

ORIGINAL ARTICLE

A Study of *Abu Ja'far Ahmad ibn Ibrahim Jazzar's* Scientific Life



Abstract

In the history of Islamic Medicine, honorable physicians have risen; however, some of them are less well-known than the others. *Abu Ja'far Ahmad ibn Ibrahim Jazzar* is one of the students of the medical school of Kairouan, who was scientifically active during the Fatimid Caliphate (297-358 A.H/ 909-969 A.D). The scientific works of this knowledgeable scientist manifest his expertise and skill in lexicon, philosophy, medicine, and branches related to medicine, especially pharmacology. *Tibb al-Fuqara' va al-Masakin* [medicine for the poor and destitute] is one of his most enduring medical works with considerable fame. This research tries to study the details of *Ibn Jazzar's* scientific life as well as his works remained in the field of medicine.

Key words: *Ibn Jazzar*, Medicine, Medical schools, Physicians, Fatimid Caliphate, *Tibb al-Fuqara' va al-Masakin*

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Introduction

Medical science is the result of the efforts and experiences of physicians contributing to its development and evolution through their works. In addition to writing medical books derived from their clinical observations of the diseases specific to their lands, North African physicians contributed to the progression and development of the medical knowledge of Muslims; accordingly, thanks to the strategic region of North Africa, these physicians had close interaction with the schools in Italy and Sicily, and therefore managed to influence Europe by the Islamic Medicine (Figure 1). The works of the physicians of the North Africa have been translated into Latin and Hebrew. *Ibn Jazzar* is one of the physicians of the Fatimid Age whose academic character has not been much considered despite his great reputation and great works, and whose works are somewhat unknown despite their frequent translation into European languages.

1- Ibn Joljol, 1955: 88.

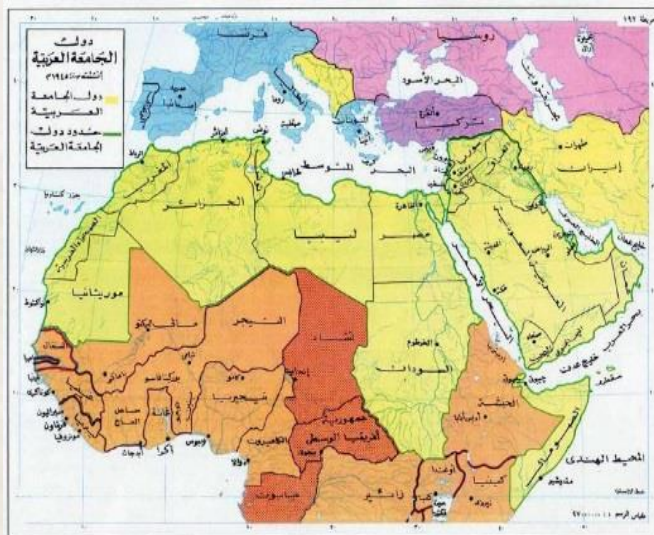


Figure 1. Map of Africa

Biography and scientific life

Abu Ja'far Ahmad ibn Ibrahim ibn Khalid, known as *Ibn Jazzar*, is one of the less well-known yet hardworking physicians of North Africa. Unfortunately, despite the popularity of his compilations and his expertise in various branches of medicine and literary science, there is no accurate report on the biography and scientific life of this prominent physician, and even the years of his birth and death are reported differently in various sources. He was born in Kairouan, and his year of birth is not reported, but according to historical evidence, and based on his lifetime which was about eighty years¹, it can be concluded that he was born between 285 and



289 AH/898 and 902AD. *Ibn Jazzar* was raised by a family of scholars and was taught medicine by his father and uncle. His father was an ophthalmologist and his uncle, *Abu Bakr*, was a pharmacologist who was an expert in preparing medical spices. *Ibn Jazzar* mentioned the name of separate and compound spices, opium, and potions made by his uncle in his works, including "*Tibb al-Mashāyikh*" [medicine for the elderly]. After completing preliminary medicine, he also benefited from the instructions of physicians such as *Isaac Ibn Soleiman Israeli* (d. ca 341 AH) and *Ziyad Ibn Khalfun* to extend his knowledge. Historical reports indicate that the relationship between *Ibn Jazzar* and *Isaac Ibn Soleiman* was beyond that of a student and a mentor, and in fact they were friends and companions^{2,3}.

Because of his father, uncle, and mentor, *Isaac Israeli*, *Ibn Jazzar* is considered one of the students of *Isaac Ibn Emran*. *Ibn Emran* is the first physician to migrate from Baghdad to this region during the rule of the Aghlabids (r. 184-296 AH/800-909AD); *Ziyadaollah II* (r. 249-250 AH/863-864AD). From the beginning of the caliphate of Abraham II, Kairouan bloomed scientifically, and the Emir [the ruler] of the Aghlabids founded a scientific center named as *Bayt al-Ḥikmaht* [the House of Wisdom] of Baghdad in the city of rivers near Kairouan⁴ (Figure 2). *Ibn Emran* could be considered as the founder of the first medical school in Kairouan whose efforts led to the progress of the science of medicine and philosophy in Morocco⁵. He trained several students, and *Ibn Jazzar* is regarded as the most prominent and distinguished graduates of this school. *Ibn Jazzar* taught medicine at the prestigious scientific institution of *Bayt al-Ḥikmaht* [the House of Wisdom] in Kairouan, which had greatly flourished under the rule of Al-Mu'iz Fatimid (953-975)⁶.

- 2- Ibid.
- 3- Ibn Abi Usaybea, 1955: 38.
- 4- Ibn Jazzar, 2010. P: 37.
- 5- AL-Sameraei, 1980. P: 558.
- 6- Ammer, 1998. P: 3.



Figure 2. Map of Tunisia



Ibn Jazzar was a prolific physician and pharmacologist who wrote in various fields of science including philosophy, letters and literature, geography and history. “*Risalah fi al-nafs wa fi zekre Ekhtelaf Alawael Fiha*”, “*Al-Kolal fi al-Adab*”, “*Ajaib al-Boldan*”, and “*Akhbar al-Doleh*” and “*Al-Ta’rif besahih al-Tarikh*” manifest his involvement in other scientific disciplines^{7, 8}. In addition, *Ibn Jazzar* could demonstrate his specialty and skill in the perfumery industry by writing “*Fi al-Founoun al-Tib va al-Atr*”. Unfortunately, no trace could be found of some of the texts mentioned, and our knowledge is limited to the few reports of the scientists in the following centuries. Thereby, Ibn al-Baitar quoted from “*Ajaib al-Boldan*” of *Ibn Jazzar*⁹, and as it is stated, *Maqrizi* quoted from “*Akhbar al-Doleh*” of *Ibn Jazzar* in his historical manuscript of “*Ette’az al-honafa*” that *Ibn Jazzar*’ book is about the Fatimid state and a historical report about the rise of *Abdullāh al-Mahdi* (r. 297-322 AH/909-934AD) the first caliph of the Fatimid state, and the fall of the Aghlabids dynasty can be found in this historical manuscript¹⁰ (Figure 3). In “*Tartib al-mardarik*” which is a collection of biographies of *Maliki* scientists, *Qadi Ayyad* mentioned twice from *Ibn Jazzar*’s book “*Al-Ta’rif besahih al-Tarikh*”¹¹. *Al-Ta’rif* was written in the form of an encyclopedia on the deaths of scientists, and some sources have considered it to be a brief work^{12, 13}; but *Yaqut* reported in his recitation that this work is more than ten volumes¹⁴. In addition, *Qadi Ayyad* pointed out to “*Tabaqāt al-qozat*” of *Ibn Jazzar*¹⁵, which seems to be an independent work on the category of judges in the North African region, while no copy of which has been left for us.

- 7- Ibn Abi Usaybea, 1955: 38.
- 8- Haji Khalifa, n.d.: 1126.
- 9- Ibn beitar, n.d.: 167.
- 10- Ibn Jazzar, 1996: 8.
- 11- Qadi Ayyad, 1967, Vol. 1: 329; Vol. 2: 487.
- 12- Ibn Abi Usaybea, 1955: 38.
- 13- Ibn Saed, 1993: 257.
- 14- Hamavi, n.d.: 136-137.
- 15- Qadi Ayyad, 1967, Vol. 1: 340.



Figure 3. The Territory of Aghlabids Dynasty

Moreover, some texts on his medical works have not been kept, and their titles should be found in the quotes of doc-

tors of the following centuries. “*Al-Sumum*” or “*Al-Samaim*”, which has been used by *Ībni semcūn*, the Andalusian physician (d. 5th Century AH), is one of his lost works in medical science¹⁶. Another notable work of *Ibn Jazzar*'s, which has been only described by the doctors of the next century, is a treatise entitled “*Al-Asbab al-Muvaledah Lelvabaa fi Mesrva al-Haylah fi Dafe Zalek*”^{17, 18}. This treatise is about cholera and its causes, methods for preventing its spread and affection and therapeutic methods in the Egyptian region. *Ibn Jazzar* considered the unhealthy climate and environmental conditions in Egypt as the causes of the outbreak of cholera in this region. By publishing a book entitled “*Dafea mazare Al-aban be arz mesre*” (On the Prevention of Bodily Ills in Egypt), *Ibn Ridwan* (d. 453 AH/1061AD) criticized *Ibn Jazzar*'s view points on the causes of cholera in this area and claimed that *Ibn Jazzar* has addressed this issue while he had not even seen the land of Egypt¹⁹.

Therapeutic approach

Ibn Jazzar's therapeutic approach was based on elements of precision and observation, and he could be considered as a clinical physician. The study of his texts and the frequent use of terms like “found” (*vajad-to*) and “tried” (*jarrab*) indicates his precision and clinical approach in medicine. *Ibn Jazzar* had great respect toward his own ideas, and he was committed to observe professional ethics; he did not receive money from underprivileged patients, and was thus praised as a righteous and popular physician. It is quoted that he traveled to Monastir on the Mediterranean coast every summer and lived there in a Khaneghah^{20, 21}. It was in fact the conservative and humble nature of *Ibn Jazzar* that did not allow him to accept official positions and lucrative interests of the court, and he preferred to provide free medical counseling to people instead²². In addition to the reports presented by biographers on the attempt of *Ibn Jazzar* to observe medical ethics, the list of his compiled texts also reveals this point. As the author, he pointed out in the introduction to the book “*Tibb al-Fuqara' va al-Masakin*”, that this book is written for the interest of the underprivileged people of society, “I wrote a brief and comprehensive work on the diseases of the body, and I called it *Zād al-Musāfirin*, and in it I spoke of the spice that the poor people would have access to with ease and at the least cost”²³.

Works

With a careful and critical look at the biographies of physicians and works written in the 4th century, *Ibn Jazzar* can be

- 16- Sezgin, 2000: 432.
- 17- Ibn Abi Usaybea, 1955: 38-39.
- 18- Sofdi, 1972: 208-209.
- 19- Mahmood Badr, 1990: 88-89.
- 20- Ibn Joljol, 1955: 88-90.
- 21- Gerrit, 1993: 299.
- 22- Ammer, 1998: 3.
- 23- Ibn Jazzar, 1996: 38.



considered as one of the highlights of this era. It is estimated that the list of his texts and manuscripts is more than forty in various fields of science and about 27 in medicine. Although *Ibn Juljul* wrote the first report on the biography of *Ibn Jazzar*'s life, he did not mention any of his works. In an unrealistic report, he noted that after the death of *Ibn Jazzar*, 25 Cantars (an Arabic measurement unit, roughly about 80 Kilograms) of his books remained in the medicine and other sciences²⁴.

Several treatises and books on medicine and pharmacy have remained from *Ibn Jazzar* which are published presently. The original Arabic manuscript of some of his compilations are not available, but their translations are available in Latin and Hebrew. The author reported in a treatise called "*Fi al-Khawās*", which he called "*al-Khawās*" because he referred to the effectiveness of some medicines that cannot be easily recognized in general medicine there²⁵. "*Modavah al-Nisyān wa-Ṭuruq Taqwiyatehem*", the treatise on "*fi al-Jadam wa Asababah wa Alājah*", a treatise that Constantinus Africanu (d. 1087 AH/1676AD) attributed to himself, are among the works whose original Arabic manuscripts are not available.

Ibn Jazzar wrote many works on medicine, which were only mentioned by some historians after him, such as *Ibn Abi Usaibi*'a. Some of these books are "*Al-Malikhuliyat*", "*Al-Nawm va Al-Qayzah*", and "*Al-Boqiya al-Adwiya al-Morakabah*" which is about compound drugs or "*Aghabadin*". Another book is called "*Abdal Al-Aqaqir*", which is, as its name suggests, about separate drugs that were not available to all the people and also is an introduction to some alternative drugs instead. And the last mentioned book is "*Al-Odah li Tul Al-Modah*" which was considered by *Ibn Abi Usaibi*'a as the greatest work of *Ibn Jazzar* on medicine. He also quoted from *Jamal Al-Din al-Qefti* that *Qefti* had seen this outstanding work in *Qeft* (Egypt).²⁶

The following is a brief introduction of the great works of this physician, whose copies are currently available in libraries around the world.

"*Al-Etimad fi al-Adwiya al-Mofradah*" is a work on the description and explanation of simple drugs translated into Latin, Hebrew and Greek, and *Sezgin* regarded the related draft in Sophia as the most comprehensive copy. Separate spices are the basis of pharmacology for Muslims, and the texts of Greek thinkers such as Galenus and Dioscorides were considered as a model for Muslims in this regard. The author mentioned in the introduction that the purpose of writing this work is to complete the works of Galenus and Dioscorides. The main feature of the book is that, unlike similar types of

24- Ibn Juljol, 1955: 88.

25- Sezgin, 2000: 429.

26- Ibn Abi Usaybea, 1955: 38-39.



works, the author prescribed and adjusted the spices based on being warm, dry, wet and cold in nature. In this work, some medicines that were unknown and lost in Arabic were mentioned, and the author tried to introduce most of the medicines needed by doctors²⁷.

"*Tibb al-Fuqara' wa-l-Masakin*" is among the most important books of *Ibn Jazzar* in the field of medicine and therapy, which has been written in seventy chapters on the treatment of illnesses occurring in all organs of the body²⁸. *Tibb al-Fuqara' wa-l-Masakin* is among those forms of writings that were common in Islamic and Western texts in Middle Ages. This monograph has a distinctive and practical feature that can be briefly described as a list of medicines and treatments regardless of the etiology and symptoms of the disease. In addition to having the characteristics of a folk medical work, this manuscript also had theoretical characteristics. In fact, the content of the book is a reflection of a society in which written knowledge interacts with the knowledge of the public, and they mutually affect each other, a society that integrated the knowledge of Galenus and Dioscorides with fear of evil eye and spell and charm²⁹. The characteristics of treatment in *Tibb al-Fuqara'* contain several elements; natural therapies and magic and spell. In natural therapies, a simple method was used to treat diseases of various organs of the body with animal origin. Beside it, the magic, and the beliefs based on folk medicine were prescribed. Using *najāsa* (urine) of humans and animals in the treatment and advising on the pharmacological function of animal organs are non-scientific points that are observed in various parts of this work³⁰.

"*Zād al-Musāfir wa Qut al-Hāder*", "*Fi Elaj al-'Amraz*"³¹ or "*Zād al-Musāfir fi al-Tibb*"³², which is called by the author "*Zād al-Musāfirin*" or "*Zād al-Musāfir*"³³⁻³⁵ is a work written for one of the governors of Ifriqiya, who was the uncle of Caliph al Muizz of the Fatimid state (361-336 AH). *Ibn Jazzar's* purpose of writing this book was to provide medical information to the public or people who are in a place where they do not have access to a doctor³⁶. The book was widely used during the lifetime of the author himself and was quickly taken into consideration in scientific communities, as *Abu'l-Fath Hussain*, the poet of *Sayf al-Dawla al-Hamdani* (r. 334-356 AH/946-967AD), known as Koshajem (d. 359 AH/970AD) pointed out its importance in some poems³⁷. This manuscript was published by *Abu Hafṣ Omar ibn Hassan Andalusī*, a student of the author, in Andalusia. This book was translated into Hebrew by *Moses ibn Tibbon*. Constantin the African deleted the name of *Ibn Jazzar* and translated the book under the title of *Viaticum* into Latin and claimed himself as

- 27- Ibn Jazzar, 2004: 7-8.
- 28- Ibn Jazzar, 1996: 41.
- 29- Gerrit, 1998: 373.
- 30- Ibn Jazzar, 1996: 136, 149, 191.
- 31- Ibn Abi Usaybea, 1955: 38-39.
- 32- Haji Khalifa, n.d.: 896.
- 33- Ibn Jazzar, 1996: 38.
- 34- Ibn Jazzar, 2004: 21.
- 35- Ibn Jazzar, 1999: 55.
- 36- Ibid.
- 37- Ibn Abi Usaybea, 1955: 38.



the author of the work translated from the original Arabic manuscript^{38, 39}. *Zād al-Musāfir* played an important role in the European Medical Renaissance⁴⁰. This work consists of seven articles and many chapters that describe the diseases of the body, and in each chapter, the author points out to diagnosis, causes, and symptoms of diseases and their treatment, and separate and compound drugs. He used Africanus' and local terms to introduce the drugs and described the herbs and drugs for better and further understanding. In this manuscript, the author described love as an illness, and according to one report "*Zād al-Musāfir*" this work is one of the oldest texts in which this type of illness has been addressed⁴¹.

"*Ṭibb al-Mashāyikh va-ḥifẓ ṣiḥḥatihim*": This manuscript is one of the earliest texts of its kind on the health of elderly people. The author's goal was to emphasize the health care methods for this group of people. This work focuses on topics such as climate, types of foods, the time and duration of sleep, and the drugs that are used to strengthen and enhance the health of the elderly⁴².

"*Al-farq bayn al-Hilal alati Tashtabiho Asbaboha wa Takhalafa Araziha*": The most important focus of the book is the diagnosis of diseases whose causes, origins and symptoms are the same, but in fact are different in nature⁴³.

"*Fi al-Midah wa Amraziha wa Modawatihā*": Its subject is the recognition of all types of stomach illnesses and their treatments, which was compiled in four volumes for crown prince *Emir Al-Aziz Fatemi*^{44, 45}.

"*Fi Founoun al-Tiib wa al-Attr*": This manuscript is worthy of attention due to its oldness and antiquity as it is considered as one of the first works on perfumery, and also because it has addressed the medicinal benefits of perfumes. In this manuscript, the author has pointed out to the effectiveness and medicinal value of (animal and herbal) perfumes from separate and compound kinds in the treatment of diseases and the importance of perfumery industry and the necessity of its relevance to medicine science. The author first speaks of the cold and warm nature of the fragrances, and then emphasizes that an efficient physician should prescribe perfumes and their drug combinations according to people's nature. *Ibn Jazzar* is one of the first physicians who believed that using perfumes is beneficial in deterring the spread of contagious diseases such as plague and cholera. He also held the belief that humidifying prevents the absorption of contaminate air⁴⁶. In the introduction of "*Siyasah al-Sebiyan wa Tadbirehem*" or "*Tadbir al-Atfal*", which was written in the field of pediatrics and taking care of healthy and sick newborns⁴⁷, the author points out to the importance of this branch of medicine and

- 38- Sezgin, 2000: 427.
- 39- Ibn Jazzar, 1999: 54-55.
- 40- Ammer, 1998: 3.
- 41- Encyclopedia of Islam, Date???: 228.
- 42- Ibn Jazzar, 2009: 39-40.
- 43- Ibn Jazzar, 1989: 14.
- 44- Ibn Jazzar, 2010: 37.
- 45- Hemarne Sami, 1986: 276.
- 46- Ibn Jazzar, 2007:28.
- 47- Sezgin, 2000: 42.



mentions the reason behind compiling this work has been the lack of comprehensive and complete work in this regard. The book consists of 22 chapters about the prevention of disease and description of diseases and their treatment, and the last chapter is devoted to the methods of children's upbringing⁴⁸. This manuscript was very important in the field of pediatric medicine to the extent that Moqadas regarded it as one of the most important texts compiled in this field until a book entitled "*Tadbir al-Hebali wa al-Atfal wa al-Sobian wa-hifz sihhatihim wa Modavah al-Amraz al-Arezah lahom*" by *Ahmad Baladi* was written⁴⁹. Famous and prominent physicians such as Avicenna cited parts of this work in their medical texts⁵⁰. Therefore, Dr. *Elahileh* believes that Avicenna followed the method and techniques of *Ibn Jazzar*, and it is most likely that he had access to the text itself as sometimes even the exact words of *Ibn Jazzar* are repeated⁵¹.

The multiplicity and diversity of the writings that remained from *Ibn Jazzar* in the field of medicine reveals his holistic point of view and his specialization in all branches of medical sciences, especially the field of pharmacology as separate and compound spices have been mentioned more often in the form of monograph treatises. In the field of pharmacology, when *Ibn Jazzar* recommended a separate drug, he considered Dioscorides (about 40-90), while he benefited from the experiences and achievements of Muslim physicians when he prescribed compound drugs. Indeed, in the field of pharmacology, *Ibn Jazzar* and physicians from the geographic region of North Africa excelled their predecessors⁵².

Religion

Earlier reporters mentioned *Ibn Jazzar* by names like "*Muslim Al-Nahla*" and "*Jamil Al-Madhab*" and "*Hassan al-Madhab Beasl al-Sayyrah*"⁵³⁻⁵⁵. Since during the mentioned course of history, *Maliki* was a widespread religion in Egypt and the North Africa, and because *Qadi Ayyad* cited some quotes from *Ibn Jazzar* in his book entitled "*Tartib al-mardarik li-marifat alam madhab Malik*", which is a book about the biographies of the *Maliki* thinkers and scholars⁵⁶, most historians agree that he is a follower of *Maliki* religion. However, his close connection with the Fatimid state and the texts he wrote for some of the Fatimid affiliates^{57, 58} have been the sources of some doubts, and some people consider him as a follower of the *Ismā'īlī* religion⁵⁹ although addressing this requires a comprehensive study of his work. Even so, it can be assumed that after the Fatimid Dynasty in North Africa and the expansion of the *Ismā'īlī* religion in this area, *Ibn Jazzar* did not convert his religion, and he wasn't opposed to

- 48- Ibn Jazzar, 2008: 51.
- 49- Razi, 2010: 18.
- 50- Avicenna, 2005: 40-45.
- 51- Ibn Jazzar, 2008: 51.
- 52- Gerrit, 1993: 299.
- 53- Ibn Joljol, 1955: 88.
- 54- Ibn Saed, 1993: 82.
- 55- Hamavi, n.d.: 137.
- 56- Qadi Ayyad, 1967: Vol. 1: 339; Vol. 2: 487.
- 57- Ibn Joljol, 1955: 89.
- 58- AL-Samraei, 1980: 573.
- 59- Ibn Jazzar, 2010: 17.



the Shiite dynasty Either.

Death

The year of the death of this prominent physician has been marked in different sources differently. Haji Khalifa has written in two different reports that he was murdered in Andalusia in the years prior to 400 AH, and somewhere else, he considered his death year to be after 400 AH/1010AD⁶⁰. *Ibn Idhāri al-Marrākushi* wrote that the year of his death was 369 AH/980AD⁶¹. *Ibn Juljul* and *Şafadī* have written that he was alive during the caliphate of *Maad Muizz li-Din Fatemi* (341-365 AH) in about 350 AH or near this year^{62, 63}. *Sezgin* considered 369 AH, and Hamarneh considered the first few years of the caliphate of *Al-Aziz Fatemi* (365-386 AH/976-996AD) as his death year^{64, 65}. Based on some historical evidence, *Ibn Juljul* wrote about *Ibn Jazzar* as “when he died... .” Thus, *Ibn Jazzar* does not appear to have been alive when *Ibn Juljul* wrote *Tabaqat*. Also, *Ibn al-Abbar* wrote in a report that *Ibn Juljul* finished writing his book in 377AH/987 AD⁶⁶. So, based on these two pieces of evidence, *Ibn Juljul*’s notion of *Ibn Jazzar*’s death and *Ibn al-Abbar*’s report on the year of completion of *Ibn Juljul*’s book, it can be implied that the year of the death of this scientist must be prior to 370 AH and during the caliphate of Muizz Fatemi⁶⁷. Thus, most probably *Ibn Jazzar* had died when *Ibn Juljul* wrote *Ṭabaqāt*; on the other hand, *Ibn al-Abbar* has also written in a report that *Ibn Juljul* finished writing his book in 377 AH/987AD⁶⁸.

Conclusion

Every region of the Islamic world with special territorial features as well as a different scientific development has been the arena for the presence of great physicians who have contributed significantly to the advancement of medicine with their works. *Ibn Jazzar* is one of the less well-known physicians of the western domain of Islamic civilization, from whom valuable works in various sciences and, of course, medicine have remained. He graduated from the medical school of Kairouan, and he was practicing medicine as well as teaching in *Bayt al-Hikmaht* [the House of Wisdom] of Kairouan when the Fatimid state took over the power. The examination of his scientific life suggests that he was an ethical physician who was not interested in positions in government. Considering the medical achievements of *Ibn Jazzar* and numerous works that have remained from him, or based on his quotes that are cited in other books, it is revealed that a wide range of diseases and different therapeutic methods were identified by him, which are not previously mentioned

60- Haji Khalifa, n.d., Vol. 1: 869.

61- Ibn Ezari, 1980: 237.

62- Ibn Joljol, 1955: 89.

63- Sofdi, 1972: 208-209.

64- Sezgin, 2000: 425.

65- Hemarneh Sami, 1986: 279.

66- Ibn al-Abbar, 1956: 150.

67- Ibn Joljol, 1955: 90.

68- Ibn al-Abbar, 1956: 150.



in any precedent medical works. His medical method is the result of the experiences of prominent physicians in the North African land and culture, in which native and supernatural features had been integrated with the academic achievements learned from the Alexandria School.

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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