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Indo-Muslim Physicians

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► **To cite this version:**

| Fabrizio Speziale. Indo-Muslim Physicians. 2009. halshs-00584747

HAL Id: halshs-00584747

<https://shs.hal.science/halshs-00584747>

Submitted on 10 Apr 2011

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INDIA

xxxiii. INDO-MUSLIM PHYSICIANS

Medicine (ṭebb, pežeški) constitutes the scientific field on which the largest corpus of works has been composed in Muslim India. Most of these works were written in Persian, and to a lesser extent in Arabic, and later in Urdu from the Colonial period. Main scholars and authors were often attached to the courts of Indian sultans and many composed medical works for Muslim nobles. Several medical scholars occupied also important functions in the administration of Indo-Muslim states. For centuries since the medieval period, many physicians (ḥakim, pl. ḥokamā³) migrated to India from Persia and Central Asia and played, until the 17th century, a prominent role among the medical elite attached to the Indian courts. The hegemonic presence of Persian physicians characterized important courts, such as those of the Mughal Jalāl-al-Din Akbar (r. 1556-1605) and the Qoṭbšāh of Golconda. Muslim monarchs established hospitals in several cities, such as Delhi, Mandu, Bidar, Hyderabad, Agra, Fāteḥpur Sikri, Ahmadabad, and in those of Bidar and Etawah Indian physicians were also employed.

The medical literature authored by Indo-Muslim physicians is mostly composed as new works and for the most part consists of manuals and monographic treatises, especially on pharmacology. Arabic works were also translated, and Avicenna's al-Qānun fi'l-ṭebb and its abridgments were especially the objects of some important Indian commentaries. However, many Arabic classic works that became known in the West through their Latin renderings never became the object of Indo-Persian commentaries or translations. Iranian scholars active at the Mughal and the Deccan courts in India during the 16th century set the trend of composing commentaries on the works of Avicenna and other Arabic classics on medicine.

A number of works were composed in Persian on Indian medicine and pharmacology. This process of introducing Indian medical knowledge to the Muslim world through Persian language can be considered among the great translation movements in the field of medicine realized in the Muslim world. It appears to be the main processes of scientific translation from a non-Muslim tradition produced in the Muslim world during the modern age. Compared to the earlier process of translation of pre-Islamic medical sources into Arabic, the transferring of Indian knowledge in Persian

that took place in Muslim India was a longer and a slower movement. It began in the medieval period and lasted until the Colonial period, when works on Indian medicine were composed also in Urdu. Indo-Muslim physicians did not aim in particular to combine the two traditions in the doctrinal sphere even if contacts were possible, as demonstrated by the fact that some of them integrated the role of air (bād) in their vision of humoral pathology. Air was not one of the four humors in the Avicennian physiology, but it played an important role in the Indian medical doctrine.

The assimilation of Indian knowledge, and in particular its pharmacology, was stimulated mainly by practical needs, such as finding local substitutes of drugs. Some Indo-Muslim authors, such as Miān Bhuwa in the Ma‘dan al-šefā’ and ‘Abd-al-Fattāḥ in the Bostānafruz (Monzawi, 1983-, I, p. 502), explain that they were moved by the great difficulties encountered in finding in India the drugs of the Muslim sources. The assimilation of the Indian knowledge acted as a major means of adapting the Avicennian medicine to the local grounds, thus generating at the same time a sensible renewal of the medical and pharmacological knowledge diffused among Indo-Muslim physicians.

Indo-Persian authors often preferred the writing of new works, or chapters of synthesis, on Indian medicine instead of translating texts from Sanskrit into Persian. Most of this literature consists of general works on Indian medicine, therapeutics, and monographic works on pharmacology, as well as treatises on zoology and veterinary medicine, in particular on the horse. There are also works on medical alchemy, sexology, and physiognomy. It was, however, mostly Muslim physicians born in India, not foreign emigrants, who wrote Persian works on Indian medicine.

Another important feature is the role acquired by Persian language as means of scientific expression. Scientific works in Persian were composed not only by Muslims but also by Indians scholars, especially since the Mughal period. Even some Christian physicians who were active in India, such as those of the Portuguese family da Silva, wrote and copied medical texts in Persian. José da Silva wrote a couple of texts based on Western sources as well as a pharmacopoeia of Indian simple drugs, Mofradāt-e hendi, while Dom Agostinho da Silva made in 1844 a copy of the Ṭebb-e Akbar by Akbar Arzāni. Indian scholars composed works in Persian on Avicennian medicine and

Muslim sciences, but it was mostly Muslim scholars and not Persophone Hindus who authored the most important Persian works on Indian medicine.

The activities of Indo-Persian medical writers began after the establishment of the Sultanate of Delhi, in the beginning of the 13th century. Abu Rayḥān Biruni's *al-Ṣaydala fi'l-ṭebb* was translated by Jalāl-al-Din Abu Bakr Kāšāni during the reign of Šams-al-Din Iltotmeš, (r. 1211-1236) and remained one of the very rare Arabic medical works rendered in Persian during the pre-Mughal period (Monzawi, 1969-, I, pp. 501-2). Indian drug lexicon is already used in the *Ṭebb-e firuzšāhi*, an anonymous work on the treating of birds, composed during the reign of Ġiāt-al-Din Balban (r. 1266-1287). The two most famous physicians actives in Delhi under the Kālji sultans (1290-1320) are Badr-al-Din Demašqi and Hāmed Moṭarrez (also known as a Sufi), both mentioned as teachers of Avicenna's *al-Qānun fi'l-ṭebb* (Barani, p. 362). Other renowned physicians of the Toḡloq period (1321-1413), such as Žiā'-al-Din Naḳšabi (d. 1350) and Šadr-al-Din Ḥakim, the latter a successor of Shaikh Našir-al-Din Čerāg-e Dehli (d. 1356,), were also well-known Sufis. Naḳšabi wrote a work on the human body and its organs, called *Joz'iyāt wa kolliyāt* or *Čehel nāmus*, which he dedicated to Qoṭb-al-Din Mobārakšāh. Naḳšabi also authored *Laḏḏat al-nesā'* (Monzawi, 1969-, I, pp. 591-92; Rieu, II, pp. 680, 740-41; Šafā, pp. 1295-960), one of the most famous Persian adaptation of the Sanskrit *Ratirahasya* (or *Kokasāra*) by Pandit Kokkoka, which is a work on sexology. Several copies of Naḳšabi's version have been illustrated with miniatures. At Dawlatābād, the new capital chosen by Moḥammad b. Toḡloq (d. 1351) in 1327, was composed the *Majmu'e-ye žiā'i* by Žiā' Moḥammad Ġaznavi, a general manual covering most medical topics and including a chapter on Indian medicine and Indian medical alchemy. Elyās b. Šehāb composed for the same Moḥammad b. Toḡloq the *Rāḥat al-ensān*, a manual on pathology and treatment, in which the Indian medical lexicon is also used. The main Persian treatise on Indian medicine of the Delhi sultanate period was Miān Bhuwa's *Ma'dan al-šefā'-e sekandaršāhi*, a work dedicated to sultan Sekandar Loḏi (r. 1489-1517; Šafā, V/1, p. 358; Nafisi, II, pp. 812-13; Monzawi, 1969-, I, pp. 543-44, 598; Rieu, II, pp. 471-73). This book is a general manual on various medical topics, which begins with the list of the Sanskrit sources used and an introduction discussing Prophet Muhammad's traditions praising the knowledge of medicine. It was translated into Urdu during the Colonial period. Miān Bhuwa was a noble of the court and had close contacts with 'Abd-al-Qodduš Gangōhi (d. 1537), a Sufi renowned for his studies of yoga.

Various physicians were active in the provincial sultanates, where hospitals were established at Bidar by the Bahmani sultan Abu'l-Moẓaffar 'Alā'-al-Din Aḥmad II (r. 1435-1457), and in 1445 at Mandu by sultan Maḥmud K̄alji, who charged his personal physician Faẓl-Allāh to supervise it. The authors of some interesting works were active in Gujarat. Šehāb-al-Din Nāgawri, court physician of Moẓaffar Shah I (r. 1407-1411), composed a medical maṭnawī, Ṭebb-e šehābi (1388), in which he made a pathological division of the four humors in an attempt to combine the Avicennian and Indian doctrines. For instance, Nagawri maintained the fourfold division of humours of Avicennian medicine but the two biles (black and yellow) are regarded as a single humor (talka) while the remaining place is occupied by air (bād). He dedicated to the sultan the Šefā' al-kāni, a general work on pathology and treatment in the order from head to toe, using also Indian drug lexicon. 'Ali b. Esmā'il Aṣili translated from Sanskrit into Persian Vāgbhaṭa's classic medical work Aṣṭāṅgahr̥dayasaṃhitā; the translation was made for the sultan of Gujarat Maḥmud Begrā (r. 1458-1511) and entitled Ṭebb-e šefā'-e Maḥmudšāhi. In Deccan, 'Abd-Allāh b. Šafī translated into Persian the Šālihotrasaṃhitā, for Šehāb-al-Din Aḥmad Shah Wali (r. 1421-34) of Gulbarga. The Šālihotrasaṃhitā, a versified work on horses and their treatment, became one of the Sanskrit scientific sources that was often adapted in Persian. It was translated in the pre-Mughal period for Ġiāt-al-Din Moḥammad Shah K̄alji (r. 1469-1500) of Malwa with the title Qorrat al-molk, and then in 1520 for Sultan Šams-al-Din Moẓaffar Shah (r. 1511-1526) of Gujarat by Zayn-al-'Ābedin Hāšemi. On Hāšemi's translation was based 'Abd-Allāh Khan Firuzjang's version made for Šāh-Jahān, which in 1788 was translated into English by Joseph Earles as A Treatise on Horses, Entitled Saloter.

Medical scholars migrating from Persia settled in the main Deccan sultanates that emerged from the fall of the Bahmanid rule. Persian scholars were attracted also by the fact that the most powerful of the Deccan sultanates, the Neẓāmšāhis, the 'Ādelšāhis, and the Qoṭbšāhis, adopted Shi'ism as official creed for a period. The first Persian translations of Arabic works in early Modern India were compiled at the court of the Neẓāmšāhi dynasty (1490-1633) ruling over Ahmadnagar and Dawlatābād. Rostam Gorgāni, an Iranian emigrant, dedicated to Borhān I Neẓāmšāh (r. 1508-1553) the Daḳira-ye neẓāmšāhi, which was a Persian adaptation of Ebn Bayṭār's Jāmi' le-mofradāt al-adwīa wa'l-aḡḍīa, to which Esmā'il Jorjāni had added the treatment by compound drugs. Gorgāni wrote also works on sexology and fevers. Another Iranian, Ḥakim Wāli

Gilāni, who was also attached to Borhān's court, translated into Persian Ebn Jazla's *Taqwim al-abdān fi tadbir al-ensān*. In Ahmadnagar and Bijapur lived Moḥammad-Qāsem Henduśāh Ferešta of Estrābād/Astarābād (d. 1623), who is mainly known as a historian and the author of *Golšan-e ebrāhimi*, better known as *Tāriḳ-e ferešta*. He was a physician as well and studied medicine also with an Indian teacher. Ferešta wrote the *Dastur al-aṭebbā'*, a compendium on Indian medicine and pharmacology, dealing with simple and compound drugs, pathology, and treatment (Rieu, I, pp. 225-26; Monzawi, 1969-, I, p. 534; Şafā, V/3, pp. 1709-11).

Iranian physicians were especially active at the court of the Qoṭbšāhis (1518-1687) of Golconda and Hyderabad. From this epoch and during the later age of the Neẓām dynasty (1724-1948), Hyderabad became the main center of Muslim medical studies in the Deccan. Sultan Moḥammadqoli Qoṭbšāh (r. 1580-1612) constructed in the new capital of Hyderabad a two-storey hospital with a medical school (madrassa) attached, of which the remains are still existent. The plan of the new city was drawn by the Iranian scholar and poet Mir Moḥammad-Mo'men Estrābādi/Astarābādi (d. 1624; for him see Şafā, V/1, pp. 402-3), who served as powerful grand minister (pišwā) of the sultanate until the reign of Moḥammad b. Moḥammad-Amin Qoṭbšāh (r. 1612-26). Mir Moḥammad-Mo'men dedicated to Moḥammadqoli Qoṭbšāh his *Eḳtiārāt-e qoṭbšāhi*, a commentary of the well-known Persian pharmacopoeia *Eḳtiārāt-e badi'i* by Zayn-al-Din 'Ali Anşāri (d. 1403). Another Persian scholar, Şams-al-Din 'Ali Gorgāni, rendered for the same king the Persian translation of 'Ali b. 'Isā Kaḥḥāl's *Taḍkera al-kaḥḥālin*. Other medical works composed for Moḥammaqoli were 'Abd-Allāh Yazdi's *Ṭebb-e farid* and Şams-al-Din b. Nur-al-Din's *Zobdat al-ḥekam*. Taqi-al-Din Moḥammad b. Şadr-al-Din 'Ali dedicated to Moḥammad Qoṭbšāh a treatise on pharmacology entitled *Mizān al-ṭabā'e-e qoṭbšāhi* (Monzawi, 1969-, I, p. 606). The main later scholar who migrated from Safavid Persia was Neẓām-al-Din Aḥmad Gilāni, who got attached to the court of 'Abd-Allāh Qoṭbšāh (r. 1626-72). Before coming to India, he had been a student of Bahā'-al-Din 'Āmeli and the leading theologian Mir Moḥammad-Bāqer Dāmād. Gilāni is one of the few philosophers-physicians that emerged from the milieu of so-called School of Isfahan. He wrote a large number of rather short treatises on medical, pharmacological, scientific, and philosophical topics, most of which are contained in two works of encyclopaedic character, entitled *Şajara-ye dāneš* and *Majmu'a-ye Ḥakim-al-Molk*. He compiled also a short Persian collection of traditions of the Imams on properties of foods and drugs entitled *Ḳawāṣṣ-e adwiya*. The Qoṭbšāhi sultanate became

a main center for the literary development of the Dakhni Urdu, in which it seems that Pirzāda Mirān Ḥosayni rendered the Skt. Ratirahasya (perhaps from an earlier Persian version; see Fāruqi, p. 150), which will be the first known medical work compiled in Urdu.

Indo-Muslim medical class grew considerably in the age of the Mughals (1526-1858). The literature composed in India by authors active in the Mughal centers, in the Deccan sultanates, and in the later princely states, emerges as one of the main medical corpus produced in the Muslim world in the modern period. During the Safavid period many scholars migrated from Persia to India. The patronage provided by courts in India for Muslim physicians and Persian medical works looks more generous than the court patronage given in the same epoch in Safavid and post-Safavid Persia. The works authored by renowned physicians active in India in that period were circulated also outside the Sub-continent. The medical scene and the interactions with the non-Muslim milieus, especially during the late Mughal period, are characterized by new features. Persian medical and scientific works were composed by non-Muslim Indian scholars, who continued to write medical works in Urdu during the Colonial period. Mahādeva wrote in late 18th century the first known works in Sanskrit on the Avicennian medical tradition. The English translations of two renowned Indo-Persian works on pharmacology are reflections of the early interest that the British showed for Indian medicines, mostly motivated by the aim of finding local substitutes. Francis Gladwin translated into English the *Alfāz al-adwīa* of Nur-al-Din Širāzi, and George Playfair translated Šarīf Khan's *Ta'lif-e šarīfi*.

The main medical writer of the early Mughal period was Yusof b. Moḥammad Heravi, a court physician of the first Mughal emperor Zāhir-al-Din Moḥammad Bābor (r. 1526-30) and then of his son and successor, Homāyun (r. 1530-40 and 1555-56), under whom he seems to have served also as court secretary. A native of Herat, he migrated with his father Moḥammad b. Yusof, the author of a well-known medical dictionary titled *Baḥr al-jawāher fi ḥall loḡāt al-sā'er* (Monzawi, 1969-, I, p. 481; Šafā, V/1, p. 361). Yusof b. Moḥammad wrote several works and shorter tracts on medicine, in prose and verses, some dedicated to Bābor and Homāyun. He also wrote poetry and authored a couple of divans, a work on epistolography, and a short treatise on mysticism, called *Anwār al-ḥekma* (comp. 1513). His medical works had a considerable diffusion among later physicians, among them are the *Jāme' al-fawā'ed*, on pathology

and treatment, and the *Riāz al-adwīa*, a glossary of drugs dedicated to Homāyun. His *Dalāʿel al-bawl* (comp. 1535) is a Persian abridgement of the chapter on uroscopy of Avicenna's *al-Qānūn fi'l-ṭebb*, which made this section one of the most widely circulated part of the book in Persian version (Marshall, pp. 495-96; Rieu, I, p. 475, II, p. 840; Monzawi, 1969-, I, pp. 514-16, 536, 545).

Iranian physicians dominated the court of Jalāl-al-Din Akbar (r. 1556-1605), where non-Muslim Indian physicians were also employed. Iranian scholars rose to important positions in the Mughal administration and gave a fundamental impulse to the translation and commentary of Avicenna's *Qānūn* in India. Masiḥ-al-Din Abu'l-Faḥ Gilāni (d. 1589), who was appointed ṣadr (the head of religious affairs and land grants) of various Mughal provinces, including Delhi, wrote a Persian commentary of Maḥmud Čaḡmini's *Qānūnča*, entitled *Fattāḥi* (for him, see *Awrangābādi*, I, pp. 107-10; *Ṣafā*, V/1, pp. 466-69). Faḥ-Allāh Gilāni translated into Persian in 1593 the first book of the *Qānūn* (Zillur Rahman, 2004, p. 147). The most extensive work was the Arabic comprehensive commentary of the *Qānūn* by Ḥakim 'Alī Gilāni (d. 1609; *Awrangābādi*, I, pp. 180-84), who also served Akbar as the ṣadr of Bihar. 'Ayn-al-Molk Širāzi (d. 1595, *Awrangābādi*, I, pp. 172-73), an ophthalmologist and a poet with the pen name *Dawā'i*, who served as the ṣadr of Bengal under Akbar, composed for him the *Fawā'id al-ensān* (comp. 1595), which is a versified work on materia medica (*Āqā Bozorg Tehrāni*, fasc. 16, p. 326; Monzawi, 1969-, I, p. 577).

The two leading writers of the first half of 17th-century India, Amān-Allāh Khan (pen name *Amāni*) and Nur-al-Din Moḥammad Širāzi, were born in India. Eminent Iranian physicians continued to arrive and get posts in India under Jahāngir (r. 1605-28), Šāh-Jahān (r. 1628-58) and *Awrangzēb* (r. 1658-1707), after which their migration declined considerably. At Šāh-Jahān's court was attached *Sati-al-Nesā'* (d. 1646), an Iranian female emigrant that seems to be the only Muslim woman of this epoch remembered as a physician (*Awrangābādi*, I, pp. 260-61).

Amān-Allāh Khan (d. 1637) held high posts in the Mughal administration and his *Ganj-e bādāvard* is among the most extensive Indo-Persian works on pharmacology, making use of Indian sources as well. He translated from Sanskrit the *Madanavinoda* (comp. 1375), a dictionary of drugs and foods composed for *Madanapāla*, and authored works on non-medical subjects (*Awrangābādi*, I, pp. 212-19; Rieu, II, pp. 509-10; *Ṣafā*,

V/1, pp. 389-90; Monzawi, 1969-, I, p. 590). Nur-al-Din Moḥammad ‘Abd-Allāh Širāzi was a descendant of ‘Ayn-al-Molk Širāzi. He is the author of several books, among which the best known is a dictionary of drugs called *Alfāz al-adwia* (comp. 1628). His major production, however, is the *Ṭebb-e dārā-šokuhi* (also called ‘*Elājāt-e dārāšokuhi*), a medical work of encyclopaedic character discussing the Indian knowledge as well. He also wrote other medical works, a treatise on mysticism, and compiled collections of letters (Marshall, pp. 381-82; Šafā, V/1, pp. 358-59; Monzawi, 1969-, I, p. 568).

The rendering of Indian sources into Persian continued during the second half of the 17th century, when some works on Indian medicine were even composed for Awrangzēb or named after him. Abu’l-Faṭḥ Češti translated in 1668 a text on pathology and diagnostic called *Nidān*, under the title of *Mer’āt al-ḥokamā-ye awrangšāhi*, and Abu’l-Faṭḥ Heyri wrote the *Dār al-šefā-ye awrangšāhi* (comp. 1670), on pathology and treatment. Among them the text with the widest circulation was the *Ṭebb-e awrangšāhi* (also referred to as *Ṭebb-e awrangzēbi*; e.g., Marshall, p. 131), a general compendium on Indian medicine by Darviš Moḥammad. Little is known about these three authors. Darviš Moḥammad refers to himself at the beginning of *Ṭebb-e awrangšāhi* as a disciple of the Češti Sufi order. A description of Indian physiognomy, called ‘*elm-e sāmudrik*, is given in Mirzā Moḥammad Khan’s *Toḥfat al-Hend*, a work on Indian arts composed before 1675 for Awrangzēb’s grandson, Prince Mo‘ezz-al-Din Jahāndāršāh (Rieu, I, p. 62). In this epoch appear the first commentaries or abridgments of the *Qānun* not composed by Iranian emigrants, such as Shaikh Aḥmad Kannawji’s Persian commentary in verses of Čaḡmini’s *Qānunča*.

Notwithstanding the decline of Mughal institutions, the post-Awangzēb’s period, that is, from the end of his reign to the fall of the Mughal rule (1707-1858), is marked by the activities of scholars whose medical works became quite renowned. The scene of early 18th century is dominated by the figure of Mir Moḥammad Akbar, known as Shah Arzāni (d. ca. 1722), author of works that had great circulation among later physicians. His *Mofarreh al-qolub* became the most diffused Persian commentary of an abridgment of the *Qānun* and his *Qarābādin-e qāderi*, dedicated to the saint eponymous of the *Qāderi* Sufi order, was one of the most renowned pharmacopoeias in the Sub-Continent. He composed other famous works and a treatise on *Ṭebb-e nabawi* (Rieu, II, pp. 478-80; Šafā, V/1, pp. 360-61; Monzawi, 1969-, I, pp. 558, 581-82). The other major physician of the first half of the 18th century was ‘Alawi Khan Širāzi (d. 1749), who

migrated to India in 1700 and entered the service of the Mughal Moḥammad Shah (r. 1719-48) and then of Nāder Shah Afšār. He authored several medical works, among which the Jāme^ʿ al-jawāme^ʿ-e Moḥammedšāhi is dedicated to the Mughal ruler. Moḥammad-Ḥosayn Khan Širāzi (d. 1790), a descendant of ʿAlawi Khan, was the last notable Iranian physician who migrated to India. He wrote two noteworthy Persian works on pharmacology: the Majma^ʿ al-jawāmi^ʿ, based on ʿAlawi Khan’s Jāme^ʿ al-jawāme^ʿ, and the Maḵzan al-adwia, which was printed several times during the Colonial period.

Authors of medical works kept close relation with religious circles. The Češti master Shah Kalim-Allāh (d. 1729) of Delhi wrote an Arabic commentary of the al-Foṣul al-ilāqiya, Moḥammad Ilāqi’s compendium of the first book of the Qānun (Āqā Bozorg Tehrāni, fasc. 16, p. 238). Shah Ahl-Allāh (d. 1776) of Delhi, brother of the leading Naqšbandi scholar Shah Wali-Allāh (d. 1762), translated into Persian the Mujez al-Qānun of Ebn Nafis, which is an abridgment of the Qānun. He also wrote two complementary works on Indian and Avicennian treatments: Takmela-ye hendi, a treatise on Indian medicine and pharmacology, and the Takmela-ye yunāni, on therapeutic of diseases ordered from head to toe (Monzawi, 1969-, I, p. 511). Takmela-ye yunāni seems to be the first Indo-Persian work bearing the attributive yunāni (Greek) in its title to indicate and differentiate the Avicennian medical tradition, anticipating a denomination (yunāni ṭebb “Greek medicine”) that would gain a huge diffusion during the Colonial and Post-Colonial periods. The leading physician of the last part of the century was Moḥammad Šarif Khan (d. ca. 1807), who translated also the Koran into Urdu. He gave his name to the Šarifī family, the most eminent family of “yunāni” physicians of Colonial India. His most famous medical work is the Taʿlif-e šarifī, a dictionary of the Indian materia medica (Šafā, V/1, p. 364; Monzawi, 1969-, I, p. 486). It was translated into English by George Playfair.

In late Mughal India, and later on during the British Rāj, various writers of works on medicine were active in the centers and at the courts of the princely states that emerged from the fall of Mughal’s central authority. These princely states followed the Mughal’s model in offering court patronage to eminent physicians and their works, a support that lasted during the Colonial age when states such as Hyderabad and Bhopal recruited also Muslim traditional physicians in their health services. Muslim physicians were employed as well at the courts of maharajas, such as those of Gwalior and Jaipur.

At the court of the nawab of Arcot, near Madras, settled Sekandar b. Esmā'il, a Turkish emigrant. He is the author of *Qānun-e sekandari* (comp. 1747), a manual on therapeutic of diseases from head to toe, and *Qarābādin-e sekandari*, a pharmacopoeia of which the main feature is the incorporated Syriac lexicon. Another physician in Arcot was Aḥmad-Allāh Khan (d. 1803), who moved here from Delhi. He translated into Persian Avicenna's *al-Adwia al-qalbiya*, wrote a treatise on small-pox, and dedicated to the local nawab the *Taḥqiq al-boḥrān*, a work on crises (*boḥrān*) of illness (Fonahn, pp. 29-30, 104; Storey, II/2, pp. 276-77, 286-87; Abdur Rahman et al., pp. 15-16, 75, 207). Rezā 'Ali Khan, a government physician at Hyderabad, composed in 1819 the *Tadkerat al-Hend*, also known as *Yādgār-e rezā'i*, in two volumes. This book is one of the most extensive Persian works on Indian materia medica, with an introduction on the principles of Indian medicine (Monzawi, 1969-, I, p. 611). The last among the main Indian authors of medical works in Persian is Moḥammad A'zam Khan (d. 1902), who moved from Rampur to Bhopal. He is the author of a several works, including two extensive treatises on therapeutics of diseases, the *Eksir-e a'zam* (4 vols.) and *Romuz-e a'zam* (2 vols.), a work on simple drugs titled *Moḥiṭ-e a'zam* (4 vols), and his extensive dictionary of compound drugs called *Qarābādin-e a'zam*. These were all printed in late 19th century.

During the Colonial period (1858-1947) Indian traditional medicines became the object of Western accusations of being unscientific, a criticism that was shared by a part of the Indian elite who had received British education. A main reformist approach adopted by an influential section of Muslim traditional physicians was to assimilate Western knowledge and methodology in the disciplines most criticized, such as anatomy and surgery. In several cities, schools (*madrasa*) of traditional medicine were opened in order to overcome the limits of family education; however, the teachers of these new schools were often members of eminent families of physicians. Instruction in medicine was also included in the religious *madrasa* of Deoband, and a *yunāni* medical college was established at the Aligarh Muslim University in 1927. The reform of traditional medical studies was realized also through the use of the more widespread Urdu as the language of the medical literature and of new journals of traditional medicine. The *Nezāms* of Hyderabad were the princely state that gave the stronger support to *yunāni* medical studies during the Colonial period. The peak of the *Nezām's* patronage was the building of an imposing hospital of traditional medicine in the center of the city, with a medical school attached, where until 1948 worked Ḥakim Kabir-al-Din, the most

influential writer and translator of yunāni medical texts into Urdu. At Hyderabad, Rahber Fāruqī published in 1937 the first known history of Islamic medicine in Urdu, containing several chapters on Muslim India and the Deccan until the Neẓām's period.

The foremost families of yunāni physicians of Colonial India were the Šarifi of Delhi and the 'Azizi of Lucknow, which established the two leading medical schools of North India. The major members among the Šarifi were the brothers 'Abd-al-Majid Khan (d. 1901) and Ajmal Khan (d. 1928). The youngest, Ajmal Khan, became the most famous defender of Muslim traditional medicine in Colonial India. In his youth he had been the personal physician of the nawab of Rampur. Ajmal Khan was the main advocate of the modernizing reforms of the tradition. He traveled in Europe and directed the first modern scientific analysis of a traditional simple drug, the *Rauwolfia serpentina*, which had been used by Avicenna in the treatment of mania. Because of this experiment, the alkaloids were named after him as ajmaline and ajmalinine. Ajmal Khan was also an important figure on the political and cultural scene. He strongly supported the ideal of unity among Hindus and Muslims and had close contacts with Mahatma Gandhi, who in 1921, notwithstanding his open skepticism for Indian medicines, attended the opening ceremony of Ajmal Khan's new medical college in Delhi, where teaching in Indian Ayurvedic medicine was also supported. The 'Azizi family took their name from Ḥakim 'Abd al-'Aziz (d. 1911), who in 1902 opened at Lucknow the family school called Takmil-al-Ṭebb. The most important among the later physicians of this family was 'Abd-al-Laṭif Falsafi (d. 1970), who from 1927 taught at the yunāni college of Aligarh and wrote several works and articles in Urdu.

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March 20, 2009