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EBN- E- BITAR AND HERB- PHARMACOLOGY

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ABSTRACT

The blossom of the knowledge of Moslems' pharmacology started in Angeles in the middle of the third century Hijra. A few big academic personalities appeared in the area of science in Angeles who had the purpose of studying plants precisely from different points of view. They had the goals of plant's exploitation for making drugs, agricultural and gardening drugs and made some progress in the independence of pharmacology in Andeles. In this field, works of authors such as Ebn-e- vafed, Ebn-e- Jaljal, Aboalhojaj Ashbily, Ebnalroomiyeh, Ghafeghi, and Ebn-e-Bitar are highly noticeable. The purpose of this research is to introduce the most popular Muslim pharmacologists in Andeles and the world of Islam such as Zia aldin Aboo Mohammad Abdollah en Ahmadlamaleghi known as Ebne Bitar (593-654 lunar). It is the purpose of this research to analyze the achievement of this scientist who discovered hundreds of herbal plants and put Persian, Barbari, Arabic, Greek and Andelesi names on them. We will also critique the past pharmaceutical, recognition of plants based on experimental tests, field researches observations and also reaching a conclusion in regards to the single subject of drug in the Science of pharmacology and the big share that it has had in the revival and progress of the knowledge.

Keywords: Drugs, Ebn-e- Bitar, Plant, Pharmacology, Andeles

INTRODUCTION

The subject of drug and medical things have been in the center of attention because of its importance and application in the treatment of illnesses [1]. It has also had a special status in the

old practice of medicine. There fore, the authors of medical works have dedicated a segment of their works to this discussion [2]. Although this subject has been discussed in general by Andeles

physicians while discussing other issues. this is while Andeles physicians had different methods which was the same scientific and research views about drugs. This approach had huge impact on the growth and blossoming of plant – pharmacology and resulted in the herbal medicine reach independence in the fifth century [3].

Many medicine historians have considered the blossoming of this branch of knowledge as a result of Islamic rulers' support of herbal medicine scientists. This lead into the idea of many scientists work independently and specializing in this broach of knowledge. This approach helped the appearance of big scientists who helped the world tremendously. One of these scientists who left fantastic works behind because of his academic influence was zahravi (329), Ghafeghi (467L.), Ebn-e- Rommiyeh (632 L.) and Ebn-e- Bitar [4].

We can probably say one of the most outstanding physicians in Andeles who focused on herbal medicine and succeeded to discover and introduce hundreds of herbal medicine, to write numerous books, to critique the books of his predecessors about the science of herbal medicine and make it reach the highest points in the world of Islam. One

of the scientists in this field was Ebn-e- Bitar [5]. In this article, we are making an attempt to introduce the academic status of Ebn-e- Bitar and his academic achievements in this field.

Ebn-e- Bitar;s academic Status

Ziaddin Aboo Mohammad Bitaralmaleghi known as Ebn-e-Bitar is a well- known scholar from Andeles in the seventh century Hijra (646) who left behind a very rich cultural inheritance. He had done very profound studies in the field of herbal medicine. He was a first scholar who discussed peculiarities of all plant and he left behind as a memorandum an encyclopedia which was published in the east and the west. In the last three decades, a group of orientalist have conducted wide- spread researches about Ebn-e- Bitar;s works and have discussed his importance and his status in the area of herbal sciences. They have admired his Jam- e- almofradat and his innovations in the field of pharmology and have praised his status in the history. Those who have admired him are researches such as Lousian Leclark [6], Max Meier Hof [7] Roska [8], Ebrahim ebne Morad [9], Sayed Hossein Nasr [10], Abbas Takriti. Lousian Leclark, for example, who was a French physician in the lath century (1877 M) has called Ebn-e-

Bitar the greatest eastern herbalist in the world.

He can be compared with only four other scientists in the field of herbal medicine and they are Aboalabbas Annabi [11], Sharif Edriysi, Rashid-e-bn Soori and Aboaljafar- ebne Ghazal [12].

In Quiro, Ebn-e-Bita was respected highly

by Malek kamel Ayoobi and at his order he was selected as the head of Egypt's herbalists [13]. He took advantage of this opportunity and invited great scientists from all over the world to Quiro. And opened the door for discussion and spreading sciences in this field. By doing so, he expanded the cultural – academic fields and revived Islamic – Arabic culture and by supporting the scientists he played a role in the existence of pharmacology during Ayoobian period. His academic status in Ayobians' count after becoming the manager of pharmacist made other scholars in the same field jealous of him. For example, Tanavokhi in a book called, Alashraf Fi Sanao Aldiaregh Almonghazi Alsharifa Men Altalaf has written, some scholars such as Ebn-e-Bitar become very proud [14]. Of course, these kinds of accusations never diminished the Bitar;s academic status.

Describing the book, Hashayesh Disghoridos is one of the most Ebn-e-Bitar's valuable academic works. By describing this book and giving his academic and critical views, he shows the write method of doing research to the next generation of researchers and by doing so, he reached a status that no other herbalist had attained. Additionally, in recognition of plant and explanation of disghoridos and Jalinoos' writings, he was so academically precise that surprised everyone. Therefore, we can say that he was a modern herbalist in his own era because by precise recognition of all kinds of plant and their peculiarities, he set the foundations for one of the most valuable methods of researches in physiology [15].

Additionally, he paid attention to Ebn-e-Bitar's Aljame Almofradat and called it, the masterpiece of the school of pharmacology / herbal – Islamic and had considered it the debtor of all the works written after than. Lekirk translated this book in the nineteenth century (1877 m) in French in three volumes in France. There is only one hand – written copy of this book in Tunis; bookstore [16].

Rooska has also found out about the importance of Aljame Almofradat book in the progress of the science of physiology and has considered it as the

most complete work about this single drug [17].

Another important work of Ebn-e-Bitar which was important for botanical scientists was Moghani feladviyeh Almoftad. This book was classified in chapters and became a part of excellent academic books [18]. Scientific researches in pharmacology by Ebn-e-Bitar has had important and applicable role for the future generation and his academic goals became the field of experimental examinations based on academic trips. In his opinion, no knowledge is exclusive and all sciences need one another for development. Some researchers have accused him of academic and literary plagiarism. Max Meijer Hof, the German Critical researcher has repeatedly accused Ebn-e-Bitar of getting the rough draft of Jammeol Mofardat, adding some information in it and publishing or distributing it in his name. The strongest argument to acquit him of the accusation was his researches and innovations such as adding 300 new drugs that were not known before [19]. For example, Arjan meaning perfume, a tree having sugar flower, Zalm a plant without any seeds and blossoms whose roots are in the ground and has sweet and energetic seeds [20]. Another testimony to acquit

him belonged to Ebn-e-Abi Asibehe who was with him in most of Ebn-e-Bitar's scientific trips. There are also researches of scholars such as Leclark and Ben Morad [21].

All these people looked into these accusations, studied them in detail and acquitted him of all these charges.

Ebn-e- Bitar's compiling Method

There are many works in the medicine and pharmacology areas left behind. Some of these works are about his skills in medicine due to his tough and long researches in countries such as Greece, Andeles, Morocco and Asia Minor. In his researches, Ebn-e- Bitar has trusted on credible resources and more than 150 authors and often times has assessed previous pharmacists. He has assessed scholars such as Hanin-ebn-e- Eshagh [22] (260 Hijra / 873 Ac), Aboobakr- ebne Zakaria Razi, Aboo Jafar Ahmadebne Ghafeghi [23]. Since these scholars were top pharmacologist, Ebn-e- Bitar's works show the great ability and knowledge he had in recognition of herbal medicine and accurate distinction of different kinds of drugs- For example he has accurately described the similarities and difference between two plants "Alazkhar" and "Alasl" while Razi and Ebn- e – Sinna were confused between

the two. There were plants such as "Lootos Bostani" and Beshnin" That Hanin Ebne Eshagh and other herbal authors were confused about, but Ebn-e-bitar made the distinction between them [24].

Ebn- e- Bitar compiled some of his works such as *Almoghani Feladviye Almofrade* and *Mizan Altabib* as a subject matter and some others such as *Aljamee Almofradat* and analysis of Disghoridos alphabetical. He wrote all of his works in the east and depended on Greek sources and sometimes eastern physicians such as Ebn-e- Sinna and also his own notes [25]. His books that have been proven to be accurate, are a total number of seven [26]. These works can be analyzed from two dimensional points of view.

1. Plant – Single pharmacology

2. A. *Aljame' Almofradat Valadeviyeh Valaghziyeh*: this is one of the most important works in Islamic pharmacology and an important source of botanical which was written during the last years of Ebn-e- Bitar's life [27]. The author's intention of writing this book was to say the last word in herbal medicine, as mentioned in the book's introduction.

In field of pharmacology including Greek scholars such as Disghoridos, Jalinoos and eastern pharmacists such as Zakaria Razi and Ebn- e- Sinna. In this book, he has described 1400 drugs, mineral, herbal and animal foods in an alphabetical order. This book can be compared with Ebn-e- Sinna's book named *Ghanoon* which includes 800 items of herbal medicine [28]. This book has 2353 herbal drugs, 1422 pure herbal medicine, 921 commentaries and herbal synonyms and 300 new herbal medicine. In this book, he has precisely described these herbal plants and their synonyms in languages such as African, Persian, Barbari and Spanish. One of the innovations of the author in this book is citing the names of new plants independently and giving samples for those which were known before. For example, "Safira" is a dry plant. Similar kinds such as "Alghonob Alhendi" is a plant coming in three kinds, cold in nature, Bahari and Hendi (warm in nature) and also similar to "Lelbish" which is a plant that is used for making poison. He has mentioned all kinds of different plant in a scientific method [29].

This book since its publication has had a very high status among physicians, pharmacists and scholars and some of

them have made a reference to it, summarized or even used it in their own books. One of these authors is Tabib Yamani Yousef ebn-e- Rasool Ghassani (694 Hijra= 1294 AD) who has referred to Ebn-e- Bitar in his book called "Almotamed Fie Adviyeh almofradeh" (Bierut, 1975 AD). Ebn- e- Manzoor is another scholar who has condensed Bitar's book) 711 Hijra= 1311 AD) and Haji khalifeh [30] who has mentioned a selection of his book in kashf al zonoon [31].

Aljameh which is hand- written has had a big influence on the east's Islamic and non- Islamic pharmacology. Many authors have used this book after the seventh century [32].

2. Interpretation of Diasghoridos: Ebn-e- Bitar explains his motivation and goal in this book this way: "when I studied Diasghoridos (Book) and noticed the negligence of many herbalists who did not mention the names of many plant / herbs for the herbalists and did not translate them in Arabic, I decided to bring together the views of big pharmacists and write information in regards to the interpretation of the names of drugs to make their thoughts clear because of not translating some of the non- Arabic terminologies, this book was like the moon hidden in the clouds

[33]. Therefore, he translated all the non- Arabic terminologies in Disghoridos articles and eliminated all the ambiguities. To do so, he practiced a few methods: 1- precise understanding of the subjects of articles by Disghoridos. Ebn- e- Abi Assibe states that Bitar's recognition and understanding of Disghoridos was so much that nobody until then had reach such an accomplishment [34]. 2. About his outstanding skills in the recognition of plants, Ebn-e-Assibe syas, "He was the only scientist of his time skillful in the recognition of plants, their application, and their specifications based on their type [35]⁽⁴⁾ because none of the previous drugs scholars and authors pa any attention to the native terminologies. However, Ebn-e- Bitar because of his academic trips around the world was fluent in dialects of different countries [36]. "The importance of the book is in the fact that when the author was using Greek terminologies, he mentioned the equivalent ones in Latin and Bardari too and Came up with a bilingual book in (Greek and Arabic) [37].ⁱ . Therefore, this is a precious heritage for linguists [38].

2. Combination of plant – pharmacology

A. Fi Tadavi Alsomoon article: This book belongs to Ebn-e-Bitar, but Ebn-e-Abi Assibe does not mention it.

B-Al Ebane va Al Elam Bema Fi Menhaj Men Alkhelal val oham: As you can see by the title, the author has written this book with the goal in mind to eliminate ambiguities and awareness of correct methods and prevention of mistakes about drugs [39].ⁱⁱ. This book has been written in alphabetical order and includes one hundred and thirty one subjects and it is mostly about vegetables and herbal plants. Ibn e Bitar in this book, recognizes two faults of previous Pharmacologists and explains them in two parts: 1. Distortion of Medical terminology and its application in a different way 2. Wrongs in herbal medicinal properties

C. Strange works and strange properties: this effect that has treated diseases is the only work of Ibn e Bitar that is not available right now.

D. The writer in this book in comparison with JAME AL MOFRADAT is not concerned with specifications and taxonomy of herbs and tries to prescribe a drug that fits to the body organs. He has organized this book alphabetically and tries to transfer contemporary and previous scholars' information about Advieh Mofradeh with mentioning to

the writer's name and the way to expressing it for next scientists.

E. This work that is written based on a request by SHAHAB AMAD IN EISA is about the ways to cure diseases. He has written it in eight chapters and in each chapter, introduces suitable drugs for treating each body organ. A copy of this book is available in Sweden ABSALAI University.

Ibn e Bitar innovations in plant – Pharmacology

Ibn e Bitar compared to Muslim doctors before him, was more accurate. And relying on objective and empirical observations, left most of his scientific achievements. He has a lot of innovations based on scientific scrutiny that they can be classified in three categories:

A. Understanding the characteristics of the drug Bitar has had knowledge about properties of each drug and its effects on the body as well. And to prove his claim he has mentioned to several reasons:

1. To ensure the purity of the drug it should be tested, because the essence of medicine is in its purity. For example, when we add salt to hot water, since the reaction is heated, when cooled, returns to its essence.
2. In case of testing a drug on the body

of a temperate man, if he responds to heat, cold or fatigue, this special feature is related to that drug.

3. The diseases is essence for ever and symptoms such as fever, sweats and other symptoms. if a drug is tested warm and symptoms of heat occur in the body

, indicates that the patient has bile phlegm and has heat.

4. Sometimes medical properties of a plant depending on the disease, shows various symptoms. In other words, if a drug is hot , it may be harmful for a patient who has a cold nature. So be careful of the type of a medicinal plant which is cold or warm.

5. The duration of effect on the patient's body should be considered, because some herbal medicines have two effects: the effect on the disease, and another one :disease symptoms. It means that it is possible that the effect of the drug would be on one of them earlier [40].

B. Defection from Sumerian medicine

Another innovation of Ibn e Birtar is describing the plant in a scientific method, understanding the rules of composition, and realize the benefits of medical plants. With these initiatives obsolete those Sumerian traditions that were common among Arab physicians to write medical textbooks. And other rules and principles were invented [41].

The principles and rules in his three works are briefly stated:

1. In the first book in which with scientific method explains DIOSGHORIDOS book. So that it was considered to be an important reference for physicians [42].

2. In this book he introduces plants' benefits and identifies the components of each of them. In a cognitive way and by regarding to the properties of drugs and their impact he has introduced them in a scientific and accurate manner. And with scrutinize mentions to the errors of previous authors. Thus it can be seen as the best book of him in treatment of diseases [43].

3. The recognition of the diseases, symptoms and causes of the diseases, that introduces any part of the body. And appropriate treatment of diseases is associated with organic herbal drugs tailored to each organ. In addition, he explains about the use of herbal medicines, minerals in surgery [44].

C. Trusteeship of Ibn e Bitar Ibn e Bitar

In accordance with the principles and rules which he has created specifies specific methods and new versions of medicines. He gathered earlier pharmacology principles and critique previous works, the scientific integrity

of the degree of perfection has, for example, in universities word "MC" is defined as: "Based on *Dyasqvrydvs* There are three types of chamomile. The difference in color is their horns. This kind of plant called "Balkrakas" can be found in Egypt. Andalusian people called it "Balmqarh" as such term is Latin, and African people known as "Alaqhvan" means "chicken feet". Galen considered in this paper is that these plants close third *Mufradah* spice jar shaped like flowers and heating oil. It is in sleep medicine. Abu'l *Albabvjq* (*Balqaf*) the specific name for a perfume of *Babvjq* knows. Avicenna also a kind of warm and dry, and it is known to harm the fetus, kelp is known as the old, the young, according to Galen plant, power collectors and mild. *Dysqvrydvs* also suggests that the plant collector and is useful for uterine pains [45]. According to Maimonides force and its strength varies depending on the type of roots. Damascene Jesus says if you mix with water and let stand the pain acts as housing. Razi says it will stop vomiting and stomach boost. Ibn Sina says aroma of this plant is good for the soul essence. "These are a few examples of the ways to be trustful by a scientist [46].

CONCLUSION

The most important result from Ib e

Bitar thoughts about Herb-Pharmacology is that he mentions to a new procedure in this way and studies pharmacology and herbal *Mofradat* independently and studies it as a main part of medical science. This approach is based on extensive research studies of the present era and previous times. He believes that pharmacology is not an exclusive science. And to maintain the vitality and dynamism of the extensive and in-depth studies in diverse fields, admit mistakes and attempt to resolve the error till new discoveries are to be achieved.

Although Ibn e Bitar is a narrator in most of his works but by studying Predecessors and contemporaries about botanical medicine in particular has a view of the criticism. The number of resources that he uses in *ALJAMEH* book to be 150. In books such as *ALJAMAH* and *ALTAFSIR* Ibn e Bitar observed *DISGHORIDOOS* innovations to be able to describe plant science, interests, properties, and knowledge of the names till remains nothing unclear to the reader.

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