era of the Mamluk state, and these libraries can be divided into private and public libraries <sup>(53)</sup>

### **1 Private libraries:**

It means the libraries that the caliphs and princes have established throughout Islamic history, and the establishment of these libraries has left a significant impact on the scientific movement.

### **2 Public libraries:**

It was less widespread at first than private libraries, but it took increasing with the prosperity of the educational movement, and it was one of the fruits of the scientific renaissance in the era of the Mamluk state, which followed the approach of the Ayyubids in terms of interest in libraries and care for books and their collection, where the Mamluk sultans, princes and rich people were interested in establishing libraries in schools, mosques, gorges and other educational institutions in that era, Each school had a library next to it, because it has become an indispensable part of every school, and thus the library had a great impact on increasing the opportunity to learn as an integral part of the school <sup>(54)</sup>

Libraries belonging to scholars:

These libraries have spread throughout the Levant, where these libraries were established in:

Damascus: Like the library of Ibn al-Qayyim al-Jawziyyah, a student of Ibn Taymiyyah.

Aleppo: Many libraries were established in the Ayyubid era and continued until the Mamluk era, such as the treasury of Bani Jarada (scholars in Aleppo), the treasury of Jamal al-Din al-Qufsi, and the treasury of Qutb al-Din al-Nisaburi <sup>(55)</sup>.

Such libraries were also found in Jerusalem <sup>(56)</sup>, and half of the Mamluk princes have set up bookcases such as the treasury of Arghun deputy of Aleppo <sup>(57)</sup>.

Of-Nouredine Zengi library in Bimaristan Al-Nouri in Damascus, also left for medical scientists a medical library that includes a lot of books, such as the library of the Secretary of State Samaritan, who met with about twenty thousand volumes, and Muhdhab al-Din al-Dakhwar, owner of the School of Medicine in Damascus, who had a bookcase.

The Jews had their own libraries in their schools and places of worship, and Jewish scientists put many scientific literature and transferred <sup>(58)</sup> some science to Arabic and Latin, and some of them had a passion for collecting books in their own libraries, the Israeli doctor Imran (d. 637 AH / 1239 AD) had a large bookcase in his house <sup>(59)</sup>.

It is clear from the above that libraries were schools of science and institutions spent by sultans, princes and wealthy people to spread science among the people, especially since printing did not exist in that era, and books were copied by a specialized copyist, which made the price of the book very high that the seeker of knowledge could not buy.

### **3- Bimaristans**

Interested caliphs, ministers and notables to establish bimaristans as an act of charity, and it seems that it appeared for the first time in the era of the Umayyads, but abounded in the era of the Abbasids and spread in all cities of Islam and they reside in large places, and stop them huge funds, and collect her doctors, and types of medicines, and these facilities were taken in addition to their therapeutic function, schools to teach medicine and anatomy.

Bimaristan is a Persian word consisting of two syllables: Bimar any patient, and Stan any place and Bimaristans are of great importance, the development of the medical profession and the denial of superstitions and illusions about this profession, and this word has become indicative in the modern era on the place of mental illness, and one of the oldest Islamic hospitals, the hospital that was set up by Al-Waleed bin Abdul Malik in the year 88 AH / 708 AD <sup>(60)</sup>, and collected lepers, as established another gathering in which the blind was the first to do so <sup>(61)</sup>

Then hospitals spread in Islamic countries, such as Al-Maristan established by Nur al-Din Zengi in Damascus, and Al-Maristan built by Saladin in Egypt, and other famous hospitals.

Despite this early emergence of hospitals among Muslims, but it did not show its real features as a hospital with its departments and specialties only in the Abbasid era except in the era of Harun al-Rashid, where he benefited from the system of bimaristans located in their country, such as: Bimaristan soldiers Nishapur, has gnetcher this type of bimaristans from Baghdad east to Andalusia west, was its development means the development of medicine in the Islamic world, whether these maristans fixed or mobile, and compete for the establishment of caliphs and princes <sup>(62)</sup>It became one of the greatest civilizations left by Muslims.

Bimaristans have varied and their names have varied, with the multiplicity of their services, methods of establishment and the need to build them, including fixed and mobile.

### **First: Fixed Bimaristans:**

It has a fixed building in a specific place, it was of a unique urban style that takes into account all the requirements of the function of patient service and care.

It was Bimaristan fixed includes spacious halls (wards hypnosis) equipped with beds and quilts and Tararih, and pillows stuffed with cotton <sup>(63)</sup> They were allocating each hall in the practice of a particular disease, such as internal diseases and Kahale and surgery, and splinting, and often the hall of internal diseases includes a section for people with fever <sup>(64)</sup> And another for the Almkhomin (Almtbrodin), and a section for the mentally ill, and the water was running in all these places was often divided into two parts: a section for males and another for females, and each of them is separate from the other.

Each Bimaristan had outpatient clinics as we are today, so one of the Bimaristan doctors sat on the bench to receive patients and examine them, and one of the important facilities in Bimaristan was the pharmacy, which was called the drinking cabinet or Sharbakhana will be mentioned later.

When the era of Harun al-Rashid (170 185 AH / 768801 AD) came more interested in building bimaristans, and increased their development, he resided a large bimaristan in Baghdad, and followed by a huge library similar to the Persian bimaristans and nominated for his presidency what he did and took the doctor reverence for patients, and in his reign was the establishment of what is known as the first private medical syndicate for doctors <sup>(65)</sup>, and the era of Harun al-Rashid for the spread of bimaristans in the Islamic state.

### **Second: Mobile Bimaristans**

He moved between remote cities and villages <sup>(66)</sup> and kept pace with armies in cases of wars and armed conflicts, as they were sent to distant places and places of epidemics, and when the outbreak of diseases in some parts of the country such as field hospitals in our time, and in the treatment of prisons, and accompany the convoys of caliphs and sultans, especially in the Mamluk state <sup>(67)</sup>.

Where it was mentioned in the history of that era that the Sultan used to go out with princes, notables and courtiers, on recreational trips to the palaces that they built in the countryside, so he accompanied him in travel everything needed, until he almost had Bimaristan because of the large number of doctors, doctors and surgeons, in addition to medicines and drugs.

In this section, we will deal with the most famous fixed bimaristans, their sections, financial system and methods of treatment, their role in cultural and social life, and the administrative and organizational body:

#### **1- Bimaristan Nablus**

It was established by Muhammad bin Fadl Allah the Coptic <sup>(68)</sup>, at the time of the caliphate of Sultan Al-Nasir Muhammad bin Qalawun, and among the doctors who emerged in Bimaristan Nablus in the royal era, Imad Nabulsi <sup>(69)</sup> and Abu Shukr Muhammad bin Ayyub Nabulsi <sup>(70)</sup> (d. 730/1329 AD) who excelled in the manufacture of medicine and treatment.

## 2- Bimaristan Safed

Built by the deputy of the Levant, Prince Saif al-Din Tangz (d. 741 AH / 1340 AD) during the reign of Sultan Qalawun, where the city of Safad gained the attention of the Mamluks in terms of health, it witnessed a medical renaissance and activity in the field of medical sciences, Bimaristan Safad performed an educational function in addition to his function in treatment and healing, and this Bimaristan continued to work until the beginning of the tenth century AH / sixteenth century AD, and graduated from it a number of doctors who were famous for practicing medicine, then neglected its construction and pause and demolished Large parts of it after the earthquake that occurred in the region at the end of the ninth century AH / fifteenth century <sup>AD (71)</sup>, and endowments on this Bimaristan, Caesarea for trade in the city of Ajloun <sup>(72)</sup>, and the result of the presence of this Bimaristan a number of doctors, including: Saif bin Hilal, and Abu al-Fadl Safadi <sup>(73)</sup> (d. 696 AH / 1296 AD), Alaa al-Din al-Kahhal al-Safadi, Amin al-Din <sup>(74)</sup> (d. 887 AH / 1482 AD), Ali bin Muhammad bin Ibrahim al-Safadi <sup>(75)</sup> <sup>(76)</sup> (d. 870 AH / 1465 AD) It is reported that most of these doctors were covered by the phenomenon of the migration of scholars and settled in Cairo and Damascus <sup>(77)</sup>.

## 3- Bimaristan Gaza

It was built by Prince Sanjar bin Abdullah Al-Jawli (d. 745 AH / 134 AD) and built the Great Mosque, a school and a khana for the way, and made consideration of it to the deputy of Gaza, where it is mentioned that it is the most important health facility built in that period, and it was called Dar Al-Shifa (Al-Timarkhana), which shelters people with mental illness, and Sultan Al-Nasir Muhammad bin Qalawun also stopped it great endowments, which increased the efficiency of the bimaristan four farms, 34 shops, two caesarea, an oven, and a laundry, and this bimaristan remained full until ( 1215 AH / 1800 AD).

### Administrative functions of Bimaristan

Bimaristan was subject to a precise administrative system, as the employees were arranged hierarchically, so that each of these had his own work, and from these jobs

#### 1- The Principal of Bimaristan:

His job is to manage and supervise the Bimaristan endowment, and to submit the budget of imports and expenses to the Sultan or official, who decides what he sees in the interest of Bimaristan and the comfort of patients <sup>(78)</sup>, and his job is considered one of the highest and finest and most prestigious functions of the state and the largest and elevation, and prestige and greatness, where it is considered a first-class where jobs are classified <sup>(79)</sup> Due to the importance of the position of Bimaristan glasses, it was held by one of the princes or one of the supervisors, and the managers are characterized by high ability and culture <sup>(80)</sup>.

One of his duties is to estimate the salaries and salaries of doctors and employees and to consider the needs of Bimaristan of medicines, equipment, doctors and employees such as: writers, treasury, business supervisors, cooks, servants, bedding, and others, as well as one of his tasks to monitor the repair and restoration of his buildings and facilities of Bimaristan, and the furniture he needs as beds, supplements, medicines, food, equipment, and supplies to shroud those who die in Bimaristan in accordance with Islamic law. One of his tasks is to spend on the makers of medicines and butterflies men and women, the people and the reservoir in the stores, and the direct and those who feed the patients, and directly consider what he cooks for the patients, and the principal had deputies appointed by himself, which finds them able to help him to do his job to the fullest.

#### 2- Chief Physician (Sa'our):

It is the one who judges the sect of doctors and authorizes them in medicine and so on <sup>(81)</sup>, and he must be skilled in medicine, skilled in it ahead of jealousy in art, knowledge of drugs and what they do of benefit and harm, and knowledge of diseases and ailments and methods of treatment, and what is going on in the course of that <sup>(82)</sup>.

Has been found in some Bimaristans assistants to the chief physician, such as the head of Kahalin, which is the one who judges the sect Kahalin and authorizes them Btkhil <sup>(83)</sup>, but the chief surgeon is the one who judges the sect of surgeons and forced and authorizes them surgery and splinting <sup>(84)</sup>.

### **3- Bimaristan doctors:**

They are the doctors working in Bimaristan from all different specialties, such as Kahalin, Al-Mujabreen, and surgeons.

The doctors had to wear their own uniform, so their dress in the Levant was a wide burgundy dress and complementary baqiara, and the aim was to distinguish them from others within the bimaristan.

In the Mamluk era, the doctor was taken for the covenant called the Hippocratic era, where the Muhtasib swore the doctors by oath, and the doctors undertook a positive pledge not to give medicine forcibly, and not to ride poison, and not to mention to women a medicine that drops the fetuses, nor to men the medicine that cuts off the offspring, and they must also keep secrets and turn a blind eye to the mahrams when they enter the patient.

### **4 Chief Pharmacist:**

He is responsible for the pharmacy, as he was attached to Bimaristan pharmacy is called Syrupkhanah <sup>(85)</sup>, and where the types of drinks and pastes psyche, and nannies luxury, and varieties of medicines and aromatics, and Chinese vessels of yogurt and others, and each pharmacy had a head recipient of its products, and has a high place and has two boys fee service called drink house <sup>(86)</sup>. In most cases, the doctor himself was a pharmacist, and his agents help him in his work Vtqoon him herbs, and come traders what he needs of incense and spices to make medicine and combination before being presented to the patient <sup>(87)</sup>, and was called the workers in the pharmacy title of drug makers, and their number varies from Bimaristan to another according to the need for them <sup>(88)</sup> The task of the drink was to serve the patients and water them with medicine and drink n and he has to circumambulate the patients with medicine at certain times according to the doctor's orders <sup>(89)</sup>.

As for the preparation of the medicine, it is under the supervision of a pharmacologist doctor, who estimates what the treating doctor prescribed of each type and supervises their work, and what needs to be cooked, is prepared in a kitchen attached to the pharmacy <sup>(90)</sup>.

### **5- Diwan of Bimaristan:**

Bimaristans in the Mamluk era knew the system of Diwans, each Bimaristan had a Diwan in which the names of workers and patients are recorded, and all its supplies and expenses of medicines, food, etc., and doctors were innovating to Bimaristan and inspecting patients and preparing what they need from treatment, and this information was recorded in a special tablet installed on the bed of each patient <sup>(91)</sup>, in order to know his food, drink and medicine, and the times when he should take medicine, and record all kinds of medicines received by the patient inside Bimaristan.

### **6 Al-Astadar:**

He is responsible for preparing food and drink inside Bimaristan and he must adhere to the doctor's instructions to know the laws of cooking food for patients, and to know how to dispense and eat it by the patient, and what is disbursed only by order of the doctor and is delivered only to what he needs <sup>(92)</sup>.

### **7 Bimaristan reader:**

Allocated some endowments reader of the Koran Balbimaristan, it was mentioned in the endowment No. 67 of the documents of the Temple Mount appointed Sheikh Ali and Sheikh Abdul Rahim sons of Omar scientific in

the post of reader of the Koran Balbimaristan Salahi in Jerusalem, to read Surat Yassin every Monday and Thursday and dedicate the reward for it to King Salah al-Din Yusuf bin Ayoub and appointed her salary <sup>known</sup> (93).

## **8- Bimaristan Inspector:**

The Hisbah in Bimaristan and doctors of the most important duties placed on the shoulders of the calculated in the field of health care due to the status of this task and its importance, has devoted books Hisbah chapters in this area devoted Shirazi Chapter Thirty-seven to the Hisbah on doctors and Kahalin and forced and surgeons, and should be calculated to take them the era of Hippocrates, and to have all the medical devices on the perfection, and the Muhtasib to test doctors also <sup>(94)</sup>.

## **Bimaristan sections and treatment system:**

The medical divisions were organized and accurate, Muslims have divided bimaristans into two sections completely separate from each other, a section for men and another section for women <sup>(95)</sup>, and each section of those sections contains many halls, and each particular disease some of those halls, there are halls for eye diseases, and other for surgery and splinting fractures or internal diseases <sup>(96)</sup>, and the insane had their own booths <sup>(97)</sup>

Usually, it was attached to Bimaristan multi-purpose annexes, including the store, which was allocated to store furniture and utensils and what patients need in managing their affairs, and was supervised by the beholder, and works in his hands a storekeeper and workers, as well as the bathroom, which is two sections for men and women, carried out by the values of the bathroom, one for men and one for women, and there is someone who helps patients to bathe, and the kitchen, which is prepared to feed patients and is under the supervision of doctors, as well as the orchard and the library, which is usually She specializes in medicine to assist doctors in doing their <sup>job</sup>.<sup>98</sup>

The treatment system there were two ways, the first is similar to the outpatient system, as the doctor was sitting on a bench and scaping for those who respond to it from the patients, the treatment papers give them the pharmacy Bimaristan under which the drinks and medicines prescribed by the doctor, and the patient was taking medicine in Bimaristan and then go out to take it at home <sup>(99)</sup> The second method is the treatment of patients within Bimaristan, as they are distributed to the halls according to their diseases, and each section of the Bimaristan sections had specialized doctors whose number varies according to the capacity of the department and the number of patients, but the responsibilities of doctors were different, some of them were accompanying Bimaristan day and night, and some of them were accompanying Bimaristan one day a week or more <sup>(100)</sup>.

As for the patient whose condition necessitated hospitalization, regardless of his color, sweat, or place, he records his name in the halls designated for similar patients and treated for free, and has his own bed, and has cobs, and mugs to drink, and doctors examine him thoroughly and give him the necessary medicine and appropriate food until he recovers, and after his recovery and in convalescence homes goes to the hall of convalescence <sup>(101)</sup>, and the sign of innocence in some bimaristans that the patient is able to eat a chicken and a loaf, Some people were squabbling a desire to enter the Bimaristan and enjoy what it is, and the doctors sometimes turn a blind eye <sup>(102)</sup>, and when the doctor writes to the patient out of Bimaristan, offers him a sum of money so as not to have to work directly affects his health, as he was blessed with clothing <sup>(103)</sup>.

In addition to medical treatment, music has been used as a means of treating patients with neurological and psychological disorders, they were the furnace of bales of rapture and singers as a means of treatment <sup>(104)</sup>, as was arranged in Bimaristans muezzin and reader, the reader was reading in a melodious voice entertaining patients who can not sleep from pain or people with crises, so it serves as a consolation to them, and these treatments are closer to psychotherapy <sup>(105)</sup> It was mentioned in the endowment of Dar Al-Shifa in Gaza a reader

of the Koran was paid 5 dirhams per day, the patients who die in Bimaristan were processed and buried at the expense of the institution <sup>(106)</sup>. Hussam al-Din stood the house of the battle of Khan village of Deir al-Ghosoun on the sick Mdwat, and the processing of the dead in Jerusalem Al-Sharif <sup>(107)</sup>.

The service provided by the bimaristans was not limited to the treatment of patients, but were places for teaching medicine, as the students were divided into teams, each specializing in a specific art <sup>(108)</sup>, and graduated from them specialized doctors of surgeons and forced and internal medicine doctors and Kahalin (ophthalmologists), and there is also in Bimaristans Department of pharmacy students learn how to prepare drugs and grind, and the work of pastes, ointments and others <sup>(109)</sup>, and was allocated halls and places to give lessons, and the professor doctor sitting in a special place lectures and sitting in front of him pupils write notes and dialogue in matters of medicine <sup>(110)</sup>, did not limit the education of medicine to Bimaristans, has been established private schools to teach medicine <sup>(111)</sup> He found two types of schools, the first type attached to Bimaristan, which is located inside it and performs its mission in education through the message of Bimaristan in order for the student to combine theoretical and applied science, and the other type independent schools, which were established by the rich and doctors at their own expense <sup>(112)</sup>.

Among the doctors who studied in Bimaristan Palestine in the Mamluk era and benefited from the medical renaissance under the endowments: Mamed bin Ibrahim bin Suleiman al-Maqdisi, known as Ibn al-Jaraihi (d. 743 AH / 1342 AD), studied medicine by Imad al-Bablati and Ibn al-Nafis, and described as a wise philosophical virtuous and a scientist who is not limited to anyone <sup>(113)</sup>. in anatomy, but on the origins of Hippocrates and the collector in medicine <sup>(114)</sup>. Ibrahim bin Muhammad bin Bahadur (d. 810 AH / 1407 AD), looked at the sciences of stars and crafts and concerned with plants and herbs until tomorrow a marvel in his knowledge of them, and Asad al-Hakim nicknamed his master (d. 730 AH / 1329 AD), he specialized in reparation of fractures, narrated from him that he said Jabrat a man with the arrival of a saw and a piercing, and his master was undertaking the great surgeries of the great princes of his time, such as Prince Badr al-Din Bidar, deputy of the supervision of Acre, And Prince Alam al-Din Sanjar Daoudari, who complained of a disease Adana and did not succeed other than his wise master in his treatment, and mentions his masters that he was using the shrine (Albinge) in his surgeries, has watered it to Prince Saif al-Din bin Balban Jokandar when he performed his surgery and was familiar with the treatment of hemiplegia <sup>(115)</sup>.

### **The financial system of Bimaristan:**

The endowment system is the main resource for Bimaristan, with its constant source of income, which enabled it to provide free services to patients without exception, in addition to carrying out the various expenses of Bimaristan, the caliphs, sultans and wealthy people raced to establish and support Bimaristan by providing great financial support from the various fixed resources necessary for it, such as land and real estate, And the various facilities, so they stopped them huge endowments of their own, to spend from the proceeds of those endowments on them to ensure the conduct of business in the best in various crises, and to take care of and maintain, and furnish them with the necessary equipment, machinery, medicines, food, doctors of high caliber and specialized staff <sup>(116)</sup>.

For the foregoing, the administrator of the Bimaristan endowment was in charge of supervising the funds of the Bimaristan endowment, so he rented and invested the Bimaristan funds without prejudice or exaggeration, taking into account the teachings of Islam and collecting the profits received by the Bimaristan endowments <sup>(117)</sup>.

In summary, the bimaristans were not official institutions of the state, although the state had supervision over its management and the state did not spend on it, but the spending, as in schools and other institutions, comes from the proceeds of the endowments allocated to the bimaristans and the better the higher the bimaristan from the technical and administrative points of view, and if the endowments disappeared, the bimaristans

dissolved as the schools dissolved, and it is noted that the sultans were the founders and the main endowments of the bimaristan, because they alone were the Those who are able to meet its expenses and therefore we find the sultans and their deputies and senior statesmen, were behind the establishment of bimaristans not only in Palestine but in different parts of the state <sup>(118)</sup>.

### **The role of bimaristans in social and cultural life:**

Bimaristans provided the population with important social services represented in free treatment, especially for the poor and weak as elements benefiting from this health service, in addition to that the bimaristans served as a shelter for orphans, women, incapacitated, people with disabilities and madmen, as well as played a role in washing and shrouding the dead <sup>(119)</sup>.

Bimaristans played a role during the spread of epidemics and disasters, they were crowded with patients and injured in such times <sup>(120)</sup>, and free people and people with mental illnesses found a place for them in Bimaristan, so it worked to shelter them and provide them with treatment services, in addition to imposing quarantine on them for fear of harming themselves and others <sup>(121)</sup>. It was found in Gaza City Bimaristan special for people with neurological and psychiatric diseases <sup>(122)</sup>.

The development of the services provided by Bimaristans reached that they were providing an amount of money in addition to clothing for each patient after his recovery and exit from Bimaristan, so that he does not have to work after his discharge, which may affect his health and thus his recovery, but in the scientific field, Bimaristan has exercised a distinctive educational role, the spread of Bimaristan in Palestine has contributed to the spread of medical sciences, through doctors Published many medical books, the doctor Abdul Latif bin Yusuf al-Baghdadi (d. 692 AH / 1231 AD) to Jerusalem and resided there, and during that classified the book of benefit and consideration has contributed Baghdadi in pushing the medical movement in Palestine, as he had a teaching seminar in the Al-Aqsa Mosque lasted nearly ten years, during which he put many medical literature brief material survival developed by Muhammad bin Ahmed Tamimi, the famous doctor of Jerusalem, he explained many of the books of Galenius and Hippocrates, He explained forty medical hadiths, and classified a large group of medical letters <sup>(123)</sup>, as was for Muhammad bin Abi Bakr bin Abdulaziz bin Saad al-Din bin Jama'a (d. 819 AH / 1416 AD) a prominent impact in the dissemination of medical sciences, was known for know-how in anatomy described in the writing of "shines of lights and floral notes" anatomy of the skull, cartilage, brain, lung, chest veil and liver, and has also written on the chapters of Hippocrates, and also write "The Whole in Medicine" <sup>(124)</sup>.

The late Mamluk era witnessed the emergence of a Palestinian figure who had a great role in preserving the scientific movement, namely Yusuf bin Al-Qadi Hassan bin Ahmed bin Hassan bin Abdul Hadi, known as Ibn al-Mubarrad al-Maqdisi (d. 909 AH / 1503 AD), and he left many works that contributed to supplementing the medical library, including: The Book of Persuasion in Medicines

### **4-Houses of scholars**

The scientific councils held by doctors had a major role in spreading medical education during this era, where doctors during the seventh and eighth centuries AH were studying medicine inside their homes in their own councils, where students and medical industry frequented them to read the books of former scientists and doctors and interpret and explain them to them <sup>(125)</sup>.

Some doctors were giving medical lessons to students outside their homes, in public places represented in shops, squares, and markets <sup>(126)</sup>, these councils were characterized by great freedom, because the student is free to choose the teacher or doctor who teaches on his hand, unlike regular schools, they are on some of the strictness and discipline.



Scientific councils also helped in the educational renaissance, although it was not a scientific institution in the proper sense, as it was often held by chance.

One of the most famous councils is the Council of Ibn al-Nafis, it was an intellectual forum keen to be attended by princes and senior doctors, and other different classes.

The Council of the doctor Muhdhab al-Din ibn al-Hasan Ali ibn Abi Abdullah (574 AH / 1178)<sup>(127)</sup> had a general council for medical practitioners in the Levant, after he returned from his educational journey in Iraq.

And also the Council of the doctor Muwaffaq al-Din Abdul Aziz bin Abdul Jabbar al-Salami, it was holding a session for medical professionals <sup>(128)</sup>.

And the Council of the doctor Mahdi al-Din Abd al-Rahim al-Dakhwar, he used to hold the council in his house before he stopped it for the school of Dakhwaria <sup>(129)</sup>.

And the council of the doctor Muwaffaq al-Din bin Yaqoub bin Ghannam, was worked on by a group of doctors and they benefited greatly from it

And the Council of the doctor Rashid al-Din Abu al-Mansur bin Abi al-Fadl bin Ali al-Suri .

and the Council of Judge Rafi al-Din Abdul Aziz bin Abdul Wahid bin Ismail al-Jabali <sup>(130)</sup>.

#### **Fourth Theme: Medical Education and Curricula**

Before talking about the curriculum of medical education in the Levant, it must be noted that the different approach of medical scientists is some obligated the student of medicine several conditions, including: his knowledge of philosophical sciences, logic, geometry, mathematics, stars and music, and some of them see that all these sciences is not important to learn for the student of medicine, but despised them and their benefits to the doctor <sup>(131)</sup>.

Islamic medicine appeared in the first five centuries by introducing the theory of Greece, which made medicine an integral part of philosophy, philosophy, medicine and Han for one coin has shown this theory doctor and philosopher Galenius <sup>(132)</sup> has called for this theory a lot of scientists, such as the doctor Ali bin Radwan Egyptian <sup>(133)</sup> And the owner of the saying: "The title of doctor is not given only to those who deal with medicine and philosophy together, otherwise he is not a doctor, but a doctor" <sup>(134)</sup> He also says "and before you begin to meditate never Vtqh in arithmetic and engineering and then the industry of logic, and do not reflect on one of the status of the trades of the reflection of the intended annihilation of his whole life ..." <sup>(135)</sup>.

It is inferred from this speech that the medical student must be familiar with all the sciences before starting to learn medicine, without extreme immersion in them, but takes from each science a drop has been explained by Ibn Radwan by saying: "Do not reflect on one of the status of crafts of the intention to annihilate his whole life ..." <sup>(136)</sup>.

The other group has separated medicine and philosophy from each other and does not see any link between them and this saw a small category of Levantine doctors, including the doctor Saad al-Din Ibrahim al-Salami (644 AH / 1246 AD), a sheikh of doctors in the Levant, he was a jurist with his prowess in medicine <sup>(137)</sup>, as well as the doctor Majd al-Din bin Ahmed bin Sahnoun al-Tanukhi (694 AH / 1294 AD) was a jurist and teacher in one of the schools of Ahnaf <sup>(138)</sup> Among them is the doctor Amad bin Al-Hussein Al-Shafi'i excelled in medicine and jurisprudence on the Shafi'i school <sup>(139)</sup>.

The third group combined medicine and philosophy with the care of experience and observation, and they constitute most of the doctors of the Levant, which is what doctors followed before the sixth century AH in medical schools, which are characterized by features, including:

Taking care of philosophical sciences and logic with a strict stance on them, as their danger and evil appeared on the beliefs of people.

Paying attention to the books of Greece such as: Hippocrates and Galenius and taking special care of them.

Adopting the books of Muslim doctors such as Al-Razi and Ibn Sina in medical education.

Adoption of books follow other trends in medical education, such as the book of Al-Zahrawi (discharge for those who were unable to author<sup>(140)</sup>; which is one of those who sees the separation of the study of medicine from philosophy and other sciences, has emerged doctors linked in their scientific medical approach between Greek theoretical medicine and the experimental approach that emerged when the doctors of the Levant clearly <sup>(141)</sup> Such as the doctor Sadaqa bin Naja bin Sadaqa Samaritan was strong in philosophy and his works <sup>(142)</sup>, and polite religion eyebrow of famous doctors and has knowledge of mathematics, and excelled in the science of geometry and stars and has famous works, he worked in Bimaristan Nouri in Damascus is known for his religion and piety <sup>(143)</sup>.

Also, Dr. Radwan bin Muhammad bin Ali Rustom Al-Khurasani Al-Saati was aware and knowledgeable in the manufacture of logic and wisdom sciences.

Shirazi (710 AH / 1311 AD) who studied medicine and philosophy in the Levant and was distinguished by it, and says, "Know that the doctor must have a number of sciences."

The first of these is: "It is important that he must have logic such as knowledge of the five faculties ...." <sup>(144)</sup>

Second: One of the sciences that the doctor needs in his profession is natural science, as medicine is considered a branch of its branches, and it is not settled except by knowing the natural science.

Third: Engineering and the doctor's need for it is very little; which is that the doctor does not need it except to know the forms of surgeries, because rounded surgery is insolvent, twisted surgery and other surgeries <sup>(145)</sup>.

Fourth science: the knowledge of the body and the doctor's need for it lies in two aspects, first: to know the time of extreme heat and cold, so he knows the good time for watering the laxative medicine; second: to know the conditions of countries, their names and the names of the planets, so he knows the nature of food and water in each country.

Fifth: The knowledge of the rulings of the stars and the need for them.

Sixth: the science of melodies, but the doctor needs it to get used to his fingers in holding the strings and his mind in the tune in order to make it easier for him to feel the veins, and to realize the musical melodies that are in the pulse.

Seventh: The science of fortune-telling and reprisals <sup>(146)</sup>; Learning fortune-telling is not necessary for the seeker of knowledge, but it distinguishes him in the medical industry from others, so he becomes stronger and more skilled.

### **The language of education for the doctors of the Levant:**

The doctors of the Levant took care of learning the Arabic language and mastery of it, and their commitment to its curriculum, who see the need in the education of medicine, most doctors of the Levant learn Arabic language and literature <sup>(147)</sup> and excelled in it, it was the Council of the doctor Abdul Rahim bin Ali Al-Dakhwar educational, which is held in his home;

This attention to language and grammar has contributed to the formulation and development of medical terminology <sup>(148)</sup> and the definition of terms and the interpretation of many vocabulary.

### **The fifth topic: the scientific production of the doctors of the Levant**

During the sixth and seventh centuries AH, the Levant was characterized by a remarkable development in medical sciences, and with the large number of doctors who contributed to the movement of education and authorship in medicine and other sciences, we will highlight the scientific production of the doctors of the Levant and their methods of authorship:

First: Scientific Secretariat

It is clearly evident in the writings of the scholars, as Ibn al-Bitar mentioned his approach in the introduction to his comprehensive book on the vocabulary of medicines and food by saying: "... And attributed in all that sayings in the first presentation to those who said it, and I knew the methods of transport in which the mention of the carrier and specialized in what has been done to me and it is correct for me to say in it and I have made it clear to me the dependence <sup>(149)</sup>.

In the second presentation says: "The validity of the transfer in what I remember about the ancients, and free it from the latecomers, what is correct for me to watch and look ....." <sup>(150)</sup>.

Second: And the tendency to analysis, deduction and scrutiny.

Third: Clarity of critical sense and presentation of opinions

It is according to what has been proven by observation and experience and recognized by the correct consideration.

### **Fourth: Comprehensiveness of classification in all branches of medicine and pharmacy**

In it, they dealt with most of the medical aspects of what they classified from books, some of which take the status of encyclopedic <sup>(151)</sup>, and some of them are parts of science, and some of them are concerned with a type of disease to address it, and others deal with some medical knowledge related to classifications in minutes of medical issues and certain diseases <sup>(152)</sup> We may also find the interest of Levantine doctors in the science of legislation as an indispensable science for the practicing doctor; they devote him chapters, chapters and works to talk about them <sup>independently (153)</sup>.

Here we will talk about the works of the Levantine doctors to know some of the features of the authorial and critical approach when the doctors of the Levant and their approach in dealing with medical investigations and their branches through the following:

### **First: Authorship in preventive medicine and health preservation**

It is one of the most important medical branches to which doctors have devoted literature, where it can be said that most of what Muslim doctors have written is preventive medicine and health preservation, due to its importance in the treatment of preventive diseases.

Scholars have classified many works on this subject, including the book "The Nasiriyah article in the management of health" by Asaad al-Din Ibn Iyas ibn al-Mutran (587 AH / 1191 AD), and this article includes five chapters <sup>(154)</sup>:

The first: in sports.

Second: in bathing.

Third: in the restaurant and the drink.

Fourth: In sleep and wakefulness.

Fifth: In sexual intercourse.

Ibn Mutran also singled out in the introduction to the book "The Garden of Doctors" includes a number of benefits and beneficial commandments, in preserving health and preventing disease.

Second: Classification in ophthalmology

Many Levantine doctors have known ophthalmology, such as: (Al-Risala Al-Nouriyya fi Al-Ain Total Diseases), by Musa Al-Yaldani Al-Kahhal, (879 AH / 1474 AD), and (The Light of the Eyes and the Mosque of Arts) by Salah Al-Din Al-Kahhal (696 AH / 1296 AD).

### **Third: Authorship in the science of surgery**

Doctors of the Levant in the field of surgery contributed greatly from

Such as: Ibn al-Qaf al-Karaki in (The Umdat al-Islah fi Sana'a al-Jarrah) (685 AH / 1286 AD), and also (Jami' al-Purpose in Preserving Health and Disease)

### **Fourth: Authorship in single and compound medicines**

It is known for the doctors of the Levant collected for these two industries together, namely medicine and pharmacy, but it was dominated by the scientific aspect, so their fame in surgery and Kahale was wider than pharmacy <sup>(155)</sup>, which we find in the books of doctors of the Levant, where they had books and works in pharmacy.

The methods of authorship in pharmacy among the Levantine varied as follows:

First: Authorship in single medicines.

Second: Authorship in compound drugs (antidote) <sup>(156)</sup>.

Third: Allocating a separate chapter in comprehensive medical books for single and combination drugs.

Fourth: Paying attention to the weights and weights used in the manufacture of single and compound medicines and holding their own classes.

Fifth: Taking care of the names of medicines and their interpretation.

Here we will show some of the efforts of doctors authorship in each aspect:

First: Literature on single medicines

The Book of Single Medicines on the Letters of Abjad, i.e. on the Foreign Order of the Doctor Muhammad Abdul Karim Al-Muhandis <sup>(157)</sup>

The guiding ticket in medicine.

Summary of the vocabulary of medicine Ibn al-Baytar al-Kabir by Ibrahim bin Muhammad bin Tarkhan al-Suwaidi (690 AH / 1291 AD).

The guiding article in the drawer of single medicines by Muhammad bin Abbas bin Ahmed Al-Rubaie (686 AH / 1287 AD) <sup>(158)</sup>

Laban Qadi Baalbek <sup>(159)</sup>

Second: Books written on compound medicines:

Separation of compound drugs, their degrees and how they are installed, by Ahmad bin Khalil bin Saadeh Al-Khoi Al-Tabib (637 AH / 1239 AD) <sup>(160)</sup>.

The Book of Systems of the Al-Farouqi Antidote by Imad Al-Din Ibrahim Muhammad Al-Suwaidi <sup>(161)</sup>.

Book of Commentaries on the Characteristics of Compound Medicines, by Abd al-Moneim ibn 'Umar ibn 'Abd-Allaah.

Third: Specialization of a chapter in comprehensive medical books for single and compound drugs

It is a famous method followed by most medical sources such as:

The Clear Approach to Medicine by Amin al-Dawla Abu Hasan ibn al-Ghazal (628 AH / 1230 AD).

Kitab al-Shamil by 'Ali ibn al-Haram ibn al-Nafis (687 AH / 1288 AD), which is composed of five books, making the second book for single medicines and their powers and the third for compound medicines and their benefits, and it also includes ophthalmology.

Fourth: Attention to weights and weights used in the manufacture of single and compound medicines

There is hardly a book or a chapter of medicines about weights because of their importance in treatment, so they do not increase or decrease anything.

Finally, some features appeared on the composition in the compound and single drugs, which are as follows:

The emergence of the efforts of Ibn al-Bitar in his book Single Medicines, and Rashid al-Din al-Suri in the direction of the Levantine doctors to study plants with extreme accuracy <sup>(162)</sup>.

The emergence of the impact of the Andalusian school in the literature in botany and medicines.

Fifth: Classification in Prophetic Medicine

The scholars of the Levant were interested in authorship in this aspect of medical sciences, such as:

Muwaffaq al-Din Abd al-Latif al-Baghdadi in his book (Medicine in the Book and Sunnah), one of the famous Levantine doctors and one of their senior scholars <sup>(163)</sup>.

The book (Diseases, Atonements, Medicine and Ruqyat) <sup>(164)</sup> by Al-Hafiz Al-Muhaddith Muhammad bin Abdul Wahid bin Ahmed Al-Maqdisi, in which he collected what is true of the hadiths he has in the Prophet's medicine.

The Book of Prophetic Judgments in Medical Industries by Abu al-Hasan Ali ibn 'Abd al-Karim al-Hamawi (720 AH / 1320 AD), which consists of two parts, in which he collected the hadiths of the Prophet related to matters of medicine, and divided it into ten chapters in which he mentions the hadiths mentioned in the statement of the origin of medicine, and what is related to treatment and how to preserve health.

Sixth: The critical trend of the Levant doctors

We can learn about the methods of doctors of the Levant through the literature from two directions:

The first trend: providing explanations, transcendence and footnotes on the books of the ancients, which is one of the most common methods for doctors, the explanation does not mean repeating the old, but rather reviewing it, revising issues, correcting mistakes, and criticizing the content.

We note that most of the doctors of the Levant focused on the books of Hippocrates and Galen, the Book of Canon in Medicine by Ibn Sina and the issues of Hunayn ibn Ishaq.

Among the most famous commentaries is the explanation of (the offering of knowledge) by Abd al-Rahman al-Dakhwar <sup>(165)</sup>, and the explanation of the doctor Abd al-Latif al-Baghdadi.

The doctors of the Levant were keen on the critical approach, and not to take the words of the former as a given.

Perhaps the most prominent of those who mentioned his critical medical opinions from the Levantine doctors:

#### **Son of the Bishop:**

He is an accomplished doctor in medicine who toured the countries for students <sup>(166)</sup>, his critical approach appeared in his medical personality, which was distinguished by his scientific practices, he recorded a lot of critical opinions in writing (The Garden of Doctors) and says: (From the words of the most passionate in the alienation of Galenius said that he told you the readers of my book this when you have seen in the books of the wise, Galenius and Plato said (and Aristotle or others ...)

Despite Ibn Mahran's admiration for Ibn Zuhr's medicine <sup>(167)</sup> Andalusian: He directed some criticism of his medical opinions by saying Ibn Zuhr: ( To take the antidote or emerald, you should not take food or drink on it until seven hours have passed around that, and Ibn al-Mutran says: ( And this man and this man on the majesty of his ability and his greatness has mentioned the emerald that he acts as an antidote, and we did not have experience, and what he says is saying this without experience and great care ....) .

#### **Ibn al-Bitar:**

It is a dictionary of single medicines - criticism of the book (Methods of the statement in what a person uses) by Abu Ali Yahya bin Issa bin Jazlah al-Baghdadi.

Ibn al-Laboudi Yahya ibn 'Abd-Allaah:

His critical orientation emerged through the writing (Medical Investigation in the narrowing of controversial issues), which represents the best model for the critical approach of the Levant doctors.

#### **The end**

Al-Durr has clarified several aspects of the religious, political, economic and social conditions, as the research showed the extent of the interest of the Mamluk sultans in science and scientists, and this interest, which continued throughout the Mamluk era, has clarified the increasing number of scientists who studied in the Levant until it became the center of attraction of scientists, where Hanbali mentions in the second part of the book Al-Anas Al-Jalil, about four hundred and forty scientists, judges, orators and authors, who lived and worked in it since the beginning of the assumption of the Mamluks of the Levant until the year 900 AH / 1494 AD.

Doctors excelled in various medical specialties, where they appeared competent each in his specialty and doctors enriched the medical library with many books in various medical sciences.

Endowments, donations and wills also constituted an important tributary to support educational institutions in the Mamluk era in the Levant, as it appeared in the Mamluk era that jurists and merchants donated part of their money and housing to support the educational process.

It is clear from the above that libraries were schools for education, and institutions spent by sultans, princes and wealthy people to spread knowledge among the people, especially since printing did not exist in that era.

The revival of the Abbasid Caliphate by Sultan al-Zahir Baybars, who took over the Mamluk Sultanate after al-Muzaffar Qutuz, was one of the most prominent factors in stoking the education movement.

The wars with the Tatars and the Crusaders have created a kind of challenge for the people of the Levant of all segments and within a general situation that flooded the Islamic world that their Arab and Islamic identity is threatened.

Medical schools and bimaristans were also an important tributary for doctors, as these doctors worked in various bimaristans in the Levant, which was a push for the scientific and educational movement.

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