

In ancient times, it was a tradition to take care of and treat the patients in their own homes and for those who had no one to look after them, the state had arranged places where the patients were lodged and treated.

O.P. Jaggi, the well known historian of medicinal sciences, in a recent article tries to recapitulate the state of Indian hospitals during the ancient and the medieval periods. It is remarkable to note that the state in India all through its history functioned as a welfare state and provided well organised health facilities to the destitute and the poor. We give a brief glimpse of the ancient Medicare systems based on Jaggi's comprehensive article.

Ancient Period

Fa-hien (CE 405-411), a Chinese traveller who visited India during the times of Candragupta, provides us details about the charitable dispensaries in Pataliputra. According to Fa-hien the nobles and householders of this country founded hospitals within the city to which the destitute of all countries, the poor, the crippled and the diseased may come. Here, these people were treated freely and provided with every kind of help. After inspecting their diseases the physicians treated them with all their efforts and when cured, they depart at their convenience.

Hiuen Tsang (CE 629-645), another Chinese traveller contemporary to the emperor Harsha, also provides a description about the hospitals of that time. According to him in all the highways of the towns and the villages throughout India there were 'hospices' (*punya-salas*). These hospices were provided with food and drink as well as physicians with medicines that provide medical facilities to the travellers and poor people. These institutions that helped the poor and the needy people were also known by several other names such as *punyasthanas*, *punasalas*, *dharmasalas*, *viharas* and *maths*. These were the Indian counterparts of the western almshouses, monasteries and infirmaries of those times.

There are some epigraphical records that show the existence of dispensaries in the Deccan during the Pallava period between CE 574 and 879. Epigraphical records of the Chola period tell us about the allowances given to the physicians, village dispensaries as well as the town hospitals. The records of Chola kings show that words like *atulasalai* or *vaidyasalai* were used for dispensary, while the words like *atula* or *vaidya* were used for medicines. There were a large number of dispensaries in the village, most of which were maintained by a local physician of hereditary nature. However, some times the physicians were appointed by the king or the queen or by some religious institution or local authority.

The temple inscriptions of one of the temples of the Chola period give a detailed account including description about a hospital, a medical school and a hostel for the students. Veera Rajendra Deva of the Cholas issued a commandment in CE 1067 that is inscribed

on the walls of the inner sanctuary of the temple of Venkateshwar at Tirumakudal in the district of Chingelput. There were fifteen beds in the hospital for the treatment of the members of the temple, the students and the teachers of the school. The hospital was administered by Kodani Rameshwathan Bhattar (a physician) who was paid about 90 *kalam* of paddy per year and there was also a surgeon in the hospital (*Calliyakkirivai Pannuvan*) who was paid 30 *kalam* of paddy per year. Besides the physician and the surgeon, there were two persons who fetched medicinal herbs for preparation of medicines and two attendants who attended to the patients and administered medicines. The persons who fetched medicinal herbs were paid 6 *kalam* of paddy and 2 *kasu*, while the attendants were paid 30 *kalam* of paddy and one *kasu*. Some money was spent on some other accounts such as a barber was paid 15 *kalam* of paddy, a waterman was paid 15 *kalam* of paddy and there was also a provision for a lamp to be kept burning in the hospital during the nights. Each patient was provided with a *nail* of rice per day. The names of twenty different medicines that were kept in the store of the hospital were also mentioned in that inscription.

Another inscription dated CE 1226, found on a stone pillar of Malakapur in Andhra also records references of medical interest. According to this inscription Kakatiya Queen Rudramma and her father Ganapati donated several villages to the south of the river Krisna to Vishweshwara and the income accruing from these holdings was divided into three parts, one part of which was used for a maternity home, one part for a hospital and the last or the remaining part for a school. The prosperous, the princes and the kings who built various hospitals and supported them with money were considered pious and philanthropic.

Medieval Period

Before we discuss, the medieval hospitals in India, it may be useful to have a look at the important role the Arab world played in learning Indian science as also in disseminating it to the West (see our earlier essay, *Ayurvedic Global Dissemination*).

Contacts with West Asia

The names of several Indian products such as Indian sword, Indian spices and aloes-wood are often found even in pre-Islamic poetry. Names of the Indian drugs, like Kafur (*Karpūra*), Misk (*Muska*), Zanjabil (*Sengavera*) and *ud* (*Aguru*) etc. occur even in the holy *Qur'an* and Prophet's traditions (*Ahadith-i-Nabawi*). Probably the Arabic words like *Faniz*, *Tütia*, *Narjil*, *Bish* and *Sandal* have probably been derived from Sanskrit language. Varma (1992) in his detailed article, "Indo-Arab Relations In Medical Sciences", gives several well-documented instances of such contacts.

Several Indian tribes like Jats (*Zutt*) had settled down in Arabia even before the beginning of Islam and they were well-versed in different branches of ancient Indian traditional medicine. Many of them, such as Tantric medicine, and were using their clinical proficiency to cure the patients. Even some of the Indians are also said to have been in the company of the Prophet. The beloved wife of the Prophet was cured by an Indian *Jat* physician of Medina. It is also recorded that Harith bin Kalada, the trusted Hakim of the Prophet, studied in the medical school of Jundishapur (in *Khuzistan*, in South –West Iran) where Indian *vaidyas* and philosophers also taught sciences including medicine. At the end of his studies and before returning to Mecca, Harith travelled through India in search of more information about different branches of Indian Medicine. It is also mentioned that an Indian physician, *Birzantin*

Hindi had migrated to Yemen and settled there presumably during *Anusherwan's* reign (530-580 CE).

A Chinese monarch sent a gift in the form of a book to the first Ummayyad Caliph (660-680 CE). The book contained some secrets and wisdom regarding Indian medicine, alchemy and astronomy. The same book was received by his grand son, Abu Hashimn Khalid bin Yazid, who used to take keen interest in the acquisition of scientific knowledge from different countries. It is therefore believed that he might have extracted and assimilated a considerable material on medical sciences and on other subjects of Indian origin. It is stated that after conquering Sindh, 'Abdullah bin Sawwar 'Abdi (667 CE), the Governor of Sind, sent a number of rare gifts to the Caliph on behalf of the Raja Gigan (Qiqan). Al Tabari (c. 850 CE) mentions that the Indian hair dye (*al-Khidab ul-Hindi*) was also exported to Arabia and was very popular with the Arabs due to its peculiar quality for retaining the bright dark texture of the hair for minimum period of about a year.

All the 'Abbasid caliphs from al-Mansur (754-773 CE) to al-Mutawakkil (847-886 CE) were patrons of arts and sciences. Caliph Harun al-Rashid's (763-809 CE) is well known for his literary and scientific interest. He established his famous *Bayt-ul-Hikmat* (House of Wisdom), a combination of library, academy and translation bureau which in many respects, proved to be the most important educational centre since the foundation of the Alexandrian museum in the first half of the third century BC. When the Arabs realized the high quality and value of *Ayurveda* as well as Indian culture, they got interested in translation of Indian medical and other scientific works from Sanskrit into Arabic. Thus works like *Caraka-samhita* and *Susruta-samhita* etc. were rendered into Arabic. The Arabic translation of these *samhitas* highly impressed the Arabs. They assimilated an enormous material in their *Tibbi* medical treatises.

The Barmecide (Barmaki or Barmak, after the Sanskrit word *Pramukh*, high priest) rose to the most influential position during the Abbäsid period, particularly in the reign of Caliph Harun al-Rashid. As a physician Barmak's claim to fame is the pill which was named after him (*Habb-i-Barmaki*). It was recommended by Ibn Sina (980-1037 CE) and later *Hakims* and a perfume which was widely used by prostitutes. Yahya bin Khalid, the Barmecide (c. 805 CE), the vizier of the Caliph Mansur and the tutor of Harun al-Rashid, sent an Arab scholar to India to study and bring the Indian drugs and herbs etc. Yahya also invited Indian vaidyas and philosophers westwards so that he might learn from them. Once Harun al-Rashid was afflicted with a serious disease and could not be cured by his own physicians, he sent for Manaka (Mankhaor Minikya) with precious gifts. He came to Baghdad and cured the Royal patient and the caliph granted him handsome pension and bestowed upon him great wealth.

Manaka was proficient in Ayurveda and other Indian sciences and had a sound knowledge of Indian and Persian languages. He was deputed as Chief of the Royal Hospital at Baghdad and translated several books from Sanskrit into Persian or Arabic language. Ibn Dhan (Dhanya or short form of Dhanvantari?) was another competent Indian *vaidya* who lived at Baghdad at the same time when Manaka was there. He was called there by Yahya bin Khalid, the Barmecid vizier and was appointed as the Director of his (Barmecid) hospital at Baghdad. At his behest, Ibn Dhan also rendered a few Sanskrit texts into Persian or Arabic Language. Saleh bin Behla was another competent practitioner of Ayurveda, though he does not seem to have any official position. He is known to have cured Ibrahim bin Saleh of apoplexy, though he was declared dead by the Caliph's own physicians. After the advice of Säleh, the royal patient was removed out of his coffin, bathed and put in his usual dress. Then the Indian *vaidya* ordered to bring a blowing pipe and blew some snuff prepared of *Kundush* (*Verartilum album*) with the

instrument into his nose. After about ten minutes, all of a sudden, his body quivered and he sneezed, sat in front of the caliph and kissed his hands. The caliph was much impressed by the clinical acumen of Indian doctor and rewarded him handsomely.

Duban, the Indian learned vaidya, was sent by an Indian Raja to the court of Caliph al-Ma'mun' at Baghdad. It seems clear that Burzoe, the well-known minister of Nausherwan (530-580 CE) came to India at the command of his king to collect more information on Indian arts and science. He brought Indian scientists and experts of Ayurveda along with the books on different subject of India. Most of them were deputed to impart Indian medical education. Other scholars were appointed for rendering scientific books in Pehlavi language in the medical academy and translation bureau of Jundishapur. The Arab scholars were also acquainted with some other Indian vaidyas and masters of other allied sciences. These are:

I. Kanka (Ganga) was one of the most learned Indian scientists who also knew the healing art and drug sciences. According to some Arab writers, Kanka was accepted by all the Indian savants to be the greatest authority in astronomy in ancient India. He was probably the author of the following books: (a) Kitab-ul Namudar fil-'Amar (The book of horoscopes of lives); (b) Kitab-ul Asrāri'l Mawalid (The book of the secrets of births); (c) Kitab-ul Qiranat (The book of conjunctions); Kabir wa Saghir (Major and Minor); (d) Kitab fi 'llm-ul-Tibb (The book on medical science); (e) Kitab fi'lm- Tawahhum (The book on mania); and (f) Kitab fi'l Ahdathi' Alamii fi l'Qirdn (The book on the incidents that may happen in the world under certain conjunctions of stars).

II. Sanjhal was the most learned man of India who wrote a book on nativity entitled, Kitab-ul-Mawalid (book of nativities).

III. Shanaq (Cānakya) was one of the ablest vaidyas of India. He had versatile knowledge of various branches of science and philosophy. He excelled in astronomy and occupied a high position in the courts of Indian kings of his time. Varma thinks that Shanaq al-Hindi is to be identified as Canakya, Chandragupta's minister, also called Kautilya. It is known to have been translated into Persian from an Indian language by Manaka. Then, it was rendered into Arabic from the Persian by Abu I (9th cent. CE). Shanaq was known to be author of the Fihrist, Ibn al-Nadim, and also of other books on the conduct of life, the management of war, and on cultural studies. His works mentioned by Ibn abi Usaibi'ya are on the stars, lapidary crafts, and one on veterinary medicine.

The following Indian medical works were rendered into Arabic from Sanskrit or Hindi during the Abbasid Caliphate:

(1) *Caraka-samhita* was translated into Persian (Pehlavi) probably by Manaka Hindi and then it was rendered into Arabic by Abdu Habin; (2) *Susruta samhita* (susrud); Astanghrdaya; Nidana; Siddhyoga; the book of poisons; the book on treatment of pregnant women; the book on female diseases; the book on snake bites and incantations; there are other books on intoxicants, diseases, drugs etc.

Caliph Harun 'al Rashid used to levy heavy taxes on various kinds of Indian articles including spices and drugs. Caliph al-Ma'mun (813-33 CE) was also interested in different sciences. So he brought many scientists to his court from Jundishapur which had a large number of Indian scientists who had brought their sciences and wisdom from Indian subcontinent. After his return from India, Ibrāhim bin Fazārun brought a lot of information about Indian drugs and

Ayurveda, its teaching and texts. Among the gifts sent by Indian Rajas to the Caliph al-Ma'mūn, there was a special mat made of dragon's skin, which when used for sleeping or sitting purpose, was supposed to prevent and cure pulmonary tuberculosis or phthisis. Indian kings used to send rare and wonderful Indian gifts to Arab caliphs, which consisted of aloe-wood, musk, camphor, dried ginger, kostos, amber, fresh myrobalan of Kabul and precious stones.

Firdaus-ul-Hikmat (Paradise of Wisdom) was composed by Abu 'Ali bin Rabban al-Tabari (c. 850 CE). Al-Tabari has divided the book into a number of discourses. Its last and fourth discourse has discussed the different branches of ancient medicine (Tibb-i-Vaidik) and is in 36 chapters. Its first chapter starts with the genesis of Ayurvedic medicine as follows, "When I was about to complete this book, I thought it fit to add another discourse to it, with separate chapters describing the merits of medical works of Indians and their reputed medicaments. I hope it will increase the knowledge of the student because when he comes to know where these two great nations (Greeks and Indians) agree and where they differ, he will naturally come to know the advantages and disadvantages of Hindu medicine. Out of these topics which I have written here very many things agree with what the Greek Hakims have mentioned, but most of the things do not."

Regarding the origin and transmission of Ayurvedic medicine, Al-Tabari further adds, "They say that, in remote antiquity, the earth was always bright, fertile, clean and its five fundamental sources or elements i.e. Mahabhuta's natures were moderate. These were counted as five, with the addition of a kind of air, i.e. Ether (*Akash*) to the other four, namely (1) Earth (2) Water (3) Air and (4) Fire. The people lived in harmony and love with each other. They had no greed, anger, jealousy or anything else which made their body and soul sick. But, later on, when jealousy arose among them, when they became greedy, they needed to find out the tricks and means to hoard up the riches, ...grievances, scheming, weariness, causing pain to others, corrupted the community". Al-Tabari's account is however ambiguous and misleading on the subject and does not correspond with the modern texts of *Caraka-samhita*. This may be due to the fact that Al-Tabari's studies were presumably based upon the defective Arabic translation of *Caraka-samhita* by 'Al bin Zain of Tabaristan rendered during the days of Caliph Harun al-Rashid. The Atreya School of Medicine believes that the first mortal who received the Ayurvedic Medicine was Bharadvāja. But the South Indian traditions credit Rsi Agastya, popularly known as Kundaṃmalai Siddhar, to have been the first mortal to receive Ayurvedic science from the gods.

In addition to references to Shanaq, abstracts from other Indian books on poisons were borrowed and assimilated by Ibn Wahashiya (9th cent. CE) in his Arabic text, entitled *Kitab ul-Sumūm wa'l-Tiryāqat* (book of poisons and their antidotes). Reference was also made to two Indian experts on the subject, Tammashah and Bahlindad and their medical treatises, in his Arabic work. The famous Ibn Sinā (980-1037 CE), the Prince of Physicians, wrote the Canon of medicine (*al-Qanun-fil-Tibb*), which has been used for the centuries as the authoritative text on Unani medicine. It is comprised of five parts. In this text, Ibn Sinā expresses his indebtedness to the Indian doctors and quotes verbatim from Ayurvedic treatises on leeches and combination of various articles of food. Ibn Sina described about 792 simple drugs in his *al-Qānun*. Among these 49 have been stated as of Indian origin. Out of these Avicenna designated several of Indian origin but their identity can not be ascertained. In *Kitab ul-Saidana fi'l- Tibb* (Book of Pharmacology in medical science) Abu Rayhan al-Biruni (973-1051 CE) referred to the skill and wisdom of the Indian physicians and the marvellous cures which they achieved by using aconite to cases of haemorrhoids.

It may be concluded that the Arabs developed great respect and love for Indian medical scholars and its products as is evident from many historical references and panegyrics (*Qasida*).

So much of the India medical science, blended harmoniously with the Arab science, came back with the Muslim kings when they came to India.

The medieval hospitals were generally termed as *Bimaristan* or *Maristan*. The establishment of these hospitals was given a boost by the Arabs. In the modern sense of the word the first hospital was built by Harun-al-Rashid in Baghdad in the beginning of the ninth century. A bigger hospital with more facilities was established in Baghdad by the Buwayhid chief, Adud-ul-Dowlah in 978-979 CE. This hospital was known as Adudi Hospital and was provided with a good staff. This hospital not only looked after and cured the patients but also served as a focal point for the medical students who went there from distant places. There was another hospital known as the Nuri Hospital. This hospital was built by king Nur al-Din Zinki in Damascus (CE 1111-1174). This hospital was far superior to Adudi Hospital and served as a great service-cum-educational centre for nearly four centuries. Mansuri Hospital, founded by king Al-Mansur Qalawun at Cairo and a hospital at Marrakesh were some other finest hospitals of the Islamic period.

In the various hospitals that were established in different states and cities during the medieval Islamic period, the treatment was free and other necessities like food, medicines etc. were also provided to the patients. These Hospitals had very good facilities: each hospital had its own pharmacy with all kinds of drugs and for the management of these drugs there was a special official known as Shaikh Saydalani (chief pharmacist). The director of the hospital was known as Sa'ur al-Bimaristan and was assisted by a number of specialists including physicians, surgeons, oculist and bonesetters etc. Different administrators looked after various sections of the hospital and attendants were also provided to look after the patients and their needs.

Many of the hospitals provided special types of hospital clothe to the patients and in some hospitals there were Koran-readers to soothe the disturbed minds of the patients. Most of the hospitals had large or small libraries of relevant medical books.

The early Muslim conquerors brought their Unani or Islamic system of medicine to India. Along with their medicine system they also brought their physicians and others who practised different healing arts. According to Ziya-ud-din Barani (a contemporary historian), the most wonderful thing that people saw in Ala-ud-din Khilji's reign was the multitude of great men of all nationalities, masters of every science and experts in every art. The capital of Delhi had become the envy of Baghdad, the rival of Cairo, and the equal of Constantinople due to the presence of men of great talents. Such scholars and savants were present in Delhi that could not be found in the whole world.

Tughluq Dynasty Hospitals

After the death of Ala-ud-din Khilji, the Khilji dynasty crumbled. Now it was the turn of Tughluqs. Muhammad bin Tughluq (CE 1325-1352) belonged to this dynasty. During his time there were about 70 hospitals alone in Delhi and 1200 physicians were enrolled as state employees. Feroz Shah Tughluq was the next ruler after Muhammad bin Tughluq. He had also great interest in building hospitals. In *Tarikh-i-Firuz Shahi* composed by Shams-i-Siraj Afif, there is a description that extols his great kindness and humanity.

Feroz Shah Tughluq established a hospital for the sick and troubled, both for natives and strangers, and Arab physicians were appointed to superintend it. A large sum of 36 lakhs *tankas* out of the revenues of the kingdom was provided for the expenses of the salary and 4200 afflicted persons received monthly allowances. Medicine, food and drinks were supplied to the needy people and he also endowed some richly cultivated villages to the hospitals at the expense of the treasury.

Dar-u-Shifa, the Grand Hospital

In CE 1595, Sultan Muhammad Qutab Shah IV built a hospital known as *Dar-u-Shifa* (the house of cure) on the banks of the Mossi River. According to the journal *Mahanama*, *Dar-u-Shifa* had accommodation for 4000 patients and many physicians were appointed for the treatment of the patients. It was perhaps the biggest hospital in the world. There were also good facilities for a nutritious diet of the people. The journal further stated that there were about 52 public rest houses, where travellers from outside and far off places could rest in comfort and they were very well provided with food and other necessities of the life.

In *Dar-u-Shifa*, the physicians were classified into two categories. First category was of those physicians who were highly qualified and expert in the diagnosis of diseases and who looked after the patients, while the second category was of those who were scholars, learned and well-read in the branches of sciences and medicines. There was an eminent scholar known as Mir Mohammad Momin. He was the most distinguished and highly respected personality among the scholar-physicians. Sultan Mohammad Quali Qutab Shah and his successor king Sultan Mohammad Qutab Shah appointed Mir Mohammad Momin as a Peshwa that was a post of great honour at that time. Mir Mohammad Momin received great respect even from the kings and the nobles of Persia.

Mughal Hospitals

During Akbar's period the Unani medicine system spread all the way through the greater part of India. Many renowned *hakims* and scholars reached his court from Persia and other Central Asian countries. During his period, there were a good number of government hospitals, as well as private clinics run by many physicians. These hospitals as well as clinics were always open to the deprived people with no distinction of caste and creed.

Jahangir and Shah Jahan not only continued the hospitals built by Akbar, but also built more hospitals for the help of the sick and needy people. Aurangzeb did the same by providing more medical facilities to the people. During Aurangzeb's period many hospitals were situated in the capital and the outlying cities.

Besides the emperors many prosperous nobles and citizens also built hospitals. Nawab Khayr Andish Khan Kumbha built such a hospital at Etawah. Nawab Khayr Andish Khan Kumbha himself had a good knowledge about the science of medicine and also composed a book related to medical science named, *Khayar-ul-Tajrib* (The Best of Experiences). In the preface of his book he has named several physicians like Abdur Razzaq Naysaburi, Abdul Majid Isphahani, Mirza Muhammad Ali Bukhari, Mohammad Adil and Muhammad Azam who were appointed by him in his hospital at Etawah.

Thus we see that both in ancient and medieval India, the state, as well as the rich people, provided medical facilities for the poor and the common man without any distinction of

caste or creed. The state in India always realised its responsibility to its citizens and functioned as a welfare state. In contrast, even the richest nations like the USA have made medicinal facilities a totally private enterprise, placing half the population out of reach of such expensive medication.

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