



A Study of the Growth and Flourish of Ahvaz Jundishapur University of Medical Sciences; A Cultural History

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ABSTRACT

One of the striking features of ancient Persian civilization is the importance of medical sciences. One testimony to this is the foundation of Gondishapur University 1745 years ago in the south-western Persia (Iran). Gondishapur was one of the major cities of Persian Empire which was ordered by the Sassanid king, Shapur I (241-272 A. D) to be built in 271 A. D. The city was built by employing Roman and Greek war prisoners after defeating a Roman army led by Emperor Valerian. Gondishapur was the greatest intellectual center and medical school of its time. It was one of the largest hospitals of the ancient world which hosted eminent scientists and physicians from around the world to do their research and practice medicine. In 651 A. D during the final years of Sassanid Empire the city was conquered by a Muslim Arab invasion. This led to the gradual emigration of the physicians to Baghdad and consequently to the demise and final closing of the center. After 12 centuries of being closed-down, Gondishapur (Jundishapur) University was reopened in 1955 in Ahvaz, the central city of Khuzestan province. Currently, Ahvaz Jundishapur University of Medical Sciences (AJUMS) has: 650 faculty members, 7000 students studying at bachelors, masters and PhD levels, fellowship and higher degrees in 163 different fields and 15000 staff. The university is one of the most prestigious universities in Iran and is type one university based on the rating of the Ministry of Health and Medical Education.

Keywords: Gondishapur, Ahvaz Jundishapur University of Medical Sciences, Iran, AJUMS

INTRODUCTION

The cultural ties between different nations have always been one of the driving forces behind the development of human sciences and the flourishing of civilizations. Through this, each nation has been able to access the fruits of civilizations other than itself and therefore enhance its own development [1]. In the Sassanid era, the Greeks and the Indians – western and eastern neighbors of Iran (Persia) – were beginning to become highly developed in certain fields of sciences. Located between these two intellectual movements, Iran became the most favorable area for cultural exchange [2]. During the Sassanid era, the Persians tried to familiarize themselves with the intellectual and scientific developments of other nations and import scientific enlightenment through philosophical and theoretical exchanges. Many documents testify to the great interest of Sassanid kings in collecting books and translations. As an example, Shapur I ordered that most Greek and Hindi books about medicine, mathematic and astronomy must be translated into Pahlavi (Persian language of the time) for the use of Iranian students in different fields of study [3]. The study of medicine and treating the sick people have always been important for human beings. However, the traditional practice of medicine was entangled in superstition and illusions until Hippocrates, rightly called the father of modern medicine, came to free the medical sciences from the dominance of magic, superstition and the shadow of temples 2500 years ago (the reign of Achaemenian Artaxerxes. This was a significant development in the history of medical sciences whereby medicine became an organized and systematic science [4]. Unfortunately, Hippocrates'

ideas took a wrong course later in his life. Seven centuries later, Galen (131-201 A. D) revived the efforts began by Hippocrates and founded a school for anatomy which became the basis for modern medical science [5]. One of the fields of sciences in which Iran Persia has played a remarkable role is medical sciences. The science of medicine existed during the Avestan period and Osho Zoroaster in that there are many references in *Avesta* to the science of medicine and Persian physicians [6]. The first Persian physician was called Trina. According to the different books written in Pahlavi language, Trina would use different herbs and plants in treatment, knew the antidote for all poisons and carried a knife for surgery. The second Arian physician was called Yema. He was able to treat patient with skin and spinal diseases [7]. Medical expertise and its branches are divided into five section in *Avesta* (4: 9): 1. Health, 2. Forensics, 3. Surgery, 4. Herbal medicines or internal diseases, and 5. Psychology [8].

Pahlavi and Iranian-Arabic sources highlight the fact that the great Sassanid kings, such as Artaxerxes I, Shapur I and Shapur II, were zealous supporters of science, both religious sciences and other branches [9-11]. In this regard, it is believed that after acceding to the throne, Artaxerxes sent missionaries to India, Rome, China and Antioch to collect different scientific books and bring them to Persia for translation and study. This led to the translation of almost eight hundred Greek, Roman, Hindi and Cyrenaic books into Pahlavi language [2]. Moreover, Artaxerxes is claimed to have sent experts to observe and draw maps of well-known scientific centers in Greece, Rome and Antioch. He is also considered to have founded the Gondishapur University which was later completed by his son, Shapur. Also, the legacy of founding the Gondishapur hospital is given to Sassanid Artaxerxes while its development and flourishing was achieved by Shapur I [12]. Accordingly, the present essay intends to investigate the rise, historical formation, demise and revival and Jundishapur University of Medical Sciences by using the existing literature on the topic.

MATERIALS AND METHODS

This study uses a historical and analytical method and is a 2016 non-systematic survey of the rise, historical formation, demise and revival of the Jundishapur University of Medical Science. The essay has used the existing literature, including the articles published in Iranian and English journals. Some of the data base used in this study include: SID, MAGIRAN, PubMed, Scopus, and Thomson Reuters. The phrase, "history of Gondishapur (Jundishapur) university" was searched online, in both English and Persian sources. Moreover, reliable Persian books and encyclopedias were checked. The initial search showed 115 related results out of which 12 highly related studies were used in the present essay.

RESULTS

In 271 A. D, the Sassanid (241-272 A. D) king, Shapur I employed Roman and Greek war prisoners after defeating a Roman army led by Emperor Valerian to build the city of Gondishapur. Half a century later, Shapur II (309-379 A. D) chose Gondishapur as its capital city and began developing the city in various ways. When the Roman empire (Zeno) closed down the scientific center of the city, Shapur II welcomed the Nestorian scholars abandoning Rome and sent the physicians to Gondishapur [13]. This emigration from Rome had an immense influence on the cultural exchange between Greece and Persia. In 531, Khosrow Anushirvan (531-579) came to power. He was a staunch supporter of science and scholars and did his best to develop the medical school and hospital in Gondishapur. He invited Greek and Roman physicians for teaching and research in Gondishapur and sent Borzuya (physician) to India to learn the traditional Indian medicine. When the University of Athens was closed down during the reign of Justinian (Roman empire), he welcomed the scholars with open arms. In fact, he brought the eastern and western cultural civilizations together. During his reign, a systematic medical organization was established and the physicians were ranked. In 651 A. D, the last years of the Sassanid empire, the city of Gondishapur was conquered by a Muslim Arab invasion. In 148 A. D, the chief physician of Gondishapur hospital was invited to Baghdad for treating the Abbasid Caliph al-Mansur (136-158 A. D). With the emigration of the physicians to Baghdad, the medical school and hospital in Gondishapur gradually underwent its demise and finally closed down [4]. After being closed-down for 12 centuries, the university was reopened in 1995 at Ahvaz, the central city of the province of Khuzestan. Initially, there were only two faculties, namely, agriculture and medical sciences. In 1969, the clinical hospital was founded in Jundishapur University (now, Imam Khomeini Hospital). From 1986 on, the university was divided into the Medical and Health Sciences (8 departments) and Shahid Chamran University of Ahvaz (13 departments). In 2004, the university's name was changed from Medical Sciences of Ahvaz to Jundishapur University of Medical Sciences [8, 13]. Currently, the university is active with the following characteristics: 650 faculty members, 7000 students studying at bachelors, masters and PhD levels, fellowship and higher degrees in 163

different fields and 15000 staff. The university is one of the most prestigious universities in Iran and of first rank type according to the Ministry of Health and Medical Education [13]. However, the latest international ranking of world universities has not included any Iranian universities among the first thousand ones. This is ironic given the fact that there existed a university in Iran almost 1800 years ago.

Table 1. Important events in the history of Jundishapur University

| No. | Events |
|-----|---|
| 1 | The establishment of Zoroastrianism as the official religion of Iran in 226 A. D by Ardeshir Babakan, collecting Avesta texts and the beginning of educational and cultural movements in Iran. |
| 2 | The victory of Shapur I over Valerian, the Byzantine Empire in 260 A. D in Antioch, capturing seventy thousand Roman soldiers and transferring them to the Khuzestan region. |
| 3 | Beginning of the building of Gondishapur under the dictum of Shapur I. Persian, Greek and Roman architects collaborated in this project. The establishment of scientific center and Gondishapur hospital in 271 A. D. |
| 4 | Choosing Gondishapur as the capital city of Persia by Shapur II's mother (Afradokht) and later himself during 310-340 A. D. |
| 5 | Preparation of a building design and then construction of the medical department under the supervision of Shapur II during 352 to 365 A. D. Assigning Tiodrus, a well-known Greek physician, as the head of the department. |
| 6 | The closing of scientific centers of Rome by Zeno in 489 A. D. The Nestorian scholars were welcomed in Gondishapur University (significant event) |
| 7 | The beginning of the reign of Khosrow Anushirvan (531-579); inviting Greek and Roman teachers to teach at Gondishapur University; sending Borzuya (physician) to India to learn the traditional Indian medicine. |
| 8 | Accepting seven prominent scholars who abandoned universities in Athens and Alexandria during the reign of Justinian, the emperor of Byzantine Rome in 529 A. D. |
| 9 | The first international medical convention under the dictum of Khosrow Anushirvan in Ctesiphon in 555 A. D. |
| 10 | Yielding to Muslim Arabs in 636 A. D without military force. |
| 11 | In 756 A. D, the chief physician of Gondishapur hospital was invited to Baghdad for treating the Abbasid Caliph al-Mansur. |
| 12 | The establishment of the first hospital by the chief of the Gondishapur under the dictum of Harun al-Rashid; the establishment of House of science by al-Ma'mun in Baghdad; the gradual transfer of scholars from Gondishapur to Baghdad; the closing of the Gondishapur hospital; its total demise. |
| 13 | The revival of the Gondishapur University after 12 centuries in Ahvaz, the capital city of Khuzestan in 1955 under the name of Jundishapur University; the changing of the name to Ahvaz University and later to Shahid Chamran University, in memory of Mostafa Chamran (who fought in Iran-Iraq war). |
| 14 | Division of different departments; the establishment of two universities namely, Ahvaz University of Medical Sciences and Shahid Chamran University of Ahvaz in 1986. |
| 15 | The changing of the name of University of Medical Sciences into Ahvaz Jundishapur University of Medical Sciences (AJUMS) in 2004 (3, 4, 8). |

DISCUSSION AND CONCLUSION

One of the striking features of ancient Persian civilization is the importance of medical sciences. One testimony to this is the foundation of Gondishapur University 1745 years ago in the south-western Persia (Iran) [14]. In Ferdowsi's *Shahnameh (Book of Kings)*, which is the most important literary work of Iran, and most likely the best epic in the world, there are references to the greatness and magnificence of Jundishapur University[9]. In the Achaemenid era, formal training belonged to Zoroastrian clergy (priests), princes and statesmen. Since in Zoroastrianism learning is considered as important as life itself, people began teaching the Zoroastrian maxims, namely, good thoughts, good words and good deeds, as ethical insights to their children. During this time, temples were the places for formal training and the priest carried on the duties of teaching lessons about religion, medicine, mathematics and astronomy [6, 7]. In the Sassanid era, the Persian culture and civilization spread around the world. Yet, education was limited to a small group of elites. It is in such a context that the most important center for science and education in the ancient world was established in the city of Gondishapur, namely, Gondishapur University. The city was built by the order of the Sassanid king, Shapur and remained civilized until the end of the fourth century [3]. In Gondishapur University, the Persian scholars collaborated with scholars from around the world, including, India, Greece and Rome. When the Academia in Athens was closed down, most of the Greek scholars travelled to Gondishapur. During the reign of Khosrow Anushirvan, a hospital was built in the city which brought about further developments in learning Persian, Greek and Roman medicine [2].

In sum, the above discussion shows that the scientific and medical center of Gondishapur has always been dynamic and receptive. This dynamism was gained in long course of time and was enhanced by the Sassanid empire. The geopolitical features of the city added to the importance of Gondishapur. The city was built under the dictum of Sassanid kings to control the Roman war prisons and was considered the city of kings. On the other hand, the residents of cities like Gondishapur were closely affiliated with the kings because of the taxing system. Because of

this, the establishment of royal buildings and public scientific and medical centers greatly enhanced the development of Gondishapur. However, of all reasons which increased the importance of the city whether in the Sassanid or Islamic era, one can consider the role of science and medicine as the most influential one. The facilities provided by the Sassanid kings attracted many scholars and physicians from around the world to the city and prepared the ground for the education of many students. The holding of conferences and conventions which took place during the reign of Khosrow Anushirvan signify the importance of this scientific-medical center. The city could hold conventions in many languages, including, Persian, Syrian, Greek and Hindi. As the existing documents show, Gondishapur and the different departments of medicine, philosophy, laboratory and library were sponsored by the Sassanid kings. Moreover, the scientific and medical position of Gondishapur underwent two transformations. With the spread of Nestorius in the West of Iran and in the region between the Tigris and Euphrates, and also the supporting of the Sassanid kings of this religion, in opposition to the Jacobian religion, the attitude of the Cyrenaic Christian clergy and scholars changed about the Sassanid kings, especially after the closing down the al-Raham School and the immigration of many scholars to Gondishapur. The collaboration among Persian, Syrian, Hindi and Greek scholars increased in 489 A. D. Another important transformation occurred during the reign of Khosrow Anushirvan because of a special reformation program. The reforms of the late King Quad coincided with another important event, but nevertheless limited to outside the borders of the Sassanid Empire. These led to great changes on the place. Justinian closing down of the universities and immigration of the scholars were other important causes in the process. The closing down of the Academia in Athens coincided with the great reformations of Khosrow Anushirvan in economics, religion, society and science. In fact, the legacy of Persian, Greek and Hindi physicians was maintained and developed in Gondishapur. It then spread over the Islamic and other nations. Moreover, the Gondishapur hospital was used as a model for other hospitals which were built in Islamic nations.

Currently, Ahvaz Jundishapur University of Medical Sciences (AJUMS) has: 650 faculty members, 7000 students studying at bachelors, masters and PhD levels, fellowship and higher degrees in 163 different fields and 15000 staff. The university is one of the most prestigious universities in Iran and is type one university based on the rating of the Ministry of Health and Medical Education. However, the latest international ranking of world universities has not included any Iranian universities among the first thousand ones. This is ironic given the fact that there existed a university in Iran almost 1800 years ago [13].

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