



# Colonialism and Science: Interrogating the Interactions Between the European and Indian Medical Systems during Colonial Period

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## Abstract

*The socio-political landscape of India was in a state of transition on the eve of the establishment of British rule. Indigenous support for science and technology decreased in these times of constant social and political transformations. Further, the promotion of western medical practices under the aegis of colonial rule resulted in loss of patronage for the indigenous medical practitioners. The advancement in the field of medicine in Europe during the 19<sup>th</sup>-20<sup>th</sup> century introduced medical instruments and drugs in India that further boosted the reputation of western medicine. Also, the proportion of Indians at higher echelon of colonial medical institutions and services remained low. Eventually, western medicinal system was claimed to be rationally superior to the indigenous systems. The practitioners of Ayurveda and Unani reacted to this onslaught either by maintaining distance from the western medicine and strictly following traditional practices of their domain or by adopting some of the western medical methods and ideas. This paper attempts to delineate various facets of the interaction between the western and indigenous medical systems in India during the colonial period.*

**Keywords:** Colonialism, Medicine, Ayurveda, Unani, Hakims, Vaidya, Doctors

## 1. Introduction

A study of the degree and pattern of contact between members of the concerned cultural group becomes inevitable in estimating the response of one culture to another.<sup>i</sup> It is often contended that the exchanges between the West and the East are fundamentally a part of a protracted historical process. Cross-cultural interactions between Europe and Asia and its impact can be used to understand the history of medicine in India.<sup>ii</sup> During the early stages of colonial rule, the administrators increased their knowledge of native sciences by using scientific and technological expertise based on local conditions and circumstances. However, proficient knowledge of classical Indian languages was necessary for a comprehensive and in-depth study of India's sciences, technical crafts, and medical systems.<sup>iii</sup> In the late eighteenth century, the Asiatic Society of Bengal<sup>iv</sup> was crucial to the institutionalisation and dissemination of modern sciences in India. The Orientalist scholars valued ancient Indian texts for their information about medicines.<sup>v</sup> Understanding Sanskrit was essential to comprehending the medicinal plants and chemical formulations described in these writings.<sup>vi</sup> The society offered a supportive institutional environment for the casual discussion of scientific research projects carried out by the East India Company's staff. A formal channel for the dissemination of the findings of such scientific investigation and research was established in the form of society's journal, Asiatic Researches in 1788. The founding of the Asiatic Society of Bengal marks the beginning of the practical institutionalisation of western sciences in India.<sup>vii</sup> Similarly, Warren Hastings founded the Calcutta Madrasa in 1781 that taught Unani system of medicine in Arabic. It also introduced western medical tracts to the students.<sup>viii</sup>

Drawing from Foucault's explanation of knowledge and power,<sup>ix</sup> a significant portion of research on the subject has examined the connection between colonialism and medicine. It is argued that technological advancements and different knowledge system of the colonial power was instrumental in the conquest of

Indian territory and its knowledge system.<sup>x</sup> The degree to which medicine contributed to the establishment of colonial power and hegemony in India has been the subject of intense debate among historians.<sup>xi</sup> Some scholars question the binary compartmentalisation of the colonizer and the colonised.<sup>xii</sup> They have contended that the colonial discourse on medicine played a limited role in the stabilisation of colonial rule.<sup>xiii</sup> Others have maintained that the colonial power set the standards for the colonized to follow.<sup>xiv</sup> To support their rule in India, the British attempted to demonstrate their dominance in every area, including medicine. This entailed drawing attention to the distinctions between indigenous and Western medical systems.<sup>xv</sup> Further, the public health policies implemented during British rule have been thoroughly examined by academicians, who have also examined these policies in relation to particular illnesses and epidemics.<sup>xvi</sup> Also, the relationship between Indian medical systems and Western medicine, as well as Indians' reactions to Western medicine and British public health initiatives, have also been studied.<sup>xvii</sup> However, more academic research is necessary to fully understand how the indigenous and western medical systems interacted and influenced each other and what was the role of colonial policies and ideologies in this regard. This paper attempts to highlight the nature, effects, and consequences of the interactions between the East and the West in the field of medicine.

## 2. The Western and Indigenous Medical Systems: Interaction and Impact

The earliest interactions between Indian and European practitioners of medicine came through operations of trading companies.<sup>xviii</sup> The latter attended to the medical needs of the 'rank and file' of the company's regiments after receiving training in contemporary European medical practices. However, to satisfy the caste consciousness of the Indian soldiers a native doctor was attached to each battalion of the Bengal Native army.<sup>xix</sup> Since the arrival of European companies in the 16th century, there have been substantial exchanges between Ayurveda and European medicine. Some of the local medical knowledge even travelled to Europe as 'alternative medicine'.<sup>xx</sup> But as the British established their dominance in India, western medicine became more widely accepted as superior and the indigenous medical system was discredited.<sup>xxi</sup> The gap between practitioners of various systems grew as a result of notable developments in Western medicine and the rise of utilitarianism as the prevailing ideology directing British policy in India. Western medicine was widely used in large cities and towns by the end of the 19th century. Due to the loss of state patronage and the deterioration of their social standing, native medical practitioners, such as the Hakims and Vaidyas, felt threatened and neglected. Some began to doubt their own system and adopted a variety of strategies to remain in practice. Others vigorously defended and promoted their systems in order to sustain.<sup>xxii</sup>

On the eve of the establishment of British rule, India had medical practitioners from a variety of backgrounds. Ayurveda was practiced by the vaidyas, while Unani was practiced by the hakims. In general, the hakims belonged to the Muslim community, while the vaidyas belonged to the Hindu community.<sup>xxiii</sup> The practice of Ayurveda, which first appeared in India circa 600 BC, was founded on ancient Sanskrit writings. During the medieval period, Unani or Greco-Arabic medicine made its way to India through the Muslims and received patronage from Delhi Sultans as well as the Mughal rulers.<sup>xxiv</sup> It worked in conjunction with the Ayurvedic system to treat illnesses.<sup>xxv</sup> The practitioners of these systems followed traditional methods of teaching and practicing. Ayurvedic students were trained in the homes of practicing vaidyas known as tols<sup>xxvi</sup> while the hakims taught Unani medical system mostly as a family custom from fathers to sons.<sup>xxvii</sup> Then there were folk medical practitioners, who had been around since ancient times and were famous in rural areas. Although they lacked written texts, they outnumbered vaidyas and hakims. The majority of their remedies relied on superstitious practices. In this regard it's important to highlight that the Europeans frequently came to the conclusion that all Indian practitioners were quacks because they occasionally struggled to distinguish between traditional practitioners like vaidyas and hakims and folk practitioners.<sup>xxviii</sup>

The introduction of western science and technology in British India was a gradual process and it was often contested. The British medical practitioners mostly employed European treatments, though they often adjusted their treatment regimens to suit the Indian environment. Use of local medicines was

encouraged rather than imported ones which was expensive.<sup>xxix</sup> Additionally, some effective Indian treatments were also adopted. They did, however, criticise some aspects of the Indian medical system, such as the absence of texts on specific illnesses.<sup>xxx</sup> Also, the anatomical concepts in the Indian medical systems did not conform to European empirical researches.<sup>xxxi</sup> These findings, along with the developments in European medicine in clinical chemistry and pathological anatomy led British physicians to conclude that Western medical system was better than Indian systems.<sup>xxxii</sup> In rare instances, Europeans hired Indian physicians at the beginning of the eighteenth century. But by the middle of the 18th century, Europeans were refusing to accept their treatment. European doctors were also sought after by the affluent and aristocratic Indians, particularly for surgical procedures. In addition to numerous vaidyas and hakims, some Indian royals began employing European doctors for their courts. In 1778, eight European doctors and surgeons of different nationalities worked for the Nawab of Arcot.<sup>xxxiii</sup> The colonial state's attempt to regulate the native medical system was also supported by the western medical missionaries. They endorsed the view that the introduction of western medicine the colonies was a part of civilising mission of the British. In return, the British officials often acknowledged the missionary work among the natives.<sup>xxxiv</sup> The indigenous practitioners of medicine defended their medical system and attempted to showcase it as being equal to the western medicine in every respect.<sup>xxxv</sup> However, it can't be denied that they were also open to benefit from the new system of medical knowledge.<sup>xxxvi</sup>

There were major developments in Western medical sciences during the nineteenth century that further increased the gulf between Indian and European medical practitioners. The new findings highlighted that unlike the traditional Indian medical notion disease was not caused by an imbalance of humours throughout the body, but rather it was restricted to particular organs or tissues.<sup>xxxvii</sup> Dissections, amputations and other surgical operations saw significant advancements and deeper comprehension of disease syndromes and their causes enhanced the classification of diseases. Western medical diagnosis was further improved with instruments like thermometers, stethoscopes, and microscopes.<sup>xxxviii</sup> Microbes and its destruction became important element of western medicine however the Vaidya emphasised on improving the immunity of human body.<sup>xxxix</sup> As germ theory gained traction, vaccination became a cutting-edge method of prevention and it was believed to conquer numerous infectious diseases.<sup>xl</sup> However, despite these conceptual differences, interactions between Indians and Europeans continued for various reasons. The Native Medical Institution was established in 1822 at Calcutta to train native doctors. Both Western and Indian medical concepts were covered in the Urdu-language courses.<sup>xli</sup> In a similar vein, Indians were taught both Western and Indian medicine at Sanskrit College in Calcutta, which was established in 1824.

The idea that the East had important lessons for the West was shattered by developments in Western philosophy and technology. The colonial ideologies like utilitarianism and evangelicalism emphasised on superiority of the western civilisation. Utilitarians like James Mill harshly criticised Indian philosophy and medical practices and showcased the stagnation in its religious and scientific thought. Thus, rediscovering India's history did not seem useful to them.<sup>xlii</sup> In a similar vein, Indian practitioners were increasingly criticised by British doctors who began to think that Indian medical systems were illogical. In contrast to Western medicine, which emphasised on practical learning in hospitals and clinics, Indian medical systems have also been criticised for their lack of practical clinical training. A committee convened by William Bentinck reiterated the aforementioned criticisms and highlighted that the expenses in maintaining the institution didn't justify its utility.<sup>xliii</sup> In accordance with its recommendations, the company ceased all support for Indian medical systems and began training its employees exclusively in Western medicine. Eventually, Native Medical Institution was abolished in 1835 and medical education at Sanskrit College and Calcutta Madarsa was stopped. Calcutta Medical College was established in 1835 to impart education of Western medicine through English medium.<sup>xliv</sup> Medical Colleges were also opened in Madras and Bombay. All the three colleges were recognized by the Royal College of Surgeons. They offered three year course followed by an examination. In 1845, the duration of study was raised to five years. After completing college, the native doctors got lucrative appointments in different hospitals of the country.<sup>xlv</sup> Another medical college was set up in Lahore in 1860 which was renamed as The King

Edward Medical College in 1910. There was provision for reservation for seats in the college on the basis of creed, gender and region.<sup>xlvi</sup>

The organisational structure of the colonial medical service started taking shape by the end of eighteenth century.<sup>xlvii</sup> The Bengal medical service was among the first attempt at regularisation of the medical service in colonial India. Eventually, the members of the Indian Medical Service were granted commissions after a regulation in 1788.<sup>xlviii</sup> The medical services of Bengal, Madras and Bombay were merged together in an integrated service in 1896.<sup>xlix</sup> Indians were able to apply for the competitive entrance exam that was held in London after 1855 to recruit doctors into Indian Medical Service, but most Indians were unable to do so due to the age requirements and distance.<sup>l</sup> Only three Indian candidates were successful in joining Indian Medical Service till 1860.<sup>li</sup> The proportion of Indians in the Indian Medical Service remained low throughout the nineteenth century.<sup>lii</sup> Medical specialization had started emerging in most of the Western world in the middle of the 19th century. However, British medical fraternity was slow to adopt specialization and remained fiercely opposed to it for most of the 19th century.<sup>liii</sup> This reflects in the absence of references to specialized physicians in India. The physicians and surgeons of this period, whether trained in Western or indigenous systems of medicine, provided care as generalists. Training of Indian women in medicine started gaining momentum in 1880s, with the establishment of the Dufferin Fund. Women were encouraged to get medical licenses as well as degrees to increase facilities for the treatment of female patients.<sup>liv</sup>

One of the leading concerns of the government was the British army's susceptibility to diseases like malaria that resulted in loss of numerous lives. It is in this context that the idea of transferring cinchona trees from Peru to India gained currency.<sup>lv</sup> Botanical gardens were setup by 1750s to promote research in Native medicinal plants. However, the requirement of allopathic drugs were fulfilled through imports from Britain. Drug manufacturing in India was discouraged on one pretext or the other.<sup>lvi</sup> It was despite of the fact that voluminous research works on flora and fauna of India was published throughout the nineteenth century.<sup>lvii</sup> The *Materia-Medica of Hindustan* by Dr Whitelow Ainslie was published during the first half of nineteenth century. The *Indigenous Drugs of India* by Dr K. L. Dey was published in 1867.<sup>lviii</sup> The *Pharmacopoeia of India* compiled by E. J. Waring was released in 1868.<sup>lix</sup> As Europe moved toward industrial production of pharmaceuticals, Western practitioners increasingly used drugs with a single "active ingredient," distancing themselves from the traditional Indian preference for the whole herb or mineral.<sup>lx</sup>

Eventually Indians also started supporting Western medicine, and considered it superior to indigenous medicines. The native medical practitioners were losing their practice.<sup>xi</sup> The government's apathy towards the indigenous medical systems was glaringly visible. It denied to accept them as scientific disciplines and was not willing to provide funds for its promotion.<sup>xii</sup> Despite losing British support, traditional Indian medicine remained popular in villages due to its affordability and ease of access.<sup>xiii</sup> The indigenous elites also supported hakims and vaidyas.<sup>xiv</sup> The Indian national movement too picked up the issue of revival of traditional medical system during the twentieth century.<sup>lxv</sup> Hakim Ajmal Khan, belonging to a prominent family of physicians of Delhi, became the face of revival of Unani medicine.<sup>lxvi</sup> Likewise, apart from allopathic doctors, the British often needed to accommodate indigenous practitioners too. For example, hakims were used as vaccinators in Punjab<sup>lxvii</sup> and indigenous medical practitioners were employed to increase public acceptance of preventive measures during the 1896 plague.<sup>lxviii</sup>

The reputation of traditional Indian medical systems and their practitioners gradually declined as a result of the assault of Western medicine. Reactions to this decline varied greatly. Some native practitioners rejected Indian systems entirely, believing that Western systems were the only logical ones. Others were adamantly against modern medicine. They rejected the inclusion of Western ideas in their medical education, supported indigenous systems, and promoted their practice in its purest forms. This group includes the Azizi family of Lucknow and proponents of Shuddha Ayurveda (pure Ayurveda).<sup>lxix</sup> Also,

few native physicians promoted combining Western, Unani, and Ayurvedic medicine. They continued to support indigenous systems while also believing that Western medicine was superior in terms of science.<sup>lxx</sup> To ensure their survival, they incorporated elements of contemporary medicine into the native systems.<sup>lxxi</sup> Ayurvedic and Western medical elements were incorporated into Unani-Tibb by the Sharifi family of Delhi. The Sharifi family's Hakim Abdul Majid founded Madrasa-e-Tibbia in Delhi. The graduates of this institution were in high demand throughout India, and the curriculum and tests were administered in a manner akin to that of state-run universities. The Madrasa was supported by nobles, officials, and wealthy classes but received no government assistance.<sup>lxxii</sup>

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