

Transformation of Hospital in the Islamic Civilization From Medical Treatment Centre into a Teaching Hospital

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Abstract: This research studies the changed function of a hospital from a medical treatment centre to one which also provided medical educational facilities. The purpose is to show the occurrence of such transformation of the hospital in the Islamic civilization. This research discusses the function of hospital as a medical centre which only offered medical treatment. Also focuses on the methods of medical education for trainee physicians before the 4th century H and on the role of a hospital as a medical educational centre or better known as teaching hospital. And finally, discusses the different forms of medical study in the hospital. The study concludes with a brief picture of the significance this study bears on the quality of physicians who receive training by heritage or without a teacher's (formal) guidance as compared to physicians who receive (formal) medical education or training in a hospital.

Key words: Hospital in Islamic civilization, medical treatment centre, teaching hospital, medical education, physicians, student

INTRODUCTION

The medical institution of the Islamic civilization in its early appearance was known as Bimaristan. Dunlop (1986) gives details on the Persian origin of this word which is made up of two words that is bimar and istan. Bimar refers to ill people whereas istan refers to the place or house for ill people. Since, its early appearance, a bimaristan functions as a general medical centre to treat various illnesses such as injuries, fevers and mental problems.

From the beginning of the 4th century H, it later went through a transformation process from being solely a treatment centre to one which provided education and clinical training to medical students. This transformation changed the function of a hospital to a medical educational centre or currently better known as a teaching hospital. This hospital was usually linked to a medical school or university. It might belong to the university or be a part of the national health system.

The issue here is: What was the form of medical education before and after the transformation of the hospital or medical institution in the Islamic civilization? This study discusses the hospital which specifically functioned as a medical centre for health treatment only. We bring up a few examples of hospitals which were set up prior to the 4th century H. We then examine the method of medical education received by the physicians before the 4th century H. The study focuses on the hospital which not only offered health treatment but also

availed medical education. It is better known as a teaching hospital. We put forward different types of medical study centres that is private medical school, private medical faculty as well as a hospital. Then the study discusses a form of medical study within a hospital. It begins with a lecture attendance in lecture rooms in the hospital followed by attendance of a practical discussion amongst physicians observed by trainee physicians.

A hospital as a medical centre: There is no doubt that hospitals built before the 4th century H functioned as medical centres. For example, a hospital in Baghdad founded by Caliph Harun al-Rashid (170H/786AD-193H/809AD) and headed by Ibn Masawayh (Dunlop, 1986). In the era of the same ruler, another similar hospital was built in Baghdad that is Bimaristan al-Barmaki. According to Ibn al-Nadim, it was built by the al-Barmaki family and headed by Ibn Dahn who was an Indian physician competent in translating medical works from Sanskrit into Arabic language. Hospitals were also built outside of Baghdad.

The records of al-Maqrizi in *Kitab al-Mawafiz wa al-I'tibar bi Dhikr al-Khitat wa al-Athar al-Ma'ruf bi Khitat al-Maqriziyah* and Sayili (1980)'s revelation in the emergence of the prototype of the Modern Hospital in Medieval Islam for example, prove the existence of Bimaristan al-Mu'afir which was situated at Khittah al-Mu'afir in Fustat. It was built by al-Fath bin Khaqan (d. 247H/861AD) that is one of the Ministers of Turkish

descent to Caliph al-Mutawakkil. Another hospital which was built in Fustat was Bimaristan al-^cAtiq or al-A^ola in the year 259H/872AD. It was built by Ahmad bin Tulun, that is, the Governor of Egypt.

However according to Ibn Duqmaq, this hospital was specifically for the local society while the civil service and army were totally prohibited from seeking treatment there. Apart from in Fustat, hospitals were also built in Rayy, Iran. This hospital was known as Hospital al-Rayy. It was once headed and administered by Muhammad bin Zakariyya al-Razi, a renowned physician in the Islamic civilization. However, the function of the said hospitals as medical educational centres could not be confirmed in detail. This is because medical education in hospitals was not formalized before the 4th century H.

The methods of medical education before 4th century

Hijrah: If hospitals at that time had not yet functioned as medical educational centres, how then did physicians get their training? Ibn Abi Usaybi^oah in his book ^cUyun al-Anba' fi Tabaqat al-Atibba' in 1970 revealed two methods of medical education. First, there was medical education which focused more on studying from family members and self-learning. In a family medical practice, the sons or even the daughters would learn the said knowledge from immediate family members such as the father or other family members.

This method was practised by the physician al-Nadr bin al-Harith bin Kaladah al-Thaqafi (d. 2H) who studied from his father, al-Harith bin Kaladah. This method was similarly practised by the sons of Hunayn bin Ishaq al-Ibadi (d. 264H) named Dawud and Ishaq. Ibn Abi Usaybi^oah revealed that Dawud and Ishaq learnt medical knowledge from their father who was a renowned translator of Greek medical scientific books into Syriac and Arabic languages. In fact, Hunayn also wrote a medical text for his children entitled al-Masa'il fi al-^cAyn. Likewise with Sinan bin Thabit (d. 331H) who studied from his father Thabit bin Qurrah (d. 288H). As with Hunayn, Thabit also wrote a book for his son that is al-Dhakhirah fi ^cIlm al-Tib.

Second, education to become a physician was a hereditary process passed down from one generation to another. It was reported to be practised by the family of al-Bukhtishu^c. Ibn Abi Usaybi^oah also revealed that it began with Jurjis bin al-Bukhtishu^c (d.152H) who served the Caliph Abu Ja'far al-Mansur. This family then over the generations gave birth to 11 physicians. Among them were Bukhtishu^c bin Jurjis, Jibra'il bin Bukhtishu^c bin Jurjis, Bukhtishu^c bin Jibra'il bin Bukhtishu^c, Jibra'il bin ^cUbayd Allah bin Bukhtishu^c and ending with Abu Sa'id ^cUbayd Allah (m. 450H). They did not only serve one

Caliph of the Abbasid government. Sarton (1975) and Sidik and Sidek (2009) revealed that many caliphs of the Abbasid era had received their medical service at one time or another.

The said caliphs were Harun al-Rashid, al-Amin, al-Ma'mun, al-Mu'tasim, al-Wathiq and al-Mutawakkil. Apart from the view of Ibn Abi Usaybi^oah on the methods of medical education, we also examined the text of al-Muqaddimah produced by Ibn Khaldun in which he had also brought up one way of how physicians received their training. According to him, medical education was acquired through bequeathal from syeikhs and old women in a tribe. This was the way a renowned physician named al-Harith bin Kaladah received his learning in this field. A quite modern view of the method of medical education before the 4th century H was more towards self-learning by reading medical text without a teacher's guidance (Leiser, 1983). However, this method was only used when there were available many medical textbooks which had been translated into Arabic. One of the physicians who had studied by this method was 'Ali bin al-Ridwan (m. 453 H). Better known as Ibn Ridwan, we believe that he had his own reasons for choosing this method to acquire knowledge in the medical field. This belief is proven true when we discovered a statement by Ibn Abi Usaybi^oah in ^cUyun al-Anba' fi Tabaqat al-Atibba' which revealed that Ibn Ridwan had faced financial problems to pay for the cost of medical tuition during his time. In fact, he was of the opinion that this self-learning method was the best method. His greatness in this field was later to be apparent when he succeeded in producing a book entitled Kitab al-Nafi^c fi Kayfiyyat Ta'lim Sina'at al-Tibb.

Even so, Ibn Ridwan's claim that his method of self-learning was the best was criticized by other individuals such as Ibn Butlan. Ibn Butlan's reason was very simple, he said that a teacher's function was very important in learning medical knowledge, especially to explain the words and facts which were difficult and spelling which was unclear. More interestingly, Ibn Butlan's view received support from 'Abd al-Latif al-Baghdadi (d. 629H) who said that to study a book, a student requires at least two teachers for each subject.

Teaching hospital: The first teaching hospital recorded in the history of medicine was the Academy of Jundishapur in the Persian Empire during the era of Sassanid rule. It did not only function as a medical centre availing treatment for patients but also as a medical educational centre. Its dual function existence facilitated the transmission process of the Greco-Alexandrian Indian and Persian medical systems into the Islamic medical system (Nasr, 1968).

In the history of the Islamic civilization, hospitals which functioned both as a medical centre and medical educational centres existed mainly during the period between the 4th and 7th centuries H. It was a great transformation in the world of medical education. Although it began quite late, it was nevertheless deemed the most appropriate medical educational centre to train would-be physicians to experience an atmosphere of the real medical centre environment. We found that teaching hospitals did not only exist in Baghdad but also in other cities such as Mayyafariqin, Cairo and Damascus. This was because the function of medical educational was carried out in big hospitals which had the learning facilities for medical knowledge. Among such hospitals were Bimaristan al-Muqtadiri and Bimaristan al-^oAdudi which were situated in Baghdad, Bimaristan al-Fariqi in Mayyafariqin, Bimaristan al-Mansuri in Cairo and Bimaristan al-Kabir al-Nuri in Damascus.

The physicians working in these hospitals not only treated patients but formed the medical teaching staff in the lecture halls or iwan. After treating patients, the physicians would sit in the iwan surrounded by student physicians for learning. In the iwan were found various types of medical books used as references. After indepth learning of medical theories, students would undergo clinical or practical training supervised by senior physicians. The clinical training conducted included physical examination of patients in bed, surgery and prescription of medicines for patients.

According to Ibn Abi Usaybi^oah, the teaching process of medicine in the 4th century H was begun by Jibra'il bin ^oUbayd Allah bin Bukhtishu^o (d. 396H) a physician serving and teaching medicine at Bimaristan al-Muqtadiri in the year 357H. ^oAdud Dawlah had visited Baghdad and restored this hospital. In addition, he had paid an allowance to Jibra'il an amount of 600 dinar as special and service allowances in this hospital. Among the students who studied under Jibra'il's supervision in this hospital was Yusuf al-Wasiti al-Tabib. However, the teaching and learning process was not described in detail by Ibn Abi Usaybi^o ah.

Medical educational centres: Before we discuss teaching hospitals, we are pleased to state that generally, hospitals were not the only educational centres which existed in the Islamic civilization between the 4th and 7th centuries H. There were other types of non-hospital educational centres to study medicine.

First there were private schools such as one belonging to al-Razi. His popularity as a prominent medical figure made his lectures successful to the point of overcrowding of students. Another private medical

school was named as al-Dakhwariyyah. According to Ibn Abi Usaybi^oah, it was opened by ^oAbd al-Rahim al-Dakhwar in the year 622H.

Second, there were private medical lectures. This type was discovered in the writing of Hamarneh (1983) entitled Health Sciences in Early Islam. He explained that this type of study involved a learning process between students and a well-known physician called the Shyaikh or one's own father or other skilled physician within the family. Among those who practised this method were the families of Bukhtishu^o, Qurrah and Zuhr. When a student showed progress and competence in learning, the teacher would allow him to join him in examining patients or performing surgery in hospital. After training in hospital, the said student would be allowed to practise medicine freely.

Third is the institution of the hospital itself. Although, the hospital was a centre for practical training for medical students of private schools and private lectures, over time it developed into a centre by having its own medical lectures in the hospital building itself. This type is the focus of this study. We begin the explanation of this matter by stating the names of some dual-function hospitals. One of the said hospitals was Bimaristan al-Muqtadiri. It was built in the year 306H/919AD in Bab al-Sham in the Western part of Baghdad city. It was so named after the Caliph al-Muqtadir (295-319H/908-932AD). According to Ibn Abi Usaybi^oah, this Caliph spent 200 dinars month⁻¹ for the cost of running this hospital.

The next hospital is Bimaristan al-^oAdudi which began operating in the year 372H by ^oAdud al-Dawlah bin Buwayh (Ibn Kathir *et al.*, 1994; Ibn al-^oImad, no date). Locationwise, it stood near the River Dajlah in the western part of Baghdad (Dunlop, 1986). Ibn Khallikan (1994) described this hospital as having state of the art facilities during that time. It had also the best management then. At the onset of its appearance, this hospital had two teachers that is Abu al-Hasan ^oAli bin Ibrahim bin Bakkas (d. 394H) and ^oAli bin Ibrahim bin Bukhtishu^o. Apart from them there was Amin al-Dawlah Abu al-Hassan Hibat Allah bin al-Tilmidh (d. 560H) who became a teacher as well as al-Sa^our in the same hospital. He frequently examined patients in the presence of medical students. After examining them, he would question his students on the diagnosis for the patients. Among the physicians who received training in this hospital was Abu al-Faraj bin al-Tayyib in the year 406H. Bimaristan al-Fariqi was situated in Mayyafariqin. There is not much information on it, especially on its function as a medical educational centre. A review of authoritative references such as ^oUyun al-Anba' fi Tabaqat al-Atibba' in 1970 and Tarikh al-Bimaristanat in 1981 could only reveal general

information. According to the said sources, this hospital was built by a doctor named Zahid al-‘Ulama’. Ibn Abi Usaybi‘ah in 1970 reveals the cause which led to its construction that is in fulfillment of a vow by a distinguished Iraqi called Nasir al-Dawlah bin Marwan. He had vowed to reward a large sum of money for anyone who could cure his ailing daughter. When Zahid al-‘Ulama’ succeeded in doing so, he was rewarded by Nasir al-Dawlah bin Marwan but which he refused however. Instead, he suggested a hospital be built for public use. However on examination of Medical Education in Islamic Lands from the 7th and 14th century, we discovered facts concerning its function as a medical educational centre. In this said research, Leiser (1983) explained the existence of a lecture named Majlis al-‘Ilm held by Zahid al-‘Ulama’. His book entitled *al-Fusul wa al-Masa’il wa al-Jawabat* written in response to questions from students at the Majlis al-‘Ilm was made the primary text for learning at this hospital.

Another hospital which also played a role as a medical educational centre was Bimaristan al-Kabir al-Nuri. It was built in Damascus in the year 541H/1146M by Nur al-Din bin Zangi (Dunlop, 1986). Among the physicians who had served in this hospital was Abu Majid bin Abi al-Hakam bin ‘Ubayd Allah bin al-Muzaffar al-Bahili. His chief duty was to treat patients in the said hospital, assisted by other hospital staff comprising of nurses and medical assistants. When his duties were done, he would be in the lecture hall or iwan to teach medicine. An iwan was a medical lecture centre in the hospital equipped with textual books endowed as trust property. Physicians and students were together with al-Bahili to read the medical books. The lecture lasted for 3 h after which al-Bahili would go off.

Ibn Abi Usaybi‘ah, an ophthalmologist was one of the graduates who received education at Bimaristan al-Kabir al-Nuri. He recorded that he, together with al-Hakim Muhadhhib al-Din and al-Hakim ‘Imran had sat and studied the ways of diagnosing patients’ ailments listed the remedies suitable for the patients and studied their ailments as well as their treatment from al-Shaykh Radi al-Din al-Rahbi. Another hospital which functioned as a medical educational centre was Bimaristan al-Kabir al-Mansuri in Bayn al-Qasrayn, Cairo. This means that physicians of this hospital were also the teaching staff who conducted the teaching process in four big halls. Among those who taught in this hospital were Rukn al-Din bin al-Qawba’ al-Tunisi (d.738H), ‘Umar bin Mansur bin ‘Abd Allah Siraj al-Din al-Bahadari al-Qahiri (d.824H) and ‘Abd al-Wahhab bin Muhammad al-Shawi (m. 851H).

Form of medical study in hospital: Realizing the importance of practical training in hospital, medical

studies began to be held in it. This means that medical students did not just acquire theoretical knowledge but were given a vast space to practise it. The teaching process in the hospital was headed by al-Sa‘ur that is the chief physician of a hospital. Muhammad in *al-Tibb ‘ind al-‘Arab wa al-Muslimin: Tarikh wa Musahamat* in 1987 listed numerous names of al-Sa‘ur. For example, al-Razi was al-Sa‘ur on duty at Bimaristan al-Rayy and possibly at al-‘Adudi as well. Sinan bin Thabit bin Qurrah and Ibn al-Tilmidh also served as al-Sa‘ur at Bimaristan al-‘Adudi. Other than al-Sa‘ur there was other teaching staff comprising of senior physicians who were competent in the medical field.

We attempted to get information on the form of medical studies in the hospital. We examined works such as *al-Tibb ‘ind al-‘Arab wa al-Muslimin: Tarikh wa Musahamat dan ‘Uyun al-Anba’ fi Tabaqat al-Atibba’*. The 1st research showed two forms of study. The 1st form involved students attending lectures in lecture rooms (iwan) specifically for the purpose of medical study. These lectures were delivered by physicians who were serving in the hospital. The second form required students to observe patients being treated in hospital. This observation included making notes and studying the changes in the patients especially, due to their ailments.

The 2nd research described four forms of study. First, students were given the opportunity to medically examine outpatients together with a teacher. Such sessions were practised by al-Razi. When al-Razi visited patients, he would be accompanied by his students. Behind one group of students would be another group and behind this second group would be another group of students. The practical training was done by having one of the students examine a patient and then explaining the test results to the other students. If the explanation was wrong, al-Razi would ask another student. If however, the student was correct then al-Razi would keep silent. Second, trainee physicians in the hospital would join their teacher when treating a patient.

Through this session, trainee physicians would learn the methods of treatment, the way to communicate with the patient make a list of remedies and discuss next to the patient. Ibn Abi Usaybi‘ah himself admitted to following such practical sessions with Muhadhhib al-Din bin al-Dakhwar and al-Hakim ‘imran.

They would sit and learn to diagnose a patient’s ailment, list out the suitable remedies for the patient and study their ailments as well as the method of treatment from al-Shaykh Radi al-Din al-Rahbi. Third was by conducting a study of a patient’s ailment and conducting some tests to treat a patient by a new method. When a method worked, the physician would record down the study and more importantly that the results of the said

study did not leave any negative effects on the patient. This method was used by Sa'ïd bin Bashr bin 'Abdus al-Tabib a phlebotomist who carried out research in the hospital. He found a new cure for hemiplegia known as falij that is paralysis of half of the body (Gennaro and Gould, 1979; Hitti, 1967), relaxation of the muscles, also known as istirkha' and paralysis of half the face also known as laqwah (Hitti, 1967) by substituting hot remedies with cooler remedies.

Fourth, hospital trainees attended forums of clinical discussions among physicians. These discussions were held whenever one of the medical teachers could not find a way to treat a certain ailment. In a further explanation of this matter, Ibn Abi Usaybi'ah brought up an example of a discussion held by a group of physicians and people involved in this field, together with Muhadhhib al-Din bin al-Dakhwar. This medical discussion was also attended by trainee physicians.

CONCLUSION

This study attempts to bring up some important points. First, the concept of hospital before the 4th century H was focused on its function as a treatment centre. We are not denying its role as a medical educational centre. However, researchers faced constraints from lack of information which may prove its dual function before the 4th century H. Second, the concept of hospital from the 4th century H and afterwards became dual functional and thus, was a medical educational centre and teaching hospital. Third, the method of medical education had undergone a transformation in keeping with development of the times. Researchers have discussed the methods of medical education before and after the 4th century H. This study has significant implications on discussions of the quality of physicians who receive medical training or education

through heritage or without a teacher's guidance as compared to physicians who receive education or training in a hospital.

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