

## Legacy of Islamic Medicine

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**ABSTRACT** Scientific progress in the West emerged through the period of the Renaissance. A rapid succession of remarkable human achievements in the fifteenth century is said to mark the beginning of the Renaissance. This period was surrounded by eras of intense intellectual ferment in Europe. The subsequent events exercised a decisive influence on the future of medicine. Medicine was liberated from primitive practices and the dead hand of dogma of the Dark Ages. Europe changed the character of hospices from charitable institutions into hospitals for medical care, introduced bedside clinical teaching and enjoined licensing procedures upon prospective physicians after the Islamic impress.

**KEY WORDS:** Renaissance, Islamic Medicine

By the fifteenth century the Islamic community had well past the zenith of its achievements. It had already experienced numerous vicissitudes and had traveled through successive periods of greatness and decadence. Ravages of history had struck at the very heart of the Western caliphate in Spain and the Eastern caliphate in Baghdad. The UMMAH had been badly mauled and a state of general malaise permeated throughout it.

The fifteenth century also witnessed several epoch making events, events that served to change the course of history. The fall of Constantinople in 1453 CE resulted in the migration and the dispersal of non-Muslim scholars throughout Western Europe. With them, they carried knowledge, judgement and wisdom. In 1454 CE, the invention of the printing press introduced, for the first time, an easy method of mass communication. These events together with the discovery of America in 1492

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CE provided the stimulus to Europe to emerge out of its Dark Age. It instilled a desire for intellectual liberty and helped Europe to liberate itself from the dead hand of ecclesiastical dogma. These redeeming features of the fifteenth century mark the beginning of a new era, the Renaissance.

The Middle Age had inflicted medicine with a theological chemistry that reduced the practice of medicine into an amalgam of tradition, superstition and sorcery. Science and reason no longer had any votaries. Under the emancipating influences of the Renaissance, the west was able to perceive and accept the good that was available within the Islamic civilization. In the world of medical sciences, Europe was influenced by the methods of hospital construction, the system of medical education and the principle of accreditation of physicians after the Islamic impress.

### Hospitals

In the Middle Age, medical centres in Europe were more in the nature of hospices, designed to cater to the needs of both the destitutes as well as the sick. Monks functioned as physicians and monasteries acted as the sole repository of medical knowledge. It was the Muslims who were among the first to establish hospitals in a manner much as is seen in present times. The early hospitals were established in Damascus in 707 CE. In Egypt they were established between 874 and 977 CE. Baghdad created its hospitals in 918 CE. The Crusades, that began in 1096 CE and ended in 1270 CE, provided Europe with an opportunity to learn from the Islamic community much about refined living and hospitals. When Jerusalem was captured by the crusaders in 1099 CE, they were surprised to find a hospital receiving the sick and wounded that was opened 30 years earlier.

These early hospitals possessed separate wards for male and female, provided free specialist services and were manned by professional medical and nursing staff. Music was provided by paid musicians for the comfort of the patients. Today, it is not uncommon to find piped music in the wards of some hospitals<sup>[1]</sup>. To help rehabilitation, patients on discharge, were given five pieces of gold<sup>[1]</sup> much in the nature of financial aids that are now provided in some of the welfare states.

The Arabs introduced chemical preparations and made pharmacy a speciality. Its practices were later brought under governmental control. Each hospital had its own attached pharmacy and the pharmacist was responsible for the quality control and the dispensing of drugs<sup>[2]</sup>. It is much the same in the General Hospitals today.

Besides patient care, the hospitals provided libraries containing manuscripts, lecture theatres, prayer room and medical record facilities. The efficiency of such record system is reflected in the frequent citation of hospital case materials that is made by Rhazes in his medical compendium, the *Continens* (el-Hawi)<sup>[1]</sup>.

The Islamic influence in the construction of hospitals began with the spread of Holy Ghost Hospitals from Montpellier in 1145 CE. These hospitals were more in the nature of philanthropic institutions offering refuge to the old, sick and the homeless. The Italian hospitals were financed by the merchants but administered by

knightly orders in Palestine. It was here that European hospitals first acquired their medical character. Provisions for medical care within hospitals are found first in the orders of St. John to its Jerusalem hospitals in 1181 CE<sup>[3]</sup>. This change of the character from the charitable hospices into medical institutions was greatly accelerated during the Renaissance. Some of the technical considerations were incorporated into hospital constructions during the Renaissance and the great hospital at Milan was opened in 1456 CE. The St. Mary's of Bethlehem and the St. Bartholomew's of England changed their character from monastic infirmaries to medical centres in 1547 and 1753 CE, respectively<sup>[4]</sup>.

### **Medical Education**

Islamic physicians are credited to be the first to develop clinical teaching in hospitals. Medical education was provided in the hospitals of Baghdad, Cairo, Damascus and Cordova. Hospitals designated as teaching institutions were staffed by physicians who performed daily ward rounds as is practiced today. Methodology of examination and much of learning were through bedside demonstrations and teaching. Students were required to participate in discussion of the case and encouraged to conduct research. The nature of medical training was much in the nature of an in-service programme.

Medical education followed a well designed course plan. It was systematic and extended over a stipulated period of time. The course contents, in the main, comprised general medicine, pharmacology and therapeutics. Some centres excelled in ophthalmology while some other led in surgery. The importance placed upon basic science is reflected in Zahrawi's advice to his pupils that ... "surgical operations behooves the knowledge of anatomy". Books such as the *Al-Tasrif* acted as the first illustrated surgical manual. Similar books were adopted during Renaissance but they replaced the schematic illustrations of Islamic times with artistic reproductions. The systematic arrangement of clinical and basic science topics in Avicenna's classic, the *Cannon (KANUN-fil-TIBB)*, indicate systematic teaching in Islamic times. This book formed a substantial portion of the curricula in the medical institutions of Europe until as late as the seventeenth century<sup>[5]</sup>.

Until the seventeenth century, there was no systematic clinical teaching in Europe. There was no demand for patient contact. Degrees were awarded on the basis of oral examination only<sup>[6]</sup>. Bedside teaching was adopted in 1563 CE in Padua. It was from here that this was carried to North Europe, first to Leyden by the Dutch students in 1636 CE. The teaching of medicine was finally transposed from the library to the bedside. It spread to the rest of the continent in 1745 CE<sup>[3]</sup>.

### **Accreditation of Physicians**

The medical profession has generally been accorded special place in all societies. Egyptians venerated the practice of medicine. In Greece, a slave adept in the art and practice of medicine was set free. The Persians decreed that prospective physicians were required to experiment first on three non-believers. Should the three die he was

to be considered forever incapable; should they live he was qualified to act as physician forever. Hammurabbi of Babylon established the concept of responsibility of physicians. A surgeon's hand was to be cut off if a free patient died. In the event of success, monetary reward was to be made.

In Islamic times, a diploma (IJĀZAH) was granted only after successful completion of the course work and thereafter satisfying a board of examiners both in written and viva voce examination. A specialist was given a more stringent assessment. Often they had to produce a thesis in their choice of speciality. In 831 CE, a patient died in a Baghdad hospital due to improper patient care and physician's neglect. By royal decree the licensing system was toughened still further. Every physician had to be examined by the chief physician, Sinan Ibn Thabit<sup>[7]</sup>. Similar exercises came in Europe only after the Renaissance.

In Europe, degrees were granted solely on the basis of verbal disputation. Medical legislation in Europe was first enacted by King Roger of Sicily in 1140 CE. It prescribed state examination for medical practitioners. In 1224 CE, King Fredrick II incorporated a 9-year curriculum, fee schedule and regulations of medical practice. Similar legislations were adopted in Spain in 1283 CE and in Germany after 1347 CE<sup>[3]</sup>. Until 1511 CE, even bishops were empowered to grant license to physicians in England. Practice of medicine in and around London was possible only with the consent of the Bishop of St. Paul's. The Royal College of Physicians in England was chartered in 1518 CE under the stewardship of Thomas Linacre. The company of Barber surgeons united with the Guild of Military Surgeons in 1540 CE<sup>[4]</sup>.

It is not possible to identify Renaissance by any actual date or an event. It was an era preceded and followed by periods of remarkable intellectual activity. There was a conscious abandonment of dogma, during Renaissance. Learning and science was not exempt from these changes. It exerted a decisive influence on the development of medicine. Europe accepted the influence of Islamic Medicine and adopted some of its concepts and practices that remain engrafted in medicine even to this day. In fact, these concepts form the basis of contemporary medical practice and medical education.

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