Abstract

Ibn al Jazzar as the first Muslim physician has done works on medical sciences in North Africa. Apparently, he has had access to some of works in Greek and used them to compile over forty books. He has also made them more productive by his own experiences. Works of Ibn al Jazzar has been used by some well-known Muslim physicians, namely Razi, Ibn Sina, etc. In addition, his works has been translated into Latin and Greek in later years as well and his books, Zad al Mosafer, has become very important in Europe. Thus, its translation into Latin for the first time has caused medical sciences of ancient Greeks returned to Europe. He has also written Tib al Foqara va al Masakin for the poor who could not have access to any doctors or medicine because of their poverty. He has trained many students in Islamic sciences, namely Abuhefz Ibn Tariq Andalusia, a physician in Kairouan, in Tunisia. Abuhefz has brought Zad al Mosafer to Andalus and Muslim, Jewish and Christian doctors began to use it.

Key words: Ibn al Jazzar, Humans, Islam, Medicine, Muslim physicians, Andalus

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Introduction
Most scholars has considered the fourth century AH to the middle of the fifth century AH as the golden age of Muslim civilization.1,2 During this period, scientists played an important role in the development of various sciences. Therefore, medical sciences were also in the center of attention during this period in Islamic civilization with the work of great Iranian scientists like, Ahvazi, Razi, Ibn Sina. At the same time, Abu Jafar Ahmad Ibn Ibrahim Ibn abi Khalid, who was known as Ibn al Jazzar, worked in medicine in Kairouan, Tunisia. Through his numerous works, Ibn al Jazzar had a great impact on the development of medicine and pharmacology. He had also extensively worked on pharmacology, history, geography, wisdom and philosophy. Physicians, scientists, pharmacologists like Razi, Ibn Sina, Akhvini, Ahvazi, Ibn Baytayr, Zahravi, Yaqut al Hamawi, Maqrizi and Tefashi gave references to Ibn al Jazzar’s works. His most famous book, Zad al Mosafer was translated into Hebrew by Ibn Tabun and into Latin by African Gostantanin. His book Al Etemad fil Adviiya al Mofradah was translated into Latin by a Spanish priest, Stefan Sargasti and Siasat al sabyan va Tadbir in pediatric medicine was corrected by Mohammad Habib Alhile (Tunisia, 1968). Apart from this, Al Mede va Amrazoha va Modavatoha was corrected by Salman Geta (Bagdad, 1980).

The translation Zad al Mosafer that is the summery of the Ahvazi’s book is very important to European, as this translation, for the first time, returned Greek medical information, along with Islamic experiences to Europe. Gostantanin’s translations spread in Europe very quickly, and attracted the attention of science centers, especially Salerno school, who focused on the main sources of these sciences.4 Master Translators praised Ibn al Jazzar for having a strong memory and complete knowledge of medicine. He kept himself away from the lords of power and wealth and used to worship in his spare time. That is why, Qazi Said Andalusi praised him for his personal traits. Also Maleki inclined him to being Shia and Sunni opposition in his book Riaz, al Nofus and his book in history of Shia in Africa and his relation with some of the Fatimid caliphate in Egypt’s confirm this view.5

Biography
Abu Jafar Ahmad Ibn Ibrahim Ibn abi khalid Jazzar, known as Ibn al Jazzar, was a physician, pharmacist and a famous historian from Maghreb. He was born in Kairouan, an important centre of science and literature, specially that Abraham II of Bani al Ghalib dynasty, to imitate the judge house of (Bayt al Hikmah) Mamun Abbasi caliphate, estab-
lished a judge house in the town of Rajah near Kairouan and he had gathered exquisite books and observation tools in it, which was used by scientists. There isn’t any information on Ibn al Jazzar’s date of birth but as he was just over 80 years old at the time of his death, he was probably born in 285 AH (898 AD) and died in 369 AH (979 AD). He learned medicine from his father, uncle and physicians, like Ishaq Ibn Solayman Esraeeli and Abdolah al Mahdi who were contemporary to him. In addition to pharmacy and medicine, he studied history, geography, wisdom and philosophy. He was described as a very religious and ascetic man. He used to worship all the summer with mystics. Based on some historical evidence, the relationship between Ibn al Jazzar and Ishaq Ibn Solayman was beyond the disciple–teacher relationship. According to Ibn Asir and Ibn Khallakan, the caliph was seriously ill and he did not pay attention to his doctor Ishaq and asked to see another physician. Thus, they introduced a young man called Ibrahim to him but his treatment led to the caliph’s death. Because of this, the young doctor’s life was put at the risk of death. But Ishaq defended him against the death sentence and saved his life. Ibn al Jazzar was one of the Muslim physicians who quoted from ancient scientists and made them more productive by his own experiences. This was reflected in all his writings as well. According to his book, Tib al Foqara:

“This book is a selection of the books of ancients, and is on the treatment of the poor with medicines that I have already compiled. I gathered them from the other wisemen’s works, like Galenus, Discoridus, Paulus. Hippocrates. In this book, I have talked enough about all kinds of drugs and temperaments for those who may God heal and improve their pain.”

The old tradition of physicians was to serve human by worthwhile medicine and even take more care of the poor, just like Hippocrates who did not accept the invitation of kings, but treated the poor villagers of Athens, or like Razi who wrote the al Tib al Moluki for the governor of Tabarestan and wrote Man la Yahzoroho al Tabib for the indigents. That’s why this book was also called Tib al Foqara. Ibn al Jazzar also wrote a book on medicine entitled Zad al Mosafer. However, for the needy who could not afford going to doctors, he compiled the book Tib al Foqara and introduced some medicine which could easily be provided. Ibn al Jazzar not only did not visit them free of charge, but also helped them. This important feature and also compilation of the book Tib al Foqara allocated him as a sociable physician. He said, in the entry of his book, that medicine does not

10- Shirazi, 2009: 212.
make any one perfect unless three things are gathered in him: master of skill, avidity and intelligence.\textsuperscript{12-14}

\textbf{Works}

In his book on Arab civilization in Tunisia which was published by \textit{al Menar} (Tunisia, 1964), Hasan Hasani Abd al Vahab talked about 37 books and monographs of Ibn al Jazzar, providing the readers with a lot of information.\textsuperscript{15} Mohammad Hassan Nofeli, in his article entitled “Ibn al Jazzar al Qayrawani” which was published in \textit{Afaq al Saqafa va al Torath} magazine, gave reference to to 31 works of Ibn al Jazzar.\textsuperscript{16} According to some information (direct and/or indirect), it is understood that there are over 40 books, not all of them are preserved in good conditions.\textsuperscript{17}

\textbf{The scientific impact of Ibn al Jazzar}

\textit{Abu Jafar Ibn al Jazzar} should be regarded as a physician in North Africa in the third century AH, whose medical works and experiences have been regarded as acceptable references in the medical history. It must be said that he was excellent both in his carrier and in writing books whose translation into Latin and Hebrew is a proof for that. He is considered as the first Muslim physician who has written different books on medicine from Kairouan of Tunisia, including:

2. \textit{al Etemad fi al Adviyyah al Mofradah} on pharmacology that was translated into Latin by Spanish priest Stephan Sargasti
5. \textit{al Tarif be Sahihel Tarih}, in which the scientists of his time and their circumstances was mentioned.
6. \textit{Tarih al Dowla}, about history of Egypt, Fatimid government from the rise to fall.
7. \textit{Ajayeb al Boldan}, on the geography of cities.
8. \textit{Tib al Foqara va Masakin}, which was an unprecedented phenomena before him and translated into Persian by Abdolah Dadazadeh in 1396.\textsuperscript{18}

\textit{Ibn al Jazzar} had a great impact on the development of medical sciences in golden age of Islam and later. This can be understood from the physicians, pharmacologists and scientists, like Razi\textsuperscript{19}, Ibn Sina\textsuperscript{20}, Akhaveini\textsuperscript{21}, Zahrawei\textsuperscript{22}, Ibn Joljol\textsuperscript{23}, Yaqut al Hamawi, Tifashi who benefited from his

\begin{itemize}
\item \textsuperscript{12} Ibn Beitar, 1992: 33.
\item \textsuperscript{13} Mohaghegh, 2008: 36.
\item \textsuperscript{14} Ibn Muträn, 2007: 44.
\item \textsuperscript{15} Wahab, 1964: 38.
\item \textsuperscript{16} Nofeliyeh, 1994: 38.
\item \textsuperscript{17} Ibn al Jazzar, 1996: 7.
\item \textsuperscript{18} Razi, 1967, Vol. 20: 569 - 573.
\item \textsuperscript{20} Avicenna, 2005: 45.
\item \textsuperscript{21} Akhaveini, 1992: 88.
\item \textsuperscript{22} Zahrawei, 2004: 22.
\item \textsuperscript{23} Ibn Joljol, 1970: 30.
\end{itemize}
works and referred to him in their works.

Discussion
In this research, Ahmad Ibn Ibrahim, known as Qayrawani Ibn al Jazzar, was named as the first Muslim physician in Tunisia who had accessed to the books of the ancestors, including Galen, Dioscorides, Paulus, Hippocrates and other wise men, in maintaining health and treatment of disease and improving medical sciences. The efforts of this Muslim physician gave rise to a brilliant civilization considered as the basis of western civilization and its scientific progress in all fields. In fact, Muslims kept the scientific heritage of many civilizations, such as Greece, India, Iran, Rome and other civilizations through translation and editing.24, 25
This work was translated from Arabic into Hebrew and Latin languages, providing western scholars with a huge part of his works.

Conclusion
Ibn al Jazzar was the first Muslim physician from Africa who lived in the middle ages 13-9 AD. His works, views and medical experiences in medicine pharmacology, history, philosophy, pediatric and adult medicine, stomach diseases and its treatment, catarrh, kidney an bladder leprosy, hemorrhoid were impressive in development of medical science. His achievements were reliable and had a great impact on physicians and pharmacologists, such as Razi, Ibn Sina and others. The Latin Hebrew and Greece translations of his works gave evidence to his position among the other physicians of the age. In general, his works and views on medicine were appreciated by scientists of Islamic age and the publication of his works confirmed the importance of his works.

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