

ORIGINAL ARTICLE

Ibn Wafid Lakhmi: Pharmacist and Botanist from Andalusia

Abstract

The land of Andalusia was part of Dar al-Islam for about eight hundred years, and the prosperity of Islamic culture and civilization in this land made it one of the most brilliant scientific centers in the world, radiating knowledge all over Europe. Since the Muslim rulers of Andalusia strived to promote science and knowledge in this land, Andalusia turned to a territory in the period of Islamic civilization in which famous physicians, pharmacists and botanists were raised. Among them was Ibn Wafid Lakhmi, an Andalusian physician, pharmacologist and botanist who, while practicing medicine, also paid special attention to the subject of pharmacology and the cultivation of medicinal plants.

Ibn Wafid treated patients with his own therapeutic and medicinal methods and with his numerous works and writings in the field of medicine, pharmacology and botany, he played an important role in expanding the scientific and civilizational boundaries of Islam in the field of these sciences. Ibn Wafid Andalusia, by training prominent students, was influential in the transmission of medical sciences, especially pharmacological and botanical knowledge, in the Islamic and world civilizations. The research method of this article is descriptive-analytical and the main question of the research is that what the role and function of Ibn Wafid Lakhmi as an Andalusian was in expanding the borders of medical sciences, pharmacology and botany in the Islamic civilization.

Key words: Ibn Wafid Lakhmi, Medicine, Pharmacology, Botany, Andalusia

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Introduction

With the revelation of the Prophet of Islam (PBUH), the religion of Islam emerged and began with the migration of the Prophet (PBUH) from Mecca to Medina in the Islamic civilization. Among the historical events, that led to the territorial expansion of the Islamic civilization, and extending it beyond the Arabian Peninsula, were the conquests that began from the time of Abu Bakr (11-13 AH), the first caliph (Ibn A'tham Kufi, 1993, p. 46) and continued until the end of the Umayyad period (132 AH) in various regions. (Khudari bak, 1997, pp. 349-351, 396-398) After the conquest of North Africa in 91 AH, the Muslims entered the territory of Spain and by 95 AH, they had gained almost all the territory of the Iberian Peninsula (Ibn Ozari, 1983, p. 5; Magri Tlemceni, 1986, p. 160)

From that time on, most of Spain (Andalusia) was part of Dar al-Islam for about eight hundred years, and the prosperity of Islamic culture and civilization in this land made it one of the most brilliant scientific centers in the world, defusing knowledge all over Europe. Unlike some other Islamic regions, such as the maghrib al'aqsa, Andalusia did not tend to isolate itself from the central lands of the Islamic world. The rulers there, after consolidating their rule, tried to connect with the Eastern Islamic scientific traditions, which resulted in the prosperity of the science and knowledge market, especially from the fourth century AH onwards. Soon after Islam entered Andalusia, eastern culture flowed there. This is confirmed by the list of names of the students, who went from Andalusia to Egypt, Syria, Iraq, etc. in search of knowledge. From the third century AH, the situation gradually changed and Andalusia itself reached the stage of science production and great people appeared there in various scientific fields, including medicine, pharmacy and botany. The high scientific achievements of Muslims in Spain were of great importance for the culture of Christian Europe, especially after the tenth century AD (third century AH). (Lucas, 1993, p. 367)

According to the popular saying among medical historians, Muslims began to study medicine after translating the works of other tribes, and each land of the vast Muslim realm contributed to the growth and development of this heritage. In Andalusia, the study of medicine began at the time of Muhammad ibn Abd al-Rahman al-Awsat (238-273 AH) and flourished within a century. What can be seen in the record of Andalusian physicians is the dominance of Andalusian physicians' approach to the subject of pharmacology in General and simple drugs in particular. This led to the growth of pharmacological knowledge, to some extent and consequently botany in Islamic civilization. The existence of dozens of famous Andalusian physicians and pharmacists, including Zahrawi (d. 400 or 404 AH), Ibn Wafd Lakhmi (d. 467 AH) and others who have left valuable works in these fields, shows this brilliant record. (Roghani, 2008, pp. 75-84; Roghani, 2009)

Concerning the importance of the subject of this research, it should be said that the study of the status of Muslims in the history of science and their capabilities and innovations in this field is one of the necessary and important issues that addresses the prevailing extremist thinking in the history of science. The present article tends to introduce "Ibn Wafd" as one of the Andalusian Muslim physicians, pharmacists and



botanists; to study his scientific activities and abilities; to try to expand the scientific and civilizational boundaries of Islam in the fields of medicine, pharmacology and botany; and to show the contribution of “Ibn Wafid” in the progress and development of these sciences. As a result of this research, it was found that Ibn Wafid was one of the great Andalusian physicians, pharmacists and botanists who treated patients with his own therapeutic and pharmacological methods and wrote numerous works in the fields of medicine, pharmacology and botany. He had an important role in expanding the scientific and civilizational boundaries of Islam and the world, and some of his works were translated into European languages and used by Europeans in the Middle Ages and the Renaissance.

Regarding the background of research, it should be said that by examining early historical sources as well as recent research sources, we found a little, but useful, information about Ibn Wafid Lakhmi. Earlier sources comprised Ibn Sa’d Al-Andalus, in his book “*Tabaqat Umm*” (1985); Ibn Abar in his book “*Al-Takmalta ul-Katab Al-saleh*” (1410 AH); Ibn Abi Asiba’ah, in his book “*Ayoun Al-Anba*” (1299 AH); Ibn Jaljal, in his book “*al-Atabba val-hokama*” (2005); Ghofti, in the book “*Tarikh al-hokama*” (1992); in the introduction of the book “*Al-Adawiya Al-Mufradah*” by Ibn Wafid Lakhmi himself, and some of the research sources of the Angel, in the book “*Tarikh al-Fekr al-Andalusi*” (1955); Jusi in the book “*Muslim Spain Heritage*” (2001); in a very scattered and multi-line manner, Velayati, in the book “*Calendar of the history of culture and civilization of Islam and Iran*” (2013); one page and also a one-page article by Yamini Ghaishi in “*The Great Islamic Encyclopedia*” and a half-page article in the “*Encyclopedia of Islam*”, which have dealt with Ibn Wafid. So far, no extensive and comprehensive research and article have been found on the political and social developments of Ibn Wafid Lakhmi’s life, occupations and responsibilities, writings, treatment methods, professors and students.

Materials and Methods

This is a review research and the research method is descriptive-analytical. The study is carried out based on the information collected following library research method. To this end, first, historical sources in which there lies some information about the research topic or even a reference to that material has been collected. Having taken notes and categorized the content, the data has been analyzed before writing the article. The study, finally, has reached a convincing and scientific conclusion based on the historical data.

Political and social developments of Ibn Wafid Lakhmi’s era: The era of tribal kings in Andalusia

In the history of Andalusia, the era, from the fall of the Umayyad Caliphate in 422 AH to the end of the last Islamic state, Banu Nasr in 897 AH, was called the era of the tribal kings. (Naseri Taheri, 1996, pp. 156-164) During this period, various tribal groups or supporters of Muslim tribes each declared independence in a region of that land, undermining the political unity of this part of the geography of the Islamic world.



Part of this land was taken by Banu Eibad and Banu Hood, part by Bani Hammoud of Arab origin, with barbarian culture, and some other regions by the slaves of Ameri and other emirs of Andalusia.)Beyzoun, 1985, pp. 351-353, 368 (The most important states of the Andalusian tribal kings are as follows:

Banu Hammoud in Cordoba, Malukah, and the Green Island (407-449 AH): This dynasty, attributed to the Alawites, was established by Ali ibn Hammoud, the former governor of Sabbath. (Ibn Ozari, 1983, p. 5) This government became extinct because of the strictures imposed by Ali ibn Hammoud of Mawali of the Umayyads and the mistreatment of the barbarians who were pro-Ali against people as well as the severe conflicts of the Hammoud dynasty with other tribal kings during the time of one of Ali's successors, Qasim ibn Muhammad, in 499 AH. (Annan, 1990, p. 330)

Banu Zu-al-Nun in Talitla (427-478 AH): After the central government of Cordoba (Umayyads of Andalusia) was weakened, one of the leaders of this family named Ismail ibn Abd al-Rahman came to Toledo and founded the independent government of Banu Zu-al-Nun in 427 AH. The most known ruler of this dynasty was Yahya al-Ma'mun (467-435 AH) who was involved in several wars with the two governments of Banu Eibad and Banu hood. Ibn Wafid Lakhmi lived in his time and was one of the respected person in his court and even held the position of minister for some time. This government became extinct in 478 AH by Alfonso, the Christian king of Qeshtala.

Other important kingdoms of the Andalusian tribal kings were: the rule of Banu Eibad in Seville (414-484 AH), the Banu hood in Cordoba (422-462 AH), the Banu Thabib in Zaragoza (408-430 AH)(8) and the last and most important Muslim state in Andalusia Banu 'Ahmar Or Banu Nasr (629-897 AH) who, despite his dangerous position as the only Muslim state, survived amid the Christian states. This latter Muslim state, because of the social unrest and internal unrest of the invading Christian state of Castile-Leon, remained in power for another two and a half centuries, until 897 AH, in Andalusia, attracting Muslim scholars and writers from all over the Islamic world (Annan, 1990, p. 330; Basworth, 2002, p. 72).

Ibn Wafid: Biography

Abu al-Mutrif Abdul Rahman bin Muhammad Abdul Kabir bin Yahya bin Wafid Lakhmi, known as Ibn Wafid and Ibn Muhannad, the great Andalusian Muslim physician, pharmacist and botanist, wrote the year of his birth differently in various sources (387, 389 and 398 AH) in the city of Toledo (Tahami, 2008, p. 318) He died in the year 467 AH in the city of Seville. (Zarkeli, 1986, p. 326; *The Encyclopaedia of Islam*, 1986, p. 843). Ibn Wafid was from an aristocratic family from Toledo (Mousavi Bojnourdi, 1999, p. 65), He first studied the works of Greek physicians and sages, especially those of Galen and Aristotle, in Toledo and then in Cordoba, and became a master of medicine and pharmacology. (Angel, 1955, pp. 467-469; Ibn Sa'd Andalus, 1985, pp. 195-196; Ibn Abar, 1989, p. 551) Ibn Wafid lived in Toledo during the reign of Yahya al-Ma'mun Banu Zu-al-Nun (429-467 AH) (Annan, 1990, p. 330) and in his court, he held a high position and status. He even held the position of



Minister for some time. (Ibn AbiAsiba'ah, 1299, V.2, p. 49; Beyzoun, 1985, p. 368; Ibn alJal, 2005, V.2, p. 49; Dehkhoda, 1998, p. 317)

Being knowledgeable in the field of botany, Ibn Wafid supervised constructing the famous and Booming gardens of King Banu Zu-al-Nuni in Toledo. (Zarkeli, 1986, p. 326; Angel, 1955, pp. 467-469) Later, following the weakness and emergence of a political crisis in the court of Banu Zu-al-Nun, and the dismissal and even the assassination of competent ministers, Ibn Wafid was dismissed from Andalusia. Then, Yahya ibn Sa'id known as Ibn Hadid, who was also one of the famous scholars of Toledo, was dismissed and killed. (Ibn Bassam, 1979, p. 152; Ibn Bashkwal, 1989, p. 669) Ibn Wafid emigrated from Toledo for a while to Cordoba and settled there. (Zarkeli, 1986, p. 326; *The Encyclopaedia of Islam*, 1986, p. 843; Angel, 1955, pp. 467-469) Later, Ibn Wafid went to Seville and lived there and while conducting field studies and research, he started to cultivate medicinal plants. (Roghani, 2010; Jusi, 2001, pp. 548-550, 626, 647) Ibn Wafid, after a long stay in Seville, returned to Toledo, where he practiced medicine, pharmacy, and the cultivation of medicinal plants, and where he died in 466 AH or 467 AH. (Dehkhoda, 1998, p. 317)

Ibn Wafid's actions and methods in the fields of medicine, pharmacology and botany

Islamic medicine and its allies, such as pharmacy, have benefited from a set of Islamic health messages about the manner of eating and drinking, as well as from Greek, Alexandrian, Iranian, and Indian medical experiences. As a result, although the principles of Islamic medicine and its appendages were derived from the medical heritage of ancient civilizations, they were also closely related to the religious lessons on health, and each of the vast lands of Islamic civilization worked on the development of the scientific heritage. This influence of Islamic teachings caused Andalusian scientists to take great steps in the development of medical science to the point that in some branches of medicine they even surpassed the Islamic East.

Most of the Andalusian philosophers and scholars considered medicine as their side jobs and were engaged in other occupations. However, there were many professional physicians whose work and research were well known in Europe and Eastern Rome. (Hatta, n.d, V.1, p. 737) Scholars, such as Ibn Tufayl, Ibn Rushd, Ibn Maimun and Ibn Bajjah, despite being professional in medical sciences and publishing valuable works, were better known as philosophers than physicians or Ibn Khatib Andalusian, once a minister and physician of the Caliphate, was better known as a historian than a physician. (Alhawi Nazari, 2003, pp. 92-110)

Ibn Wafid (398-467 AH) was one of the Muslim physicians and pharmacists of Andalusia who, while was engaged in politics, ministry, agriculture, and research on various medicinal and non-medicinal plants, was also engaged in medicine and pharmacology at a high level. As said below, he was a professor of medicine (Ibn Abi Asiba'ah, 1881, p. 49); one of the great Islamic physicians and pharmacists (Halabi, 1986, p. 229); and a theoretician in the field of medicine and pharmacy. (*The Encyclopaedia of Islam*, 1986, p. 843)



Ibn Wafid first began studying medical sciences in Toledo by studying and learning the works of Greek physicians and scholars, such as Galen and Aristotle (Mousavi Bojnourdi, 1999, p. 65; Velayati, 2013, p. 1241), but at the same time he used his personal observations and experiences, as well. (Jiusi, 2001, pp. 548-550,626,647) Ibn Wafid, for completing his knowledge in medicine, went to Cordoba to study medicine under the supervision of Khalaf Ibn Abbas Zahrawi, a great Andalusian Muslim physician and surgeon. (Roghani, 2010, pp. 141-164; Zarkeli, 1986, p. 326; *The Encyclopaedia of Islam*, 1986, p. 843; Angel, 1955, pp. 467-469)

Since paying attention to the type of food and abstaining from eating at certain time were of special importance in Islamic medicine, and Muslim physicians considered the effect of abstinence stronger than that of medicine on maintaining health, Ibn Wafid Andalusí's treatments – despite his vast knowledge including medical knowledge - more tend to use nutritional methods than prescribing medicine (Mousavi Bojnourdi, 1999, p. 65). At times, when he diagnosed the patients' problem could also be treated with medicine, he preferred to treat them with simple spices and in case, he had to combine spices, he combined them. But, he never made it complicated. (Ibn Sa'd Andalusí, 1985, pp. 195-196; Ibn JalJal, 2005, p. 49; Ghofti, 1992, pp. 226,314)

Another treatment approach taken by Ibn Wafid was his emphasis on healing through bathing in mineral springs and others (Jiusi, 2001, pp. 548-550,626,647; Halabi, 1986, p. 229; Damirchi, 2010, p. 257). In this regard, Ibn Wafid wrote a book on the healing properties of baths and baths with mineral water. This book was translated into Latin and published in Venice, Italy in 1553. (*The Encyclopaedia of Islam*, 1986, p. 843; Mousavi Bojnourdi, 1999, p. 65, Jiusi, 2001, pp. 548-550,626,647).

Regarding the methods and actions of Ibn Wafid Andalusian in pharmacology and knowledge of medicinal plants, it should be said that the diversity of climate and fertility of the land in Andalusia made herbal knowledge, agriculture, botany and pharmacology become more advanced than that in other Islamic regions. This made Muslims, compared to the Greeks, become more familiar with various types of spices. Zarrinkoob, in this regard, stated that although Islamic pharmacology was based on Greek and Iranian elements, it was spread by Muslims and the names of hundreds of single spices, that were unknown to the Greeks, were introduced in Islamic pharmacology. (Zarrin Kob, 1997, p. 61)

As a physician and pharmacist, Ibn Wafid was knowledgeable in the field of single spice, as medicine. (Ghofti, 1992, pp. 226,314) Therefore, he was interested in obtaining medicinal plants to treat patients without transforming them. (Jiusi, 2001, pp. 548-550,626,647) Ibn Wafid spent twenty years of his life conducting research on medicinal plants, culminated into writing a book, called *Al-Adawiya Al-Mufradah*. It was his most important and famous book in the field of pharmacology, medicinal plants and medicine. (Ibn Sa'd Andalusí, 1985, pp. 195-196) Ibn Wafid followed the theories of "Discouridus" and "Galen" in compiling this work, but at the same time, he recorded his own personal observations on medicinal plants and their effects on the treatment of diseases. He stated that he preferred simple drugs to compound ones. (Mousavi Bojnourdi, 1999, p. 65; Ibn Sa'd Andalusí, 1985, pp. 195-196; Jiusi, 2001,



pp. 548-550,626,647) An important part of this book was survived through translation into Latin and its summary done by “Gerardus Cremonaiee”. It was published many times in medieval Europe (Mousavi Bojnourdi, 1999, p. 65) and was used by the Renaissance farmer “Gabriel Al-Nesudoherra”. (Jiusi, 2001, PP.548-550,626,647)

Regarding the Actions of Ibn Wafid Andalusian in botany and agricultural sciences, it should be said that the Muslims transformed the rural life of Spain by adopting new methods of agriculture, especially irrigation.)Ibn Sa`d Andalusi, 1985, pp. 195-196 (Some Andalusian Muslim rulers, such as Abd al-Rahman II and Abd al-Rahman III, sometimes used to send people to the Islamic East to find out what plant species they used, importing beneficial plants to Spain. Muslim botanists considered plants both in terms of medicinal value and agricultural products. Most of them appeared from the middle of the fifth century AH / 11 AD onwards in Spain and in the cities of Toledo, Seville and Granada. Among the famous Andalusian botanists, Ibn Wafid’s name was directly stated. (Hemmati Glian, 2007, p. 200) Among the scholars of botany and agricultural sciences in Andalusia, historically speaking, Ibn Wafid comes first. (Jiusi, 1380, pp. 548- 550,626,647) Due to his interest in agricultural sciences, Ibn Wafid first established botanical gardens in Toledo for Ma`mun king Banu Zu-al-Nuni and started his studies in various fields of agriculture and finding medicinal plants there and continued this for many years (Zarkeli, 1986, p. 326; Angel, 1955, pp. 467-469) and During that period, as a botanist, he was engaged in research and educational activities on plants. The result of his work in that period was the compilation of several outstanding works on agriculture, botany and especially medicinal plants.

After that, Ibn Wafid went to Seville and continued his practical activities in identifying medicinal plants and botany. Ibn Wafid established one of the first experimental botanical gardens in the Jarf area, near Seville, on the basis of its Toledo sample (Jiusi, 2001, pp. 548-550,626,647), and this led the city of Seville, Andalusia, especially in the 5th and 6th centuries AH, to occupy a prominent status in agricultural research.

The product of Ibn Wafid’s years of effort and work in the botanical sciences was the practical methods and books and treatises he left for the future.

One of Ibn Wafid’s valuable works in botany and agriculture - which is also closely related to his pharmacology and medicine - apart from the book “*Al-Adawiyah al-Mufradah*”, is the book “*Al-majmue fi Al-filahuh*” which has been considered important by the generations after him. This book has been translated into two Roman languages of the Iberian Peninsula, namely Catalonia and Qestali, and its subsequent influence on the great and important work on agriculture in the Renaissance called “General Agriculture” done by “Gabriel Al-Nesudoherra” is vividly seen. (Jiusi, 2001, PP.548-550,626,647)

Scientific works, professors and students of Ibn Wafid

Ibn Wafid spent all his life studying the works of Greek sages and physicians such as “Galen” and “Aristotle” “Discouridus” (Mousavi Bojnourdi, 1999, p. 65; Ibn Sa`d Andalusi, 1985, pp. 195-196). By conducting practical research, using his personal observations on medicinal plants and their effect on the treatment of diseases, he added



to the theoretical works and ideas of previous sages and physicians, and left valuable scientific works in the fields of medicine, pharmacology and agricultural sciences. The works of Ibn Wafid who was well known in Europe for a long time are as followse (Table 1):

Al-Adawiya Al-Mufradah is the most important and famous medical work of Ibn Wafid Al-Andalus. He spent twenty years on writing this book. According to Ibn Sa'd Andalusian, the book included all the medical teachings of Discouridus and Galen. (Ibn Sa'd Andalusi, 1985, pp. 195-196) The Latin translation and summary of this work was done by "Gerardus Cremonaiee" and was published several times in medi-eval Europe. The book was translated into Hebrew and Catalan (*The Encyclopaedia of Islam*, 1986, p. 843; Mousavi Bojnourdi, 1999, p. 65; Ibn Abi Asiba'ah, 1881, p. 49) The original version of this book had about five hundred pages (Dehkhoda, 1998, p. 317), part of the Arabic version of this book being available now. (Ibn Wafid al-Andalusi, 2000, p. 200)

Tdqyq Al-nazar fi ealal hasih Al-basar: This book, written by Ibn Wafid Andalusian, is about ophthalmology and the way to examine the eyes as well as the power of vision and eye diseases. The manuscript of this work, with the book number of 876, is kept in the Escorial Library of Spain (Tahami, 2008, p. 318; Mousavi Bojnourdi, 1999, p. 65; Ibn JalJal, 2005, p. 49)

Al-Tazkrah, a copy of which is available in Leiden. (Mousavi Bojnourdi, 1999, p. 65) *mujarabat fi Al-Tib*; is about the role and effect of experiments and experience in medicine. (Mousavi Bojnourdi, 1999, p. 65; Ibn Abi Asiba'ah, 1881, p. 49)

Majmue fi Al-filahuh falaha; The book is about plant science and agriculture. The book has been translated into two Roman languages of the Iberian Peninsula, Qatlioni and Qeshtali. (Zarkeli, 1986, p. 326; Angel, 1955, pp. 467-469; Jiusi, 2001, pp. 548-550,626,647)

Al-Maghyth is about pharmacology. (Mousavi Bojnourdi, 1999, p. 65; Ibn JalJal, 2005, p. 49)

Al-Wasad fi al-Tib is about the treatment of various diseases (Ibn Abi Asiba'ah, 1881, p. 49), and a copy of this book is now available in the Escorial Library of Spain. (Mousavi Bojnourdi, 1999, p. 65)

There is still another book attributed to Ibn Wafid which is about the healing properties of baths and baths with mineral water. The book has been translated into Latin as "*About the Bath*". It was published in Venice, Italy in 1553. (*The Encyclopaedia of Islam*, 1986, p. 843; Mousavi Bojnourdi, 1999, p. 65; Jiusi, 2001, pp. 548-550,626,647)

Of Ibn Wafid Andalusian masters in medicine, only Abu al-Qasim Khalaf ibn Abbas Zahrawi is known (Mousavi Bojnourdi, 1999, p. 65; Velayati, 2013, p. 1241). Ibn Wafid emigrated to the city of Cordoba for many years, where he studied medicine under the supervision of the famous Andalusian physician and surgeon, Zahrawi. (Zarkeli, 1986, p. 326; *The Encyclopaedia of Islam*, 1986, p. 843; Angel, 1955, pp. 467-469)

Among the most famous students of Ibn Wafid of Andalusia were Abu al-Hasan Ali ibn Abd al-Rahman ibn Yusuf known as Ibn Lunqa Talitli and Abu Bakr Muhammad ibn Zuhair, the Andalusian physician. (Velayati, 2013, p. 1241)



Table 1: Books of Ibn Wafid Lakhmi Andalusian

Row	Book Name	Book content	Book translations	Book storage
1	Al-Adawiya Al-Mufradah	<i>The most important and famous medical work is Ibn Wafid, who spent twenty years on writing it. This book contains all the medical teachings of Discouridus and Galen.</i>	This book has been translated into Latin by Gerardus Cremonaiee and has been translated into Hebrew and Catalan. Part of the Arabic version of the book is currently available and has been Repeatedly printed.	The printed version of this book is also available in various libraries around the world, including Iran.
2	tdqyq Al-nazar fi ealal hasih Al-basar	<i>The book is about ophthalmology and how eye examinations, vision and eye diseases should be performed.</i>	---	The manuscript of this work is numbered 876 in the Escorial Library of Spain.
3	Al-Tazkrah	<i>Unknown</i>	---	There is a copy in Leiden.
4	mujarabat fi Al-Tib	<i>It is about the role and effect of experiments and experience in medicine.</i>	---	---
5	majmue fi Al-filahuh	<i>The subject of this work is botany.</i>	This work has been translated into two Roman languages of the Iberian Peninsula, namely the Qatuni and Qeshtali languages.	---
6	Al-Maghyth	<i>The subject of this work is pharmacology (the medicine of al-Maghyth or the cry of clay which is the medicine of many pains)</i>	---	---
7	Al-Wasad fi al-Tib	<i>It is about medicine and treats a variety of ailments including dizziness, swelling, pimples, skin ulcers and more.</i>	---	A copy of this work is available in the Escorial Library of Spain.
8	(De blaneis Sermo) About the bathroom	<i>This book is about the properties of bathing and hydrotherapy, especially in mineral water.</i>	The book was translated into Latin and was first published in 1553 in Venice, Italy.	---

Conclusion

Islamic medicine and its attachments are derived from the medical heritage of ancient civilizations, but it has also been closely related to the teachings of Islam about health. The influence of Islamic teachings led Andalusian Muslim scholars to take great strides in the development of medical sciences and related disciplines.

Ibn Wafid Andalusian was a Muslim physician and pharmacologist who, while being engaged in politics, ministry, agriculture, and studying and conducting research on various medicinal and non-medicinal plants, was also engaged in medicine and pharmacology at a high level. Ibn Wafid, while using the works of ancient Greek physicians and sages, such as Galen and Aristotle, also enjoyed the experiences of the great medical professors of his time, namely Zahrawi.



One of the achievements of Ibn Wafid Andalusian was that he treated patients with different kinds of food with no spices. He also tried to treat patients with simple spices whenever he found it necessary. So, he always sought medicinal plants, mostly simple ones, for treating his patients. Whenever Ibn Wafid had to combine the spices for the treatment, he made an attempt not to make the combination too complicated, to the extent possible.

Another feature of Ibn Wafid's medicine was that he always emphasized healing through water and bathing in hot springs and mineral springs. Ibn Wafid, in line with his treatment methods, studied, conducted research and wrote valuable scientific works about his observations in medicine and botany, especially medicinal plants and hydrotherapy methods. His scientific works were translated into Latin and were published several times.

Other scientific achievements of Ibn Wafid, which were related to medicine and pharmacology, included his efforts, experiences, actions. In addition, his other important works comprised writings in the field of agricultural sciences, such as establishing several botanical gardens for the kings and rulers of the time in Toledo and Seville. In this regard, he left important and valuable writings that were later used by agricultural scientists in Europe during the Renaissance.

Ibn Wafid Andalusian, in addition to studying, conducting research, writing books, practicing medicine, pharmacy and botany, he was engaged in training students, namely, Ibn Lunqa Talitali and Abu Bakr Muhammad ibn Zuhair, two Andalusian physicians contributing to the expansion of the scientific frontiers and transferring medical sciences, pharmacy and botany to the world and Islamic civilization.

References

- Alhawi Nazari, Z., 2003. Medicine and Pharmacy in Andalusia. *Journal of Islamic History*, 15. pp. 92-110.
- Angel, G.V., 1955. *Tarikh al-Fekr al-Andalusi*. Translated from Spanish by Hussein, M. Cairo: Maktab-al-Seghafeh al-Dinieh.
- Annan, A., 1990. *History of the Islamic State in Andalusia*. Vol. 1. Translated from Arabic by A. Ayati. Tehran: Kayhan Press.
- Basworth, E.C., 2002. *New Islamic Dynasties Guide to Chronology and Genealogy*. Translated from English by F. Badraei. Tehran: Center for the Recognition of Islam and Iran.
- Beyzoun, I., 1985. *Al-Dolath al-Arabih fi Spaineh 92-422AH / 711-1031 CE*. Beirut: Dar Al-Nahzath al-Arabih.
- Damirchi, S.H., 2010. *History of Islamic Culture and Civilization*. Ghom: Maaref Press.
- Dehkhoda, A.A., 1998. *The Dehkhoda Dictionary*. 2nd ed. Vol. 1. Attempted by M. Moin, and J. Shahidi. Tehran: Tehran University Press.
- Ghofti, A., 1992. *Tarikh al-hokama*. Translated from Arabic by B. Darabi. Tehran: Tehran University Press.
- Halabi, A.A., 1986. *History of Islamic Civilization*. 2nd ed. Tehran: Asatir Press.
- Hatta, P.K., n.d. *History of Arabs*. 2nd ed. Translated from Arabic by A. Payandeh. Tehran: Agah Press.



- Hemmati Glian, A., 2007. An Attitude towards the Scientific Heritage of Muslims in Spain. *Journal of Islamic History*, 30, pp. 91-105.
- Ibn Abar, M.I.A., 1989. *Al-Takmalta ul-Katab Al- saleh*. Vol. 3. Attempted by I., Al-Abyari. Cairo: Dar-ul-Katab Al-Masree.
- Ibn Abi Asiba'ah, A., 1881. *Ayoun-Al-Anba*. Vol. 2. Cairo: Maktab-al-Vahabieh.
- Ibn A'tham Kufi, A., 1993. *Al-Futuh*. Translated from Arabic by M.I.A.M. Heravi. Corrected by G. Tabatabai Majd. Tehran: Islamic Revolution Education Publications.
- Ibn Bashkwal, A.K.M., 1989. *Al- saleh Fi Tarikh Aameh al- Andalus*. Researched by I. Al-Abyari. Cairo: Dar-ul-Katab Al-Masree.
- Ibn Bassam, S. 1979. *Al-Zekhereh Fi Mahasen*. Vol. 1. Researched by A. Ehsan. Beirut: Dar al-Fakr.
- Ibn JalJal, S., 2005. *Tabbaghat al- Atabba val-hokama*. Vol. 2. Researched by S. Foad. Cairo: Dar al-Kotob Val-Vesagh Al- Ghomieh.
- Ibn Ozari, M., 1983. *Al-Beyan Al- Maghreb fi Al- Akhbar al- Andalus Val- Maghreb*. Vol. 2. Researched by L. Prowonsale and H.C. Colan. Beirut: Dar-ul-Ceghafeh.
- Ibn Sa'd Andalusī, S.I.A., 1985. *Tabbaghat Umm*. Attempted by H. Baaloun. Beirut: Dar Al-Taleaa.
- Ibn Wafid al-Andalusī, A.R., 2000. *Al-Aidwyh Al-Mufraduh*. Researched by A.H. Basaj. Beirut: Dar-ul-Katab Al-Elmieh Press.
- Jiusi, S.K., 2001. *Muslim Spanish Heritage*. Vol. 2. Translated from English by the European Languages Group of the Islamic Research Foundation. Mashhad: Astan Quds Razavi Islamic Research Foundation.
- Khudari bak, M., 1997. *The Umayyad state*. Vol. 2. Beirut: Founder Al-Kotob Al- sa'qafeh.
- Lucas, H., 1993. *History of civilization*. 3rd ed. Vol. 1. Translated from English by A. Azarang. Tehran: Kayhan Press Organization.
- Magri Tlemceni, A, 1986. *Nafah al-Teb*. Vol.1. Researched by E. Abbasid. Beirut: Dar al-Sadeer Press.
- Mousavi Bojnourdi, S.M.K., 1999. *Great Islamic Encyclopedia*. 2nd ed. Vol. 5. Edited by the Authors of the Great Islamic Encyclopedia Center. Tehran: Great Islamic Encyclopedia Press.
- Naseri Taheri, A., 1996. *An Introduction to the Socio-Political History of North Africa from the Beginning to the Rise of the Ottomans*. Tehran: Ministry of Culture and Islamic Guidance.
- Roghani, S.H., 2010. Anatomy in the Medicine of the Islamic Civilization and Methods of Acquiring Knowledge. *Journal of Medical History of Shahid Beheshti University*, 2(4), pp. 141-164.
- Roghani, S.H., 2008. Factors Affecting Andalusian Physicians' Attention to Pharmacology. *Journal of the History of Science*, 7, pp.75-84.
- Roghani, S.H., 2009. *History of Medicine in Andalusia: Pharmacology and Surgery from the Beginning to the End of the Movahedan Government*. PhD Thesis. Faculty of Theology. Tehran: University of Tehran.
- Tahami, S.G., 2008. *Culture of announcing the history of Islam*. 3rd ed. Vol. 1. Tehran: Anteshar Co.
- The Encyclopaedia of Islam*, 1986. 3rd ed. Vol. 3. Edited by Lewis, B. et al. Under The Patronage of A Number of Leading Orientalists. Amsterdam: The International union of Academies.
- Velayati. A.A., 2013. *Calendar of the history of culture and civilization of Islam and Iran*. Vol.



1. Tehran: Amir Kabir Press.

Zarkeli, K.D., 1986. *Al-A'lam Qamus*. 2nd ed. Vol. 3. Beirut: Dar Al-Elmieh Lallmeleain press.

Zarrin Kob, A.H., 1997. *The book of Islam*. Tehran: Amir Kabir Press.

