

**STATE, SOCIETY, AND MEDICINE IN COLONIAL
CALCUTTA: EMERGING PERSPECTIVES OF THE INDIAN
PHYSICIANS IN SERVICE (1835 – 1947)**

**A THESIS SUBMITTED TO THE JADAVPUR UNIVERSITY
FOR THE DEGREE OF
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**SUBMITTED BY
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**STATE, SOCIETY, AND MEDICINE IN COLONIAL CALCUTTA: EMERGING
PERSPECTIVES OF THE INDIAN PHYSICIANS IN SERVICE (1835 – 1947)**

submitted by me for the award of the Degree of Doctor of Philosophy in Arts at Jadavpur University is based upon my work carried out under the Supervision of Dr. Debajit Dutta, Assistant Professor, Department of History, Jadavpur University, And that neither this thesis nor any part of it has been submitted before for any degree or diploma anywhere / elsewhere.

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CONTENTS

<i>Acknowledgment</i>	
<i>List of Tables and Plates</i>	i
<i>Abbreviations</i>	iv
Introduction -	1
Chapter 1 - Pre-Colonial Oriental Medicine and The British Perspective –	45
Chapter 2 - A ‘Triumph!’ over Indigenous Medicine: Introduction of Western Medical Education in India –	100
Chapter 3 - Gender, Race and Colonial Medicine: Women at Medical Profession –	195
Chapter 4 - Breaking the Chain: Bengali Doctors in Western Medical Profession –	296
Conclusion	375
Appendices	
I. Gallery	384
II. List of Students at Calcutta Medical College in 1847-48	390
III. Dietary differences between Indian and European Patients in 1842-43	391
IV. Medical Women for India Fund	393
V. Proceedings of the Inaugural Meeting of the Indian Association for the Cultivation of Science	394
<i>Glossary</i>	395
<i>Bibliography</i>	397

TABLES and PLATES

LIST OF TABLES -

Table No. 1.1 Native Doctors Passed from NMI	118
Table No. 1:2 Year and the Number of Students of NMI	121
Table No. 2:1 Students of Medical Class in Sanskrit College	128
Table No. 3:1 Medical College Fund, 1835 – 54	146
Table No. 4:1 Life Expectancy in India during 1871 – 1921	150
Table No. 4.2 Death Rates in Calcutta during 1880 -1912	151
Table No. 5:1 The Doses of Medicines for a Child	156
Table No. 6:1 Labour Cases Attended in Different Medical Institutions at Bengal Presidency (1877-1880)	221
Table No. 7:1 Advertisement of Kadambini Ganguly in the <i>Bangalee</i>	267
Table No. 7.2 Second Advertisement of Kadambini Ganguly	268
Table No. 8.1 Salaries of Principal administrative and military Appointments of IMS until 1883	303
Table No. 8.2 Salaries of Principal administrative and military Appointments of IMS until 1883	305
Table No. 8.3 Salary Structure of Military Assistant Surgeons	306
Table No. 8.4 Salary Structure of Civil Assistant Surgeons	306
Table No. 8.5 Salary Structure of Civil Hospital Assistants	307
Table No. 8.6 The Monthly Salary Structure of the Subordinate Medical Service in 1910	308

LIST OF PLATES -

PLATE 1.1 The Medical College Hospital, Calcutta	384
PLATE 2.1 Diagram of the human body, showing the principal internal organs of the Front Side	158
PLATE 2.2 Diagram of the human body, showing the principal internal organs of the Back Side	158
PLATE 2.3 Instruments for Ordinary Surgical Practice	160
PLATE 2.4 Instruments for Ordinary Surgical Practice	160
PLATE 3.1 Hakeem Ajmal Khan (1868-1927)	384
PLATE 3.2 Ayurved Sanjivni Journal	384
PLATE 3.3 Kaviraja Gangadhar Ray (1789-1885)	385
PLATE 3.4 Kaviraja Bijayratna Sen (1858-1911)	385
PLATE 3.5 Kaviraja Jamini Bhushan Ray (1889-1925)	385
PLATE 3.6 Kaviraja Shyamadas Vachaspati (1876-1934)	385
PLATE 3.7 Kaviraja Gananath Sen (1877-1944)	386
PLATE 3.8 Babu Rajendra Lal Dutta (1818 – 1889)	386
PLATE 3.9 Calcutta Homoeopathic Medical College and Hospital	386
PLATE 4.1 F. E. Hoggan (1843-1927)	387
PLATE 4.2 Edith Pechey (1845-1908)	387
PLATE 4.3 Abala Bose (1865-1951)	387
PLATE 4.4 Lady Dufferin(1807-1867)	387
PLATE 4.5 Dufferin Hospital in Calcutta	387
PLATE 4.6 Campbell Medical College	387
PLATE 4.7 Haimabati Sen (1866-1933)	388

PLATE 4.8 Kadambini Ganguly	388
PLATE 4.9 Bidhumukhi Basu (1866 -)	388
PLATE 4.10 Virginia Mary Mitra (1865 -)	388
PLATE 4.11 Jamini Sen (1871-1932)	388
PLATE 5.1 Soorjo Coomar Goodeve Chukerbutty (first on right) (1826-1874)	389
PLATE 5.2 Mahendra Lal Sircar (1833-1904)	389
PLATE 5.3 Sir Kailash Chandra Bose (1850-1927)	389
PLATE 5.4 <i>Arakan Fronte</i> by Shantilal Roy	389
PLATE 5.5 Ramnath Chopra (1882-1973)	389
PLATE 5.6 Nilratan Sarkar (1861-1943)	389

ABBREVIATIONS

ABCA	All-Bengal Compounders Association
AIWC	All India Women's Conference
BMJ	British Medical Journal
CMC	Calcutta Medical College
CSTM	Calcutta School of Tropical Medicine
FA	Fine Arts
GCPI	General Committee of Public Instruction
GMBC	Graduate of Bengal Medical College
GMC	General Medical Council
GOI	Government of India
IACS	Indian Association for the Cultivation of Science
IMG	Indian Medical Gazette
IMS	Indian Medical Service
IOR	Indian Office Records
JNIA	Journal of the National Indian Association
LFPS	Licentiate of the Faculty of Physicians and Surgeons
LMS	Licentiate in Medicine and Surgery
LRCP	Licentiate of the Royal College of Physicians
LRCS	Licentiate of the Royal College of Surgery
MB	Bachelor of Medicine
MD	Doctor in Medicine
NAI	National Archives of India
NL	National Library, Calcutta

NMI	Native Medical Institution
PMB	Proceedings of the Medical Board
RBE	Report of the Board of Education
RDPI	Report of the Director of Public Instruction
RGCPi	Report of the General Committee of Public Instruction
SAS	Sub-Assistant Surgeon
VLMS	Vernacular Licentiate in Medicine and Surgery
WBSA	West Bengal State Archives
WIA	Women's India Association
WMS	Women's Medical Service

Introduction

India had a rich tradition of indigenous medical knowledge and practice, which was plural in nature. Before the advent of Western medicine in India, there were rich ancient Ayurvedic and Unani medical systems. With the advent of Europeans in India, Western medicine marked its footprint for the first time on the urban area of the Indian subcontinent, where Europeans established their settlement.

The British East India Company established its hospitals in the presidency towns during the age of imperial expansion. In India, the British administration initiated the domination and overthrowing of Indigenous medical systems by introducing various acts and regulations on the indigenous medical system. It started giving state patronage to the blooming Western medical system. The eradication of tropical diseases in the colonies was a part of their civilizing process in Britain. They professed that white men's duty was to civilize barbaric Indian society with Western medical and scientific knowledge. In the context of the Western medical growth in India, medical institutes' study becomes a relevant topic in understanding the nature of 'policy transfer from the West'¹ and India's colonized people's social response to Western medical practice. The social and economic significance of medical organizations and their physicians also has political force, which can be an impetus for social changes. In the present study, the discussion will be focused on - the impact of the nationalist movement on medical institutes of Colonial Calcutta, how Western medical practice politically marginalized the Indigenous medical system, the 'Indianization' process of the imperial medical institutions, the reaction of the Indian doctors during the nationalist movement, and the response of the Indians to the Western medical science. This investigation aims to highlight the social and political importance of the medical history of colonial Calcutta, the relationship between two opposite medical cultures during the nationalist movement in India.

1. Historiography of History of Medicine -

From the 20th century, medical history writing emerged as a separate branch of history writing. It was not a linear form of history writing but multi-dimensional. It has complexity in its subjectivity. Medical History of India has made its journey from the history of "Great Men,"² the Narrative of their life and deeds, to a separate branch of history writing through the ages. Before the 1900s, doctors, not historians, had written their medical history accounts. An academic medical history analysis began in the 19th century with historians Leopold Von Ranke and Wilhelm von Humboldt. The scientific methodology of writing history was introduced, and medical history came into that light. In the early 19th century, William Farr suggested that social history might contribute to medical history study.³ He emphasized the role of the institutions and social forces in understanding a place's medical history. He stressed the quantity of science, how that science has been brought into contact with people, what class of persons, by what institutes, and what effect.⁴ We should discuss the different understandings of the historiography of medical history.⁵

History has regularly been written as an account of the deeds of great personalities. This strategy for chronicled composing has been popular in medical history writing because, in this history writing, an author can show the continuous progress of scientific knowledge through the ages. The historian Jacob Burckhardt explained this type of history writing as "who did most to promote the branch of knowledge."⁶ The first work on the history of medicine done by American physician and Director of the Army Medical Library, Fielding H. Garrison (1870-1935), tried to find the history of medicine in famous medical men's work in his *An Introduction to the History of Medicine*.⁷ Almost 70 years after its publication, his work was portrayed as a "standard" source and an excellent book reference for the history of medicine. However, Garrison considered his work an "outline" and not a finished one. He did not analyze the social and economic factors in his writing.⁸ Henry Sigerist criticized his work

as much literature than history.⁹ William Henry Welch, the former Dean of the Johns Hopkins Medical School, did not consider Garrison's work "as an inductive science."¹⁰

“Historicism” became the dominating recorded technique in the composition of nineteenth and mid-twentieth-century medical history. The history that repeatedly accentuated the role of the state, politics, and society. This method perceived historical events inside a time frame and that the antiquarian stands within the time stream. The procedures and logic which a historian uses to seek objective knowledge are time-bound.¹¹ History decided the past was dependent on the past's cognitive values in historicism instead of a more modern explanation. For Leopold Von Ranke, “Historicism” is a scientific method of writing sociocultural history.¹² According to him, the history of medicine is a fine example of historicism. Russian-born and German-educated medical historian Owsei Temkin used historicism in his writing.¹³ Temkin was for some time associated with the Institute of the History of Medicine at Johns Hopkins University. Later in his profession, he addressed in dedication to Raymond H. Mulford Library at the Medical College of Ohio. He summed up:

“The real history of medicine is much more complicated than we historians usually portray in our textbooks. The vision of a genius needs a certain single-mindedness to cut through the bewildering, contradictory evidence of contemporary life; it needs a compulsion to follow the vision and thus comes perilously close to the monomania of the crackpot.”¹⁴

The information on old medical books and their substance does not give a recorded picture of the past. When a historian writes about extraordinary personalities, great doctors, their lives, and thoughts, only it can be characterized as historical writing. This history writing can be differed from each other, according to the historian's point. Medical history has been deciphered diversely because various methodologies have prompted multiple authentic technique assessments under alternate views. These historians wanted to say that the history of medicine can be written from a socio-cultural, political, and philosophical perspective.

Social history became significant because the progressive changes in society during the eighteenth and nineteenth centuries changed the socio-cultural scenario, which changed history writing.¹⁵ Writing social and cultural history became important. It was evident that medical history became an important branch of social history writing. Since sickness is regularly a striking case of the social and financial crisis that could significantly impact society and its occasions, the disease is not only a medical term; it eventually can create a considerable change in our lives and culture.¹⁶ Illness and a human being can be seen differently. The social condition of the diseased man, where he lived and worked – can be traced and historically analyzed through writing the history of medicine. A medical history along these lines extended to incorporate more than the doctors' historical background and books.¹⁷ It was progressively perceived as more than a generally homogeneous assemblage of information.¹⁸

In the 19th century, William Farr emphasized the role of social institutions in his study of the history of the English medical professions. According to him- "The state of Medical Science is only one of the elements of the inquiry; for the problem is given a certain quantity of science, how has that science been brought into contact with people, by what class of persons, by what institutions, and with what effect?"¹⁹ Farr described social institutions as essential in understanding and analyzing medical history.

Henry Sigerist (1891-1957) was the Director of the Institute for the History of Medicine at Johns Hopkins University (during the 1930s and 1940s).²⁰ The Swiss-born physician used social history as an analytical tool for writing medical history. He described this method in his book "*Men and Medicine*."²¹ For him, the history of medicine is a binding story of a physician's struggles, conquests, and socio-cultural and undeniable environmental factors.²² In another book, *American Medicine*, he tried to discover America's social, cultural, and political history through the light of American medical history.²³ Sigerist's major work was to

be an eight-volume *History of Medicine*.²⁴ He interpreted medical history through philosophical observation. This medical history writing trains us where we originated from, where we are at present, and what heading we are walking. With Sigerist's publication, *On The Sociology of Medicine*, social science became more important than history. In March 1940, in San Francisco before the California Academy of Medicine, Sigerist said: "The history of medicine cannot limit itself to the history of science, institutions, and characters of treatment, but must include the history of the patient in society, that of the physician, and the history of the relations between physician and patient. The account thus becomes social history."²⁵

In the late 20th century, Intellectual history writing became a new trend in modern history writing. Intellectual historians did not emphasize great men and their deeds. They did not give importance to social forces and social institutions. They stressed developing the ideas that required archival review and analysis, which should be based on a particular period's knowledge and conceptions. Early 20th-century medical historians used this methodology of cultural history in writing medical history. One of the first Intellectual history writers of the 20th century was Viennese Max Neuburger, whose first volume of *History of Medicine* appeared in 1910.²⁶ This analysis method became important in medical history, which can recognize philosophical changes in society. That led to the development of "structuralism," which means the history of culture and cultural structures became evident in writing history.²⁷ The new philosophical changes radically altered 19th-century social thought and action.²⁸ The doctors became an essential part of this social change.

In the writings of Michel Foucault (1926-84), professor of History and System of Thought at the College de France, we found that it is not merely a narrative of the past events and their causation but a historical analysis of their philosophical basis. His first book, *Madness and Civilization*, studied "madness or reason, but the changing structure of relationships between

those treated as insane and those who had arrogated to themselves the status of the sane."²⁹ This assessment of the philosophical presumption created the modern worldview of madness, its medical treatment, and its effects on society. In his *Birth of the Clinic: An Archaeology of Medical Perception*, he tried to figure out the modern concept of hospitals.³⁰ The emergence of current anatomic clinical medical practice during the 18th century made a revolutionary change within society. There were new normality and abnormality³¹, which radically altered social thoughts and beliefs. Foucault created a new base for history writing by emphasizing the philosophical tenet.

Scientific History writing utilizes both events and their effects. Still, it interprets with the limitations of the historiographic models. Each of these four historical methods – Great Men, Historicism, Social History, and Intellectual History- has been used in writing medical history by various historians and scholars. These methods enable historians to analyze distinct hypotheses for writing and interpreting medical history. Medical history might be written with each one of these four historiographic methodologies. Medical institutions, doctors, and medicine have always impacted society, which has become especially crucial in analyzing the history of medicine. The proper historical interpretation of medicine and society depends on understanding inter-relation between medicine and society. In this, medical institutions became an essential part of writing the medical history of colonial India.

In writing the medical history of Bengal, we should focus on the medical institutes of that place. Deeds of great Indian physicians, the reaction of the Indian masses, the British officials' response, and their policies could be beneficial for writing colonial India's social and political history. In the last few decades, lucid research on the history of medicine has widened the scope for political analysis. The revisionist history created a new genre of the social history of medicine, which became more sensitive to the broader social context within

which medicine became a political entity. Most of these studies see Western medicine as an imperial tool to establish India's political and cultural domination.³²

H. H. Scott, in his *History of Tropical Medicine*, published in 1939, marks the establishment of Patrick Manson's London School of Tropical Medicine in 1899 as the beginning of tropical medicine.³³ Subsequent historians have also taken the 1890s as the beginning of the development of tropical medicine. John Farley remarked that 300 years after the start of maritime trade, in 1896, the British rulers declared a "war on tropical diseases."³⁴ He cited two factors as reasons for the British adopting such a policy. First, bacteriological theories in tropical diseases proved that weather is responsible for this disease, cured by treatment. Second, the desire to expand the empire to unknown places in the tropics. Patrick Manson's request to create a tropical medical school encouraged Joseph Chamberlain to develop its political purposes in this situation. Since then, various schools and institutions of low medical schools have sprung up worldwide.

These causes and results of Western science and medicine spread in the tropical colonies became vital discussion topics among historians since the 1960s. Western science and medicine have been seen as a step by the British rulers to improve the quality of life of India's people.³⁵ It has started considering the part of the imperialist policy of establishing control over the bodies of the colonial people. Historians of the late 20th century tried to focus on the British Empire's health policies in light of the four historical methodologies mentioned above. The idea of "Colonial Science" originated in historical circles after the publication of George Basalla's article "The Spread of Western Science" (1966).³⁶ Basalla showed that the Western medical system entered the colonies long ago when Europeans came to India to do business. At that time, herbal products were sent abroad from India to make medicine. He created a chronology of the arrival of Colonial Science in India, which helped later researchers explore history.

In the 1960s, Marxist historians began to see colonial science expand the empire with the emergence of neo-colonialism. They were, in fact, the creators of the "Dependency Theory."³⁷ The theory of dependency meant the peripheral dependence on the center. Here, the center represents the Colonizer, and marginal means the colony. Increasing the center's peripheral reliance on science and medicine was necessary to establish the empire's stability, though this idea changed later. From the theory of dependence, the imperialist power science and the medical system began to be given more prominence to make the marginalized dependent and as one of the tools for expanding the empire. According to Michael Worboys, the spread of medicine and science in the colonies of the imperialist state at the center resulted from the "constructive imperialism" policy of the 1890s, which influenced the British imperialist policy until the 1940s.³⁸ He remarked that the primary purpose of "Colonial Science" was to establish its dominance in the colony's newly acquired territories for imperial development and capture those places' resources.³⁹ However, since the 1960s, historians have changed their perspective.

Due to the differences in different countries' situations, the history of colonization has not been judged in the same framework but has been discussed separately. The acceptance of Roy MacLeod's "moving metropolis" theory has increased since historians became aware of the differences between marginal regions and colonization.⁴⁰ According to MacLeod, perceptions about the center were changing. Although part of the British Empire, cities like Sydney and Calcutta enjoyed much distinction in science and medicine. Medicine's function as an instrument of colonial expansion is likely the most recognizable subject in the historiography of colonial medicine to date. It has its sources in the works of colonial physicians, officials, and magnificent lawmakers primarily concerned with European health.

Valuable research by Michel Foucault and Edward Said has changed historians' perspectives since the late 1970s with their intellectual method of history writing. 'Science' began to be

considered a means of proving the West's superiority and domination. Mark Harrison said, "It was argued that anthropologists, doctors, and others played an important role in creating racial and orientalist stereotypes."⁴¹ Mark Harrison showed how the British rulers adopted a policy of gaining sufficient knowledge about the colony and establishing "control of the body" of the colonial people to dominate them. Medication has additionally been seen as an instrument of 'social control' in the states, giving methods for knowing the indigenous populace and reasonings for social isolation. Through several instances, it was clear to the British ruler that Western medicine could rule the body of the colonial people.⁴² Public health policies have been viewed as powerful tools to control indigenous peoples. These appeared as a specific and debasing medical intervention, segregation and confinement, and control of India's anti-British movement; as a result of this policy, city planning or public health policy was adopted in an organized manner. However, the biggest problem was the past imperfections of the infrastructure. New medical institutions emerged in the tropical colonies to establish Western medicine as only scientific medication.

In his book, *Public Health in British India: Anglo-Indian Preventive Medicine 1859-1914* in 1994. Mark Harrison explained the areas of preventive medicine, public health, and theoretical, professional, and institutional medical system development through the material and academic research on medicine and public health in colonial India.⁴³ Harrison showed that the medical system did not become part of imperialism even in the last half of the nineteenth century. But as the political background changed, so did the importance of Western medicine to the British rulers. He focused on the conflict between the imperialist rulers centered on the adoption of public health policy. Harrison explained the differences between Europeans and Indians over public health policy. Historian Mark has shown Colonial Science to be exploitative and mechanical and maintain control over the common mass.

David Arnold opined differently that British and American physicians had written the history of medicine before the traditional historians. In 1925, Principal of the London School of Hygiene and Tropical Medicine, Andrew Balfour, mentioned that- ‘quite wrong to speak of Patrick Manson as the “Father of Tropical Medicine.” He was the Father, most undoubtedly, of modern Tropical Medicine.⁴⁴ Sir John Pringle, an 18th-century Army physician; James Lind, a naval physician; Hillary & Mosely, a British medical writer from the West Indies; Benjamin Rush, an American from Philadelphia; and Annesley, Ballingall, Twining - physicians from the nineteenth-century East India Company wrote the medical history of India. However, at that time, their research and work did not gain much importance in the intellectual circles of academia and the political level.⁴⁵ However, further historical research is needed to discover these rarely known writers of tropical medicine. Historian David Arnold has done an extensive discussion on this topic. David Arnold, in his book *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India*,⁴⁶ scrutinized the expansion of the colonial medical system in India, its political significance, and the use of the Western medical procedure by the British rulers as a tool to stabilize the foundations of the empire. Arnold highlights that the colonizers controlled Indian’s bodies in the face of three epidemics (Cholera, Plague, malaria), and the Indian response is all discussed here. He has taken the period from 1800 to 1914 as the main period of his discussion.

In the 21st century, many historians have started evaluating the political history behind eliminating the Indigenous medical system. The conflict between India's existing indigenous medical practice and Western medicine and its dominance over indigenous medicine has been described in Poonam Bala’s book, *Imperialism and Medicine in Bengal: A Socio-Historical Perspective*.⁴⁷ She narrates the history of Ayurveda and Unani medicine's popularity in India's ancient history and the economic patronage of these practitioners by wealthy Indians. She showed how Western medicine's growing popularity and the British Government's

gloomy attitude towards indigenous medicine gradually marginalized India's medical system. The colonial state followed a discriminatory policy towards Indian medicine, and the general lack of coordinated and comprehensive state policy harmed the professionalization of medicine in Bengal. Kabita Roy worked on public health in colonial Bengal from 1921 to 1947. She pointed out the failure of the colonial state to evolve a comprehensive public health policy.⁴⁸

Turning away from the state-centric study of medicine to the pluralism of medical knowledge can be found in the Series of articles in *The Social History of Health and Medicine in Colonial India* (2011), edited by Mark Harrison and Biswamoy Pati.⁴⁹ The reports of the book show the distinctions in the spread of the indigenous clinical framework and Western clinical framework from district to area. They have discussed the historical backdrop of clinical practice in frontier India changing after some time. This book gives an overview of the overall public health policy of Calcutta. Deepak Kumar strongly argues that the exchange between Western and indigenous medicine is confined to adopting certain medicinal drugs. The emergence of 'Daktari medicine in rural Bengal was identified as the 'provincialization and vernacularization of Western medicine' by Projit Bihari Mukherji.⁵⁰

Several historians and researchers have recently undertaken regional studies on medical history writing. Shamiksha Shehrawat's book *Colonial Medical Care in North India: Gender, State, and Society, c.1840-1920*, is an excellent example of a regional study in the history of medicine, published in 2013. She has shown that medical education, regional medicine, and hospital building were all about training the British officials to make Indians self-governing.⁵¹ According to her, even after independence, the Indian Government should have made arrangements to treat poor people in exchange for very little money. The survey notes a change in the practice of medical history in India from Shehrawat's writings. Public health and epidemics, or the British Government's policy on health policy, have begun to take on a

new style of history. The investigation of Madhuri Sharma on Benaras is another fine example of finding a regional tradition of medical practices in colonial India.⁵² She explored an exciting area of indigenous and Western medicine commercialization, the print media culture, and the consumer's response. In two volumes, Mridula Ramanna's work on the Bombay presidency from 1845 to 1930 saw Western medicine and public health institutionalization through the British govt. And individual philanthropists. Ramanna argued that the reluctant attitudes of the British government suddenly changed during the epidemics. She minutely discussed medical practitioners' role in spreading Western medicine in Bombay. According to Ramanna, 'Whatever limited progress Western medicine made was due to these Western-educated (Indian) doctors.'⁵³ Ramanna also discussed the hospitalization process in the Bombay Presidency from 1900 to the 1920s.

Recently, Prof. Srilata Chatterjee illuminated work on Bengal's medical institutes in her book, *Western Medicine and Colonial Society: Hospitals of Calcutta, C.1757-1860*, published in 2016. The book explores the history of the hospitals built in Calcutta under British rule.⁵⁴ She showed how the British-initiated hospital system was not run solely on government service or missionary humanitarian assistance ideals. The Western medical system was used as part of the imperialist policy to expand the empire in the tropics. Again, for Indians, these medical centers were new open workplaces, which, if associated with them, would increase both fame and prestige. She described the history of establishing hospitals like Presidency General Hospital, Police Hospital, Calcutta Medical College, Native Medical Association, regional hospitals, and psychiatric hospitals. She discussed the institutional history of Colonial Calcutta. She emphasized medical institutions' role in our society by following the Social and Intellectual method of history writing.

Historians like Deepak Kumar, Mridula Ramanna, and Pratik Chakraborty have done path-breaking work on Western science and medicine in colonial India. Mridula Ramannna and

Deepak Kumar have mentioned the peaceful co-existence of Indian and Western drugs in the early nineteenth century.⁵⁵ On the other hand, historians like Anil Kumar criticized the colonial state's caste system and its link with Brahmins in India's hospital system.⁵⁶ In the 20th century, Western medical science replaced the indigenous medical system. Vaidya and hakims were started calling as quacks. With time, the Western medical system became vulnerable in Indian society.

One can reasonably inquire whether a shared sense of identity existed in India before the concept of the nation-state came into being. Scholars like Benjamin Zachariah, Manu Goswami, and others have moved away from the center of attention. They have argued against the idea that nationalism is an "idea". Their work has given the past of nationalism in South Asia a new sense of reality. They have brought into focus the material and practical actions and moves that have made the (postcolonial) country a set of material facts. Such a materialist theory also fits with the neo-materialism growing in the connected fields of scientific research and medical anthropology, which remains connected to Medical History.

Why did the *daktars* display compassion for their fellow citizens before the emergence of an articulated sense of nationalism? Why did the *daktars* show sympathy for their fellow citizens before the emergence of a verbal understanding of nationalism? There is no way to determine with certainty whether all of them would have had nationalist sentiments, although it is highly probable that some of them would have. During the plague, Indian *daktars* remained sympathetic to their countrymen, and their intellectual and practical responses to the surrounding events amply reflected this sympathy. Rajat Kanta Ray referred to this as the 'felt community'. Ray argues that this 'felt community' existed before the nation and concurrently with it.⁵⁷ Indeed, the *daktars* experienced racial hostility, even when employed by the government medical services, which would have reinforced this 'felt' attachment with

the greater society. Science becomes the battlefield where the community's objectives encounter its backwardness, as Ashis Nandy has pointed out, emphasizing the social aspect of emotions and their relevance to the scientific effort. Scientific works derived from feeling can be traced to the social and cultural resources people use to form their identities and learn how to deal with life difficulties.

The politics of Western medicine in India have always been analyzed in the context of British colonial politics. Attempts have been made to discover the nature of the clash between indigenous and Western medical systems. In this case, the idea of "us" and "them" is always highlighted. However, the effect of Indian nationalist politics on the medical community of Bengal has not received much attention from the historian. The expanding imperial nature of the British Empire contributed to the development of nationalist politics in India. As racism increased in British authority, they chose Western medicine to legitimize their rule and demonstrate their superiority. That triggered nationalistic feelings for Indian doctors. Western medicine expanded its influence in India and tried to push out other medical specialties. This study examines the Indianization of the recruitment process in the medical institutions of Calcutta, the impact of politics on the fusion of traditional treatment with Western procedures, the sense of nationalism among Bengali physicians, the effects of British imperialist policies and Indian nationalist politics on medicine, etc. These gaps can be addressed by conducting further research on these issues.

The present study examined and tried to explain issues like - India's transitional history, from choosing the Indigenous to the Western medical system—the colonial expression in the hospitals of then Calcutta, and the reactions of the Indian doctors. Whether Indian doctors were motivated by the Indian nationalist movement and how they survived in power politics, in this thesis, the political impact on the Imperial institutions and the Indianisation process

during the first half of the 20th century will be thoroughly discussed. This analysis of medical history can change the existing outlook on the social history of colonial Calcutta.

2. Western Medicine in Colonial India -

After The Battle of Plassy in 1757, the British built up a domain by ousting the business intentions of their appearance in India. The British needed to transform Calcutta into an army installation by redesigning it. The post-Plassy years were marked by the increasing military and political power of the British, which was reflected in the renovation of the white town.⁵⁸ However, the warm atmosphere of the tropics debilitated the British physically and mentally.⁵⁹ Undesirable living in army camps, constant war tension, living in new places away from relatives, and simultaneously, insignificant information about tropical sicknesses expanded the odds of getting the ailment.⁶⁰ The absence of a sufficient clinical framework raised the passing pace of Europeans. British slowly understood the necessity of institutionalizing the medical system in the presidencies of British India.

In the expressions of David Arnold, the tropics were a Western method of characterizing something socially and politically outsider, just as naturally unmistakable, from Europe and different pieces of the temperate zone.⁶¹ The tropics were a peril zone for Europeans with obscure maladies. The Western clinical framework is expected to set up power over the atmosphere and illness in this tropical locale to extend the domain in this tropical region. Initiatives to institutionalize the medical system were observed in the British presidencies from the first half of the nineteenth century. The British Officers began to be concerned with social change, public health, the general prosperity of India, and education. For the improvement of society, various Indian reformers were busy with society's progression with an accommodating mindset with the British govt. In the early nineteenth century, British medical officers prescribed Indigenous drugs for tropical diseases. Mridula Ramanna

mentioned that “hospital budgets also had an allocation for bazaar medicine.”⁶² Indian nationalists urged Indians to study Western medicine as an alternative branch of medicine and asked *Hakims* and *Vaidyas* to incorporate Western medicine within indigenous drugs.⁶³ C. A. Bayly opined that Western medicine could not establish hegemony on the Indian mind in the nineteenth century.⁶⁴ Bengali generally opted for Ayurveda and Unani medical care for their women, as *vaidya* and *hakims* used to treat without touching. In rural Bengal, people choose Indigenous medicine because it is cheap and easy to access type. On the contrary, Western medicine was costly. Western medical hospitals and dispensaries were established in the presidencies mainly for easy accessibility. Indian doctors trained in Western medicine were vital in promoting Western medicine in rural Bengal, where Western medical institutions were absent.⁶⁵

With the advancement of the Western education system, the Western medical system transformed into a choice rather than the indigenous clinical structure for Indians. Not only did the establishment of hospitals bring open entryways for Europeans, but it also gave new-Indian medical practitioners, associates, or local service providers various opportunities. That opened up new openings for Indians from all classes and creeds.

Western medicine moved away from traditional medicine by passing the Medical Act at the end of the nineteenth century. Indian Medical Service declared *Vaidya* and *Hakim*'s remedies as unimpressive. They dismissed Indian medicine as worthless and unscientific. By calling the Indian medical system inferior, the British wanted to prove the superiority of the Western medical system and their superiority over the Indians. With the introduction of the licensing system in medicine, in a way, Ayurveda and Unani became illegal, and the dominance of Western medicine was established.

How the Indians were reluctant to grasp the Western medical practice is clear from the reports in various newspapers of the conflict between the Ayurvedic-Unani clinical system and the Western medical system. However, The Indians understood the significance of these Western medical institutes. Among the upper-class Indians, there was an enthusiasm for helping the Europeans assemble these emergency clinics and clinical establishments.⁶⁶ The British Government also wanted to make Europeans a symbol of modernity by establishing multiple schools and hospitals for political purposes to prolong the British Empire.

As the British imperialist policy changed in the last half of the nineteenth century, the British used the Western medical system to dominate the people in Bengal's rural areas. However, in this case, it should be noted that although Western medicine established its dominance in urban areas, the prevalence of the indigenous medical system was more at the rural level.⁶⁷ Although the Government ran these dispensaries, the British Government aimed to spread Western medicine in rural areas.

2.1 The Need for Hospitals in Calcutta -

Initiatives to institutionalize the medical system were observed in the British presidencies from the nineteenth century's first half.⁶⁸ The *Presidency General Hospital* was built near Fort William⁶⁹ with the East India Company's financial support and with the financial support of European army officers and Europeans living in India, considering Calcutta as the British's main base and the British army's position at Fort William.⁷⁰ After Plassy, the military expeditions increased the need for organized medical care for the army.⁷¹ Dumdum Hospital vaccinated the army and their family members against various diseases. Between 1805 and 1833, several lock hospitals were built in army barracks to treat sexually transmitted infections by the military and Europeans. However, during the war in Burma in 1830, locked hospitals were closed to reduce costs. Until the nineteenth century, the British restricted the

medical system to high-ranking European officials and soldiers.⁷² In most hospitals, local people were employed as cooks or servants.

With the expansion of Western education, Western medicine became an alternative to the indigenous medical system for Indians, a symbol of modernity and the reformation of ancient medical errors. The need to institutionalize Western medicine was observed to expand Western medicine among the Indians. Not only did establishing a hospital bring opportunities for Europeans, but it also provided many opportunities for neo-Indian doctors, local servants, or service providers.

Among the Indians, only *Vaidyas* used to take medicine as a profession. The advent of Western medicine made the right to medical education merit-based. This opened up new jobs for Indians of all classes and castes. The Indians realized the importance of Western medicine and education. Among the upper-middle-class Indians, there was an interest in helping the Europeans build these hospitals and medical institutions. As a result, the financial support of the Indians for the construction of several hospitals was remarkable. The government was often not interested in investing money in medical institutions. At that time, medical institutions were run with the financial support of both Indian and European individuals.

From the end of the eighteenth century, dispensaries were established for the local people in different parts of Bengal. However, these hospitals were not enough to cure such a large number of people in Calcutta. The *Native Hospital* (1892) was the first hospital built to treat Indians with the initiative and financial support of European physicians and the elite and middle class's expense in Calcutta.⁷³ The police hospital was redesigned in 1821 and treated poor Indians and Europeans. In 1835, three wards for men, Christian, Hindu, and Mohammedan, were opened here, and a general control was set up to treat women and children.⁷⁴ The hospital was initially built for street people suffering from diseases. The

provision of hospitals for ordinary people attracted Indians to Western medicine. However, the vast population in Calcutta created a need for local doctors in hospitals to treat patients. As a result, in the nineteenth century, Western medical education was institutionalized in Calcutta, and the domestic medical system gradually became marginalized.

In 1857, a large number of British military troops landed in India. The British government wanted to rebuild Calcutta with modern buildings, town planning, hospitals, colleges, etc., to provide adequate health care and medical care. The British government also wanted to make Europeans a symbol of modernity by establishing multiple schools and hospitals for political purposes to prolong the British Empire. As the importance of Calcutta increased, so did the population of the region. *Calcutta Medical College* became a modern hospital and medical and educational institution much needed to protect public health in the political situation.⁷⁵

The establishment of Calcutta Medical College on 26 January 1835 was an essential milestone in expanding Western medical education and institutionalizing Western medicine. It was initially developed only as an institution of medical education. In 1852, a hospital was built in connection with it, mainly for hand-to-hand medical education and for the medical facilities of the native people.⁷⁶ However, the hospital's high-ranking posts were reserved for white doctors. Indians were recruited to relatively less critical positions.⁷⁷ Racial treatment of European and Indian patients admitted to the hospital was also seen in the past.

2.2 Change in British Policy -

As the British imperialist policy changed in the last half of the nineteenth century, the British used the Western medical system to dominate Bengal's rural areas. As a result, more than one dispensary has been established at the regional and rural levels since the late nineteenth century. The dispensary was where medicines could be obtained at a low cost or sometimes for free.⁷⁸ However, in this case, it should be noted that although the dominance of Western

medicine was established in urban areas, the prevalence of the indigenous medical system was more at the rural level. The rural people Indianized the word 'Doctor' by addressing the dispensary pharmacists as "doctor babu." These dispensary doctors often followed the local medical system to cure the disease, which mixed the Western and indigenous medical systems.⁷⁹

In many cases, these doctors at the dispensary followed the local medical system to cure the disease. This led to a combination of Western medical techniques and indigenous medical systems. However, the government ran these dispensaries, and the British government aimed to spread Western medicine in rural areas.⁸⁰ Therefore, combining Western medicine with indigenous medicine was not easily possible in many cases.

2.3 Institutionalization of Tropical Medical Schools -

In the 1890s, the British government responded to the outbreak of tropical diseases in Europe's port areas. From 1897, several tropical medical centers were established in Liverpool, Britain, and London on government initiative. The Liverpool School of Tropical Diseases and Medical Parasitology was established in Liverpool in 1896, and Alfred Lewis Jones founded the Liverpool School of Tropical Medicine in 1899. Sir Patrick Manson, the father of Tropical Medicine in Britain, founded the London School of Tropical Medicine and Hygiene in 1899. Chamberlain, the colonial secretary of state, thought a well-planned policy was needed to make the British Empire permanent in India.⁸¹ The tropics' unknown diseases hindered the empire's expansion, and it was necessary to eliminate this problem through science. Although his policy was aimed at Africa and the West Indies, it also impacted India. As the death toll from cholera, tuberculosis, smallpox, plague, etc., in India increased in the 1890s, various problems in world politics arose, and criticism from other countries at the

International Health Conference resulted in adopting a well-planned Health Policy by the British Government.

Concerns about the dominance of European medicine in Central Asia also played an active role. As a result, several medical institutes and laboratories were established in India in the 1890s and 1900s on public and private initiatives. The *Indian Medical Service* (IMS) was established in 1898, and the medical field in India changed again.⁸² Through the entrance test, Indians could join IMS and various government hospitals and medical education institutes. The establishment of IMS provided ample opportunity for Indians to take up medical education as a profession. In 1900, the Bacteriological Department of the Government of India was established by IMS. *The Calcutta Medical Club* was established in 1908. The Clinical Research Association was started in a small room of this club- considered the first initiative of the private medical system in East India. In the 1900s, discussions began on the need for separate medical schools in India at various public and personal levels.⁸³ The *Calcutta School of Tropical Medicine* was established in 1914, and the *Carmicheal Hospital for Tropical Diseases* in 1918.⁸⁴ From the inception of all these medical institutions, the number of Indian physicians has increased comparatively from the earlier hospitals.⁸⁵ The process of Indianization of these medical institutions took place in different ways. With the increase in the number of Indian physicians in any medical institution, Indian physicians' dominance was gradually established. With India's independence, the number of Indians in all hospitals and medical institutions increased significantly.

The number of hospitals, laboratories, and medical education institutes set up in Calcutta, one of the essential steps of British rule to establish a permanent empire in India, gradually became Indianized under the influence of Indians with the change of time and politics. After 1947, the number of white doctors and staff working in some institutions was significantly less. By the 1950s, all the institutions had full Indian working professionals. The cycle of

Indianization occurred in the colonialist clinical establishments in various ways. With the expansion in the number of Indian doctors in the hospitals, Indian doctors' predominance progressively settled. Besides, with India's independence movement, the number of Indians in all hospitals and medical institutions increased significantly. The Indian domination of the Western medical system in colonial Calcutta, the Indian medical system's integration with the Western medical system, the Indianization of various terms in medicine, and the Indian nationalization within the imperialist institutions- all these happened in the last half of the nineteenth century.

3. The Impact of 'Constructive Imperialism' and 'Imperial Institutionalization' -

Joseph Chamberlain, then colonial Secretary of British supremacy, introduced his version of “constructive imperialism.” He said the empire’s resources would increase and contribute to the mass's well-being. He saw constructive imperialism as an opportunity for social betterment. He suggested medical intervention to ensure labor efficacy and the chance to open up tropical colonies' impenetrable and untrodden areas.⁸⁶ Constructive imperialism was presented through two principal measures- strictness in free trade in favor of imperial heed and a series of progressive plans to assist the colonies financially. One of the results of constructive imperialism was the establishment of imperial hospitals, like- the *London School of Tropical Medicine*, *Liverpool School of Tropical Medicine*, etc. These hospitals were founded to promote mercantile interests and investment in colonial commerce. If we see Constructive imperialism only as a political tool to control colonies, it will simplify this policy's economic importance. In the 19th century, Britain faced a commercial loss in international trade and could not cope with Germany and the USA. The financial problems, social problems, and war whipped up Chamberlain to introduce this new type of imperialism and the idea of imperial institutionalization as a part of it. Politically and economically, Calcutta was then the administrative and commercial capital of British India. British rulers

were concerned about their men's health and took measures to rebuild the city. This thesis focuses on some issues, like- What was the impact of 'constructive imperialism' and 'imperial institutionalization' on the multiple militaries and civilian hospitals built in Calcutta as part of the European health policy. Were these hospitals the fruit of the British imperial agenda, or were these Western medical institutions established out of natural necessity?

Another query needs to find its answer- What was the reason for Indians' interest in participating in Western medicine? In what context did Indians outside the medical class in Calcutta begin to take up Western medicine as a profession? Did they have to face any problems while participating? What was the attitude of Europeans toward Indians? Did they have to face the problem of racism? European venture into the tropical grounds brought a concentration of new hypotheses of racial and social differentiation. A disposition of superiority supplanted the early explorers' optimism about India as commercial association prompted regional amplification and political power over the subcontinent. The British temperament changed in the late eighteenth century when colonization and extended stay remained inevitable. The medico-climatic discussion started from this time, which credited the Europeans' dynamism and progress and their racial prevalence over the moderate zone's more relaxed atmosphere. The urgency of sanitization policy soon questioned this medico-climatic discussion.

The idea of cleanliness and sanitization was introduced in Calcutta during the nineteenth century, and Indian Medical Service doctors played a vital role in its implementation in the municipal areas. This new pattern started scrutinizing Indian social conduct and social propensities as ruining and causing diseases by introducing White's Men Burden theory, which got its ground for execution. At that time, a "new cosmopolitan living style was touching the city".⁸⁷ Calcutta society was divided into three major social classifications- *abhijata bhadralok* (wealthy zamindari class or aristocrats), *abhijata* (the men whose public

experience with European style was making them change their way of life within their domestic sphere), *madhyabitta grihastha* (Educated middle class with modern traditional values, rich but not aristocrats), and *working-class* (lower section of the society). The first three classes were directly involved with this social change and played a significant role in the execution of British Health policy as they were directly or indirectly influenced by Western science and medicine's usefulness. Western-educated native gentlemen class aggrandized the popularity of Western medicine among the native people. The developing monetary requirements of provincial governments and health policy and sanitary measures made the budgetary and material help given by the wealthy *bhadralok* class. After the foundation of medical education in colonial India's three administration towns, certificate holders of medical schools were appraised as qualified for the civil sub-surgeon post under the 1849 guidelines. Western-educated Indian native doctors started in class III on a salary of monthly Rs. 100. Till the 1850s, it was not that lucrative to attract the Indian-educated society. Many qualified doctors were employed in dispensaries in rural Bengal; positions were not given according to their qualifications. This thesis will investigate Indian doctors' role in promoting Western medicine in Colonial Calcutta and workplace politics, which they had faced in their workplace.

3.1 Indian Nationalism and Health Politics -

Another critical historical phenomenon of 19th-century Calcutta was nationalism. Nationalism became a major political force; in the nineteenth century, Calcutta became the cradle of the Indian nationalist movement. According to Partha Chatterjee, the anti-British nationalist movement created its sphere of ascendancy within colonial society before its political battle by dividing the world into- the material and spiritual domains. The material domain is the “outside” world, where Western science and technology proved their supremacy. The “inner” domain, which was already sovereign, bears the cultural and

traditional identity, where early nationalists refused to allow the colonial power to intervene. The Bilingual nationalist leaders reformulated this inner domain in a modern way through “...‘print-capitalism,’ which provides the new institutional space for the development of the modern ‘national language’.”⁸⁸ He denied the prevailing theory of West-crafted nationalism theory. He emphasized the role of the inner world of an Indian nationalist. Sekhar Bandyopadhyay also stated that a nation is a “collective mental construct”.⁸⁹

However, C. A. Bayly points out that Indian nationalism was not derived from the West through Western education but emerged from traditional patriotism of indigenous ethics.⁹⁰ The history of nationalism is generally discussed in its political contest with the colonial power of the outside domain. In the early days of nationalism, Indians attempted to overcome the colonized middle class's subordination, subjection, and subservience to challenge the colonial differences in all aspects of the state domain. Apart from this direct political confrontation, there was collateral inner domain, where mental conflict declared war against colonial rule discrimination. If we concentrate on the history of medicine, we will find that Indian doctors protested against British rule in various ways. Maybe they were not always part of the direct political agitation, but they fought their battle differently. This thesis will try to find out how much the Indian nationalist movement affected the medical system at that time. What was the reaction of Indians to the hospitals built with the British government's financial support in the context of the freedom struggle?

Inspired by the patriotic spirit, many Indians tried to present the traditional indigenous culture, civilization, science, and medicine to undermine the notion of the superiority of Western civilization. In this case, another vital topic should be discussed to understand the role of nationalism in the imperial hospitals' Indianization process. Some Indian doctors tried to prove indigenous medicine's excellence, even by working within the imperialist hospitals.

Some of them established institutions for the Indians by the Indians to demonstrate the brilliance and merit of Indian doctors and scientists.⁹¹

The politics of Western medicine in India have always been analyzed in the context of British colonial politics. Attempts have been made to discover the nature of the clash between indigenous and Western medical systems. In this case, the idea of "us" and "them" is always highlighted. However, the effect of Indian nationalist politics on the medical community of Bengal has not received much attention from the historian. The expanding imperial nature of the British Empire contributed to the development of nationalist politics in India. As racism increased in British authority, they chose Western medicine to legitimize their rule and demonstrate their superiority. That triggered nationalistic feelings for Indian doctors. Western medicine expanded its influence in India and tried to push out other medical specialties. This study examines the Indianization of the recruitment process in the medical institutions of Calcutta, the impact of politics on the fusion of traditional treatment with Western procedures, the sense of nationalism among Bengali physicians, the effects of British imperialist policies and Indian nationalist politics on medicine, etc. These gaps can be addressed by conducting further research on these issues. The period selected for this investigation is between 1835 and 1947. The Indian Education Act of 1935 established the foundation for India's modern educational system. India's independence in 1947, which concluded the Indianization of imperial institutions, is the primary cause for choosing these periods.

This study will discuss the history of the gradual Indianisation of hospitals and laboratories of colonial Calcutta. It is essential to note the contribution of Indian doctors in this case. Moreover, the paramount question is: How did the indigenous and Western medical systems amalgamate? If these questions are answered, the history of medical research from the first half of the nineteenth century to the second half of the twentieth century will provide crucial

historical data on the arrival of Western medicine in India and its socio-political history. This study will help understand the enclave nature of state policy, which will show the European concern for public health in British India and the Indian doctors' reaction.

4. Chapter Discussion -

The present study selected the period between 1835 and 1947 for investigating the link between nationalist politics on the colonial medical field. The main reason for choosing the year 1935 as the starting period of the study is the Indian Education Act of 1935, which established the foundation for India's modern educational system in India. India's independence in 1947, declared the final step in the Indianization process of imperial institutions, is the primary cause for choosing this time frame. The introductory chapter highlights the specific political, geographical, and climatic factors, diseases, and the history of establishing a different hospital in Bengal. It also highlights this place's social, economic, and cultural characteristics. This chapter elaborates on the historiographical background of British Bengal's hospital system and its Indianization process.

The First chapter is written to give a more extensive comprehension of the medical system from the ancient period to the modern period of India, and this also recounts the advent of the British in India and their early reaction to the Oriental medical system. In this chapter, we have focused on the changing perspective of the British toward indigenous medicine, and along with that, we have discussed the role of missionaries in spreading Western medicine in India. Health and medicine have always been integral to Indian society since the ancient era. During the Indian colonial period, there continued to be a clear divide between British healing and other indigenous healing methods. As the Western medical system developed in certainty and a political situation, it liberated itself from the humoral pathology that had before kept it in contact with the Ayurvedic and Yunani medical practices, assumed as their

liability for Indian people's health just as European people's health and well-being. However, in the first half of the nineteenth century, the British altered their assimilationist stance and declared it risky to rely on indigenous physicians who did not know Western medicine.⁹² A new period of westernization of the medical system was initiated, and next on this path was the foundation of imperial medical institutions.

This reveals the political objectives of the British government. They tactfully intended to make Indians dependent on Western medicine. The concealed intention was to diminish the reputation of indigenous practitioners by labeling them as oblivious, foolish, and quacks, which was deliberately propagated.⁹³ This new Western therapeutic paradigm failed to attract Indians' immediate interest. It might be characterized by their business mindset, which constantly sought to build a monopoly in the medical market to maximize profit. This may explain whether the British eliminated Indian medical practice because it was superstitiously unscientific or because monetary considerations encouraged them. However, through numerous legislations and significant localization and institutionalization of Western medical systems, the British forced Western medication on Indians.

The Second chapter focuses on issues like - Why the British administration declared the indigenous medical system and any other alternative branch of medicine unscientific. How did Western medicine in nineteenth-century India establish its superiority over other alternative branches of medicine? How did Homeopathy find its ground in Bengal while facing tremendous rivalry from the “allopathy” medicine? In this present study, we have investigated the formative years of Western medicine in India, the idea of writing a manual on common diseases of India, and its possible easiest treatment of that time. The response of indigenous medical practitioners towards Western medicine and how Indian traditional

physicians tried to modernize the traditional medical system has thoroughly been discussed here.

The "culture of plural medical systems" is heavily explored in several articles, but the political dimension of it is not addressed. Here, we have found a tolerant, permissive, pluralistic nature of the medical system in the early years of colonial India. However, things altered due to shifts in the balance of power between Indians and Europeans and the rise of European medicine in the 19th century. According to an early Government Resolution of 1821, the British authorities intended to "seek every practicable means of effecting the gradual diffusion of European knowledge" among Indians.⁹⁴ They marginalized the indigenous medical system to secure their superior position in the medicine market. On the other side, *Kavirajas, Hakeems* of Bengal, challenged the superiority of Western science. However, the constraints of Ayurvedic revivalism prevented more Indians from seeking Ayurvedic therapy since they attempted to westernize the Ayurvedic teaching system, causing it to lose its authenticity. At the same time, homeopathy, another branch of Western medicine, came into India, also marginalized by the British. However, with the hard work of eminent Bengali homeopathy doctors, homeopathy found its ground in Bengal and achieved acceptance from the Indian people and the British govt. The rivalry between these medical systems has been investigated in this chapter.

It cannot be denied that with the introduction of the Western medical system in India, all other alternative medical approaches raced to enhance their treatment procedures to meet the standard established by allopathy. Similarly, the British government was under internal and external pressure to offer health protection for European forces in similar situations. The acting Inspector General of Forests passed a memorandum on September 23, 1871, requesting approval to print and distribute to forest officers a manual containing instructions

for using common medicines and treating some of the most widespread diseases and for writing the *'Manual of Family Medicine of India'* Sergeant Major W. J. Moore won an award on October 31, 1872, from the British Government. With this book, using a “Medicine Chest” becomes essential to meet the deficit of inadequate medical infrastructure in remote areas. We can say that writing medical manuals and providing medicine chests were closely related to British imperial politics. This chest not only encouraged Europeans to explore the undiscovered region, but the introduction of Western medicine to the ordinary people also occurred with this.

A class of Indian physicians emerged who, after participating in formal Western medical education, disseminated Western medicine in various regions of India, thereby increasing its popularity. While sufficient evidence demonstrates that medical exploitation and corruption had long existed, the new institutional structures made medical corruption more rampant. Even the over-dominance of Western medicine and the conflict for survival in the market - corrupted indigenous medicine. The increase in the number of unscrupulous or corrupt physicians was slowly eroding the long-standing trust of the commoner in indigenous medicine.

The Third chapter discusses the government policies regarding medical education and the role of European officers, missionaries, and philanthropists; in what setting did indigenous reformers respond by attempting to improve the condition of women through educational and health reforms? What social effects did the growth of women's medical education have? While investigating these topics, we have found that the nature of Western medical education in India changed with the rise of Anglican ideology among the British authorities; it became more orthodox towards the Western medical system. After 1835, Western medicine was seen as a symbol of a superior civilization and a confirmation of the morality and validity of

colonial rule in India. In contrast, indigenous medical theories and practices were often disparaged as ignorant and barbaric.

The urgent demand for Native Doctors as dressers and helpers instigated the British authority to open the gate of Western medical education to the Indians. However, they had a shallow opinion of Indian intellectual capability. They used to call native dressers “Black doctors.”⁹⁵ In 1833, it was proposed to produce physicians with a higher level of training who would be designated as Sub-Assistant Surgeons and constitute the "Civil Sub-Medical Department" with a pay rise.

Thus, introducing Indian women into the medical profession resulted from several sociological processes the colonial authorities' educational and medical reform programs had set in motion. The late nineteenth and early twentieth century goals of women's education were discussed in the framework of the social reform movement. Therefore, the "modern" Indian woman was classified as educated enough to contribute to the greater body politic and "modest" sufficient to be unaggressive and not selfish, in contrast to the ultra-free Western or Westernized women who were greedy and shameless.

Christian missionaries played a significant role in the spread of women's medical education in India. The idea of teaching Indian women to become doctors did not come into being until 1870. At the official level, it was supported by some colonial officials.⁹⁶ In addition to offering medical assistance and educational opportunities, the secular group of medical women battled for the rights of Indian medical women and attempted to secure a salary and job structure for them. They created the *Association of Medical Women in India* (AMWI) to voice their complaints. Understandably, the efforts of Western medical women were influenced not just by their aspirations, class, and cultural allegiances but also by the social environment and the imperial framework they had to operate in. Additionally, they had to

constantly negotiate with two patriarchies— colonial and Indian—to achieve their goals. They occasionally dealt with hostility, ignorance, and discrimination from different sectors, including British administrators and locals. Edith Pechey was one of those European women who fought for Indian women's education and helped them pursue medical careers. Indian women undoubtedly benefited from the healthcare facilities, modern medicine, and medical expertise that Edith Pechey, Charlotte Ellaby, Elizabeth Bielby, and other medical women brought to the country.⁹⁷

A strong nationalistic consciousness focused on political concerns also emerged during the second half of the nineteenth century in India's history. The viceroy of India from 1880 until 1884, Lord Ripon, had a tolerant attitude towards Indians. Pandita Ramabai, a well-known social reformer, advocated for the rights of high-caste Hindu widows. She was one of several prominent Indians who spoke before the Hunter Education Commission. She agreed with the government's desire for Indian women to receive medical education and training and the notion of bringing in foreign medical professionals to help. Later, Lady Dufferin was inspired by what George Kittredge and Sorabji Shapurji Bengalee had done in a private capacity to bring female medical treatment and education to India on a much broader scale. Edward Balfour, the Surgeon General of Madras Presidency, and other British administrators, including W.S. Atkinson and A.W. Croft, both Directors of Public Instruction (D.P.I.) in Bengal, and Sir Rivers Thompson, the Lt. Governor of Bengal, supported female medical education and made it easier for women to enter the profession by pacifying the Medical Faculty in Calcutta.

From a political point of view, the British Government wanted to lessen the male domination of Indian society by influencing Indian women through Western science and medicine. “white” lady doctors were involved in the project of medical imperialism. In the eyes of the

administration, educating Indian medical professionals in Western medicine enhanced their perception as kind, paternal rulers who desired to have direct contact with the zenana.⁹⁸ However, their actual plan speaks of the political ambition of the British authority in colonial Bengal.

Indian men also supported women's medical education for mainly two reasons: one was to have an educated Victorian wife who could provide healthcare facilities to other women, and the second was "medical philanthropy," which served as a way to buy political favor with the colonial government. Swarnamoyee Devi of Cossimbazar, Peare Mohon Mukherjee, Jotindra Mohan Tagore, Maharaja of Darbhanga, Maharani of Belgachia, and many Bengali elites contributed to the cause of medical education of Indian men and women.

For Indian women, studying medicine was undoubtedly rewarding, given the range of employment opportunities. However, things were difficult for Indian women. They faced racial and gender discrimination in the medical profession. Jamini Sen experienced racial discrimination multiple times. Anandibai Joshi, Kadombini Ganguly, and Rukhmabai were early Indian medical women who maintained an Indian perspective, attire, and diet and cherished Indian culture. Their careers and activities proved that the orthodox Indian society's superstitious belief that Western education would render Indian women "mem sahib" was false. The *Women's Medical Service for India* in 1913 and the *Association of Medical Women in India* in 1907 were founded to advance the rights of Indian medical women.

We can see the mixed agendas, reactions, and different motives of the British government, Christian missionaries, and European doctors in the cause of women's medical education. Missionaries and White *mem sahibs* often used the term 'sisterhood' to portray their sympathy and closeness for poor Indian women.

In the Fourth chapter, the definition of race in the nineteenth century and how the British colonizers used racial theory to make their race superior and more modern than the weak Indians have been discussed. The racial inequality in the medical field and how the Western medical system became the "Colonial Medical" system are two significant themes of this chapter. The investigation of the lives of some eminent Indian doctors who worked within the colonial framework shows the experience of Indians who did not accept or were convinced by Western racial superiority. They accepted the Western medical system as an alternative branch of medicine.

The racial theory went against many of the ideas of the Enlightenment in Europe.⁹⁹ The establishment of British rule in India at the turn of the eighteenth century accentuated 'racial' distinctions by fostering the idea that Britons were fundamentally superior to their Indian subjects. If modern medicine is thought to have a "colonizing" relationship to the patient's body and society at large, then what was colonial about the colonization of the body? How can people and populations deal with, respond to, or fight this sort of authority, as any history of colonialism must undoubtedly consider the history of resistance to colonial power? These questions were evaluated in this chapter from different perspectives of historians.

A political philosophy known as liberalism was articulated in colonial Calcutta as a government of the biosocial¹⁰⁰ body that would be realized not only via coercive public health measures but also through regular and personal sanitary regulations. The fact that Bengali social reformers emphasized health awareness for the betterment of society does not mean that it was a plot or a strategy by the British government to turn Indians into collaborators of the British government. Through good sanitation habits, Indians also developed into responsible citizens. On the one hand, the British took advantage of Western medicine in political and economic ways that were alternately repressive and beneficial. On

the other, the British government's campaign to increase public health awareness had a positive impact on Indians' health. Interestingly, Bengalis were drawn to Western knowledge and adopted Western medicine as their profession but did not accept British racial superiority or turned into collaborators of Western power, although exceptional cases exist. Bengalis with advanced Western education found the Western medical system highly alluring professionally.

The Western medical system may be regarded as an imperialist instrument and a technique to show the racial superiority of the British. In that case, why the British permitted Indians to receive Western medical education may arise. It can be answered like this: firstly, there was a dearth of white physicians compared to the British need, so efforts were made to save costs by hiring Indian physicians and sub-assistants, as they were given lesser salaries than their European counterparts, which clearly shows the racial inequality in the imperial medical service. Secondly, high-caste Hindu soldiers in the British troops were not willing to have medicines from European doctors. Racial hatred is a multifaceted issue. Racism was present on both sides.

To understand the racial inequality in Indian medical services, this chapter has thoroughly examined the salary structure of Indian Medical Services.¹⁰¹ By evaluating the salary structure, it can be said that compared to Europeans, Indians had fewer opportunities in the medical profession, and their salaries were also lower. Their social standing was low, and they received low remuneration for government work and private practice. According to the British government, the quality of Indian doctors could never be equal to that of European doctors. In the 1920s, we would see Indian physicians working relentlessly to build medical institutions for Indians. They didn't want to rely on the British to establish their intellect and generate scope for independent study and recruiting. IMS was losing its glamour in the

1930s, after World War, and Indians got to fill the vacancies in medical institutions. From 1904 to 1913, Indians made up one-sixth of the IMS recruits. The change in the attitude of the British Govt towards these subordinate medical service providers also changed the perspective of the local people. These local subordinates spread Western medicine in rural India; the government valued their service. The Indian National Congress advocated for the Indianization of IMS in each annual conference between 1893- 1907. They raised their voice against the apartheid attitude of the British towards Indian medical licentiates

These studies of the racial disparities in British medical administration show how British policy-makers used racial supremacy and medicine to justify their control. Economic and racial forces formed the basis for establishing Western medicine in India in addition to political ones. Native Indians also adopted Western medicine for economic motives. While investigating the Indian experience in Western medical institutions, a question arises -how did they deal with the cultural gap between Indians and Europeans in their workplaces? Numerous names came up who worked in imperial medical institutions, such as Soorjo Coomar Goodeve Chuckerbutty, Tamiz Khan Bahadur, Ananda Charan Khastagir, Narendranath Dutta, Nabinchandra Dutta, Mahendralal Sarkar, B. N. Ghosh, Sir Kailash Bose, Ramnath Chopra, Shantilal Roy, Nihar Ranjan Gupta, Upendranath Brahmachari, Paritosh Roy, Uma Mukherjee, Nalini Choudhury, Sudhamoy Ghosh, Pritthish Choudhury, Radha Gobinda Kar, Nilratan Sarkar – a never-ending lists of Indian doctors. This chapter provides a comprehensive analysis of the political ideologies held by Soorjo Coomar Goodeve Chuckerbutty,¹⁰² Mahendralal Sarkar,¹⁰³ Kailash Chandra Bose, Nilratan Sarkar, Ramnath Chopra, and Shantilal Roy. They have made significant contributions to the area of medical science during the colonial period in India.

On the problematic situation of the Great Mutiny of 1857, Soorjo Coomar Goodeve Chuckerbutty advocated for native medical education to the British government. He shows that the medical college's two Indian students or physicians participated in the 1857 Great Revolt. From this point on, we can observe the emergence of a nationalistic zeal among Indians. The association of graduate doctor revolutionaries with the “First War of Independence” indicates the absolute acceptance of the event. This fact is sensational because it is stated in an article by a senior I.M.S officer and officially says that the war of 1857 was not just a mutiny of sepoys. It also implies that some forgotten Indian Freedom fighters gave up a comfortable life and career to join the rebel army during the War of 1857.

The notion of nationalism in Mahendralal Dutta encouraged him to do something for Indians. Sircar had seen the *Indian Association for the Cultivation of Science* as a vehicle to spread scientific notions to modernize India. Sir Kailas Nath Bose disregarded diplomatic protocol and the fictions of politics, neither of which he ever engaged in. However, he worked for the development of Indian Medical Science. He collected funds for establishing numerous medical institutions and worked relentlessly to improve medical education in India. The British respected him for his contribution to the medical world.¹⁰⁴ Bengali doctor Shantilal Roy served the British Indian Army in the Burma campaign of the British Empire during World War II as a military surgeon. In his book *Arakan Fronte*, Shantilal Roy briefly discussed the war history of the British and the Japanese forces that met in the mountainous region of the Arakan province in Burma in late 1943 and early 1944. His book described the racial discrimination within the military system of the British Indian Army. He never considered himself a “slave” of the British government. He expressed love and gratitude for his country and respect for INA and Subhash Chandra Bose.¹⁰⁵ Dr. R. N. Chopra was a Major in the IMS when he started working as a professor at the school in 1921. He had a remarkable career under the British Rule. However, Col. Chopra's continuous interest in indigenous

medicines and the Indian medical systems kept him busy promoting them.¹⁰⁶ This shows how Ramnath Chopra contributed his life to convince the British authorities to accept the importance and validity of the Indigenous medical system. Perhaps Ramnath Chopra was influenced by the Indian nationalist movement and politics. Dr. Nilratan Sarkar was directly linked with the constructive Swadeshi Movement of Bengal. Tagore influenced him to invest money in different Swadeshi industrial projects.¹⁰⁷

Indians who chose Western medicine over Indigenous traditional medicine did not endorse Western imperialism. They also suffered racial prejudice at employment. However, Indian subordinates gained the respect they deserved in the medical community and became an integral part of the Western medical system over time. It is evident that perhaps they were influenced by Western culture and science; they adopted Western clothes, language, and habits for better living, but their minds were never colonized; instead, they were modernized with Western scientific knowledge.

Conclusion -

Through these chapters, this study emphasized the nationalistic feelings and the sense of oneness for the fellow countrymen of Indian doctors in imperial institutions. The subordinate medical personnel in Bengal experienced tangible implications of the racially biased British autocracy in the form of lower salaries, fewer prospects for growth, etc. Despite repeated requests, it took till the first half of the twentieth century for their demands for improved service conditions to be granted. Even the most successful and well-respected doctors showed empathy for their fellow people. This study interprets the history of Indian medicine from a nationalist perspective of Indian doctors. It highlighted the conflict between Eastern and Western medical systems and placed more emphasis on the reactions of Indian doctors working in racist settings.

Notes and References-

¹ John V. Pickstone, *Medicine and Industrial Society: A History of Hospital Development in Manchester and its Region, 1752-1946*, Manchester: Manchester University Press, 1985, pp. 6-7. Pickstone argued, 'The formal and informal structures of hospitals...were related to the economic, social and political structures of the cities towns or village that created them.'

² Charles R. King, "The Historiography of Medical History: From Great Men to Archaeology", *Bulletin of New York Academy of Medicine*, By William D. Sharpe and Sylvan Levey, Eds., vol. 67, no. 5, New York: New York Academy of Medicine, 1991. pp. 408-10.

³ *Ibid.*, p. 415.

⁴ William Farr, "History of the Medical profession and Its Influence on Public Health in England", in *British Medical Almanac*, London, 1839, p. 13.

⁵ George Rosen, "A Theory of Medical Historiography", *Bulletin of the History of Medicine*. vol. 8, US: Johns Hopkins University Press, 5 May 1940, pp. 655-665.

⁶ J. Burckhardt, *Reflections on History*. Indianapolis: Liberty Classics, 1979, p. 277.

⁷ F.H. Garrison, *An Introduction to the History of Medicine*. Philadelphia: Saunders, 1914, p. 9.

⁸ *Ibid.*, P. 13.

⁹ H. E. Sigerist, *Civilization and Disease*, Ithaca: Cornell University Press, 1944. P. 5.

¹⁰ Garrison, F.H., op. cit.,p.7.

¹¹ G. Iggers, *The German Conception of History: The National Tradition of Historical Thought from Herder to the Present*, Rev. Ed. Middleton, N.Y.: Wesleyan, 1983, p. 5.

¹² L. von Ranke, *The Theory and Practice of History*. Indianapolis: Bobbs-Merrill, 1973, p. 30.

¹³ O. Temkin, *The Usefulness of Medical History for Medicine. In: The Double Face of Janus and Other Essays in the History of Medicine*. Baltimore: Johns Hopkins University Press, 1977, p. 80.

¹⁴ O. Temkin, "History and prophecy: Meditations in a medical library". *Bulletin of History of Medicine*, Vol. 49, US: Johns Hopkins University Press, 1975, P. 313

See More: Sherwin B. Nuland, reply by Richard Horton, *The Fool of Pest': An Exchange*, N.Y: *The New York Review*, March 25, 2004 ISSUE. <https://www.nybooks.com/articles/2004/03/25/the-fool-of-pest-an-exchange/>, February 2020.

¹⁵ B. Bailyn, "The challenge of modern historiography". *The American Historical Review*, U.S., American Historical Association, vol. 87, Issue 5, 1982.

¹⁶ H.E. Barnes, *The New History and the Social Studies*. New York: Century, 1925, p. 3.

¹⁷ E.H. Ackerknecht, "A plea for a "behaviorist" approach in writing the history of medicine", *Journal of History of Medicine*, vol. 22, London: Oxford University Press, 1967, p. 212.

¹⁸ S.E.D. Shortt, "Clinical practice and the social history of medicine: A theoretical accord", *Bulletin of History of Medicine*, Vol. 55, US: Johns Hopkins University Press, 1981, p. 540.

-
- ¹⁹ W. Farr, op. cit., p. 13.
- ²⁰ F. Marti-Ibanez, *Introduction to Henry E. Sigerist: On the History of Medicine*, New York: MD Publications, 1960, p. xvii.
- ²¹ H.E. Sigerist, *Man and Medicine*, New York: Norton, 1932, p. ix.
- ²² F. Marti-Ibanez, op. cit., p. xvii.
- ²³ H. E. Sigerist, *American Medicine*. vol. 67, No. 5, September-October 1991, New York: Norton, 1934, pp. xiv, xviii.
- ²⁴ H. E. Sigerist, "History of Medicine", vol. I. *Primitive and Archaic Medicine*, New York: Oxford University Press, 1951, p. 15.
- ²⁵ H. E. Sigerist, *The Social History of Medicine*. In: *On the History of Medicine*. New York: M.D. Publication, 1960, p. 26.
- ²⁶ M. Neuburger, *History of Medicine*. London: Oxford, 1910, p. 1.
- ²⁷ G. Barraclough, *Main Trends in History*. New York: Holmes and Meier, 1979, P. 39.
- ²⁸ P. Majir-Poetzl, *Michael Foucault's Archaeology of Western Culture*. Chapel Hill: University of North Carolina Press, 1983, p. 138.
- ²⁹ Hayden. V. White, *Foucault decoded: Notes from underground*. In *History and Theory: Studies in the Philosophy of History*, Los Angeles: University of California, 12:23-4, 1973, P. 42.
- ³⁰ M. Foucault, *The Birth of the Clinic. An Archaeology of Medical Perception*, New York: Vintage, 1975, p. ix.
- ³¹ P. Rabinow, *The Foucault Reader*. New York: Pantheon, 1984, p. 54.
- ³² Daniel Headrick, *The Tools of Empire: Technology and European Imperialism in the Nineteenth Century*, Oxford: Oxford University Press, 1981.
- ³³ H. Harold Scott, *A History of Tropical Medicine: based on the Fitzpatrick lectures delivered before Royal College of Physicians of London, 1937-38*, Great Britain: Baltimore, William & Wilkins, 1939, pp. 1011-1090.
- ³⁴ Ed. David Arnold, *Warm Climates and Western Medicine, 1500-1900*, Amsterdam- Atlanta: Rodopi B. V, GA, 1996, pp. 1-14.
- ³⁵ Harrison, Mark., 'Science, and the British Empire,' *Chicago Journal, History of Science Society*, Vol. 96, No. 1, Chicago: The University Chicago Press, March 2005, pp. 56-63.
- ³⁶ George Basalla, "The Spread of Western Science", *Science*, vol. 156, U.S: American Association for the Advancement of Science, 05 May 1967, pp. 611-622.
- ³⁷ Dependency Theory was originated by- Paul Baran, Andre Gunder Frank, and Immanuel Wallerstein. See Baran, Paul., *The Political Economy of Growth*, Frank, Andre Gunder., 'The Development of Underdevelopment', *Monthly Review*, Immanuel Wallerstein, *The Modern World System*, 3 vols.

-
- ³⁸ Micheal Worboys, *Science, and British Colonial Imperialism, 1895-1940*, Boston Spa, British Library, Unpublished D.Phil Thesis, University of Sussex, 1997, pp. 249-63.
- ³⁹ Micheal Worboys, "The Emergence of Tropical Medicine: A Study in the Establishment of a Scientific Spaciality", in G. Lemaine, R. Macleod, M. Mulkay, and P. Weingart (eds), *Perspectives on the Emergence of Scientific Disciplines*, Paris: de Gruyter, Walter GmbH & Co, 1976. p. 76-98.
- ⁴⁰ Roy MacLeod, "On visiting the 'moving metropolis: Reflections on the Architecture of Imperial Science", Nathan Reingold and Marc Rothenberg (ed.), *Scientific Colonialism: A Cross-Cultural Comparison*, Washington.: Smithsonian Institution Press, 1987. pp. 217-249.
- ⁴¹ Mark Harrison, 'Science and the British Empire', *The History of Science and Society, ISIS*, Vol. 96, No. 1, University of Chicago: University of Chicago Press, 2005, p. 58.
- ⁴² Mark Harrison, *Public Health British India: Anglo-Indian Preventive Medicine 1859-1914*, Cambridge, Cambridge University Press, 1994, p. 3.
- ⁴³ *Ibid.*, p. 1.
- ⁴⁴ David Arnold (ed.), *Warm Climates and Western Medicine: The Emergence of Tropical Medicine 1500-1900*, Amsterdam: Brill Rodopi, 1996, p. 2.
- ⁴⁵ M. N. Pearson, 'First contacts between India and European Medical System: Goa in Sixteenth Century', ed, David Arnold, *Warm Climates and Western Medicine*, op. cit., pp. 20-34.
- ⁴⁶ David Arnold, *Colonizing the Body : State Medicine and Epidemic Disease in Nineteenth-Century India*, Berkely: University of California Press, 1993, p. 294.
- ⁴⁷ Poonam Bala, *Imperialism and Medicine in Bengal: A Socio-Historical Perspective*, New Delhi and London: Sage, 1991, pp. 10-58.
- ⁴⁸ Kabita Ray, *History of Public Health in Colonial Bengal 1921-1947*, Calcutta: K. P. Bagchi & Co., 1998.
- ⁴⁹ Biswamoy Pati, and Mark Harrison, *Social History of Health and Medicine in Colonial India*, Delhi: Primus Books, 2011.
- ⁵⁰ Projit Bihari Mukherji., *Nationalizing the Body: The Medical Market, print and Daktari Medicine*, London: Anthem Press, 2011.
- ⁵¹ Samiksha Sehrawat, *Colonial Medical Care in North India: Gender, State, and Society, c.1840-1920*, New Delhi: Oxford University Press, 2013
- ⁵² Madhuri Sharma, *Indigenous and Western Medicine in Colonial India*, New Delhi: Foundation Books, 2012.
- ⁵³ Mridula Ramanna, *Western Medicine and Public Health in Colonial Bombay, 1845-1895*, New Delhi: Orient Longman, 2002; - *Health care in Bombay Presidency, 1896-1930*, Delhi: Primus Books, 2012.
- ⁵⁴ Srilata Chatterjee, *Western Medicine, and Colonial Society: Hospitals of Calcutta, c.1757-1860*, Delhi: Primus Books, 2017, pp. 186-189.

-
- ⁵⁵ Deepak Kumar, "Medical Encounters" in British India, 1820-1920', *Economic and Political Weekly*, Vol. 32, Issue No.4, 25 January 1977, pp. 166-70. JSTOR, Web Link - www.jstor.org/stable/4405022. Accessed 29 Oct. 2020.
- ⁵⁶ Anil Kumar, *Medicine, and the Raj, British medical Policy in India 1835-1911*, New Delhi: Sage, 1998, p. 221.
- ⁵⁷ Rajat Kanta Ray, *Urban Roots of Indian Nationalism: Pressure groups and Conflict of Interests in Calcutta City Politics, 1875-1939*, Delhi: Vikas Publishing House, 1979.
- ⁵⁸ Srilata Chatterjee, op. cit., p. 71.
- ⁵⁹ David Arnold, (Ed.), *Warm Climates and Western Medicine, 1500-1900*, op. cit. p. 4.
- ⁶⁰ Ibid., p. 6.
- ⁶¹ Ibid., p. 6.
- ⁶² Mridula Ramanna, *Health care in Bombay Presidency, 1896-1930*, Delhi: primus Books, 2012, p. 157.
- ⁶³ Jambhekar, ed. *Memoirs and writings of Bal Gangadhar shastri Jambhekar, 1812-1846*, 3 vols., Poona: G. G. Kashikar, 1950, vol. 2., p. 119.
- ⁶⁴ C. A. Bayly, *Empire and Information: Intelligence Gathering and Communication*, Cambridge: Cambridge University Press, 1999, p. 282.
- ⁶⁵ Mridula Ramanna, op. cit., pp. 158-159.
- ⁶⁶ *Annual Report of the Medical College*, Calcutta: Medical College of Bengal, August 1860.
- ⁶⁷ Poonam.Bala, 'State Policy towards Indigenous Drugs in British Bengal', *Journal of the European Ayurvedic Society*, vol. 1, 1990, pp. 167-76.
- ⁶⁸ Partho Datta, *Planning the City: Urbanization and Reform in Calcutta c.1800-c.1940*, New Delhi: Tulika Books, 2012.
- ⁶⁹ Charles Lushington, *The History, Design and Present State of the Religious, Benevolent and Charitable Institution, Founded by the British in Calcutta and in Vincity*, Calcutta: Hindustanee Press, 1824, p. 291.
- ⁷⁰ Sharmistha Dey, *Marginal Europeans in Colonial India: 1860-1920*, Kolkata: Thema publication, 2008, p. 26.
- ⁷¹ *Letter from the Court of Directors to Madras*, 21 September 1785, cited in Dirom Gray Crawford, *A History of the Indian Medical Service 1600-1913*, California: W. Thacker, 1914 (digitized 2012), pp. 36-40.
- ⁷² M. Pears Doglus, "Soldiers, Surgeons and the Campaigns to combat sexual transmitted diseases in colonial India 1805- 1860", *Medical History*, 1998, pp. 137-160.
- ⁷³ Srilata Chatterjee, op. cit., pp. 145-150.
- ⁷⁴ Home Medical Board Proceedings, 10 September 1816, NAI.
- ⁷⁵ IOR/V/27/851/1, Rules and Regulations of the Medical College of Bengal, 1849. British Library

-
- ⁷⁶ *Centenary of the Calcutta Medical College, 1835-1934*, Calcutta: Medical College of Bengal, 1935, p. 36.
- ⁷⁷ Home Medical Board, 1858-9, 9 September to 2 May, *Letter from the Principle of the Medical College Calcutta to the Secretary Director General Medical Department*, (WBSA).
- ⁷⁸ *Manual of Rules for the Management of Charitable Hospitals and Dispensaries under the Government of Bengal, 1837*, NL.
- ⁷⁹ *Half Yearly report of the Government Charitable Dispensaries established in the Bengal and North Western Provinces*, year ending from 1 October 1851 to 31 March 1852, From Medical Board to the Governor general Marquis of Dalhousie dated 22 January 1853, p. 2.
- ⁸⁰ Srilata Chatterjee, op. cit., pp. 196-214
- ⁸¹ Helen J. Power, *Calcutta School of Tropical Medicine: Institutionalising Medical Research on the Periphery*, Cambridge Journal Medical History, Cambridge University Press, 1996, Apr. 40 (2) pp. 197-214.
- ⁸² Aparna Basu, "The Indian response to scientific and technical education in the colonial era, 1820-1920, in D Kumar (ed.), *Science and Empire: Essay in Indian context 1700-1947*, Delhi, Anamika Prakashan, 1991, pp. 126-138; Deepak Kuamar, 'Racial discrimination and science in nineteenth-century India', *Indian economic Social. History Review*, 1982, vol. 19, pp. 63-82.
- ⁸³ Helen J. Power, op. cit.
- ⁸⁴ Ibid.
- ⁸⁵ Harikishan Singh, "Ramnath Chopra (1882-197333) – A Visionary in Pharmaceutical Science", *Indian Journal of History of Science*, vol 43. Issue 2, 2008, pp. 231-264.
- ⁸⁶ S. B. Paul, "The Economic Significance of "Constructive Imperialism"", *The Journal of Economic History*, Vol 17, No. 2, London: Cambridge University Press on behalf of Economic History Association, June 1957, pp. 173-192.
- ⁸⁷ Srilata Chatterjee, op. cit., pp. 40-42.
- ⁸⁸ Sekhar Bandyopadhyay (ed.), *Nationalist Movement in India: A Reader*, New Delhi: Oxford University Press, 2009, p. 6.
- ⁸⁹ Ibid., p. xvi.
- ⁹⁰ Ibid., p. xxiii.
- ⁹¹ Mridula Saha, (ed.), *History of Indian Medicine; Based on the Vedic Literature: Satapatha Bramana*, Kolkata: The Asiatic Society, 2015.
- ⁹² *Transactions of Medical and Physical Society of Calcutta*, Calcutta: Thacker & Co., 1825. vol. 1.
- ⁹³ David Arnold, op. cit., pp. 55-60.

-
- ⁹⁴ Girindranath Mukhopadhyay, *History of Indian Medicine*, vol. 2, Calcutta: University of Calcutta Press 1926, p. 15.
- ⁹⁵ Projit Bihari Mukherji, *Nationalizing the Body: The Medical Market, Print, and Daktari Medicine*, London, New York, Delhi: Anthem Press, 2009, p. 3.
- ⁹⁶ P. Chatterjee, 'The Nationalists' Resolution of Women's Question,' in K. Sangari and S. Vaid (eds.), *Recasting Women: Essays in Colonial History*, Delhi: Kali for Women, 1989, pp. 233-253.
- ⁹⁷ Jharna Gourley, *Piety, Profession and Sisterhood: Medical Women and Female Medical Education in Nineteenth-Century India*, Kolkata: K. P. Bagchi & Company, 2017, pp. 239-240.
- ⁹⁸ Anne Witz, "Colonising Women': Female Medical Practice in Colonial India," 1880-1890" in Lawrence Conrad and Anne Hardy (eds.), *Women and Modern Medicine*, Amsterdam and Atlanta: Brill Rodopi, Volume Series 61, 2001, P. 23.
- ⁹⁹ C. A. Bayly, *Imperial Meridian: The British Empire and the World 1780-1830*, London: Longman, 1989, p. 109.
- ¹⁰⁰ Mark Harrison, *Climates and Constitutions: Health, Race, Environment and British Imperialism in India*, New Delhi: Oxford University Press, pp. 13-14.
- ¹⁰¹ C. H. Joubert de la Ferté, "The Indian Subordinate Medical Department," *The British Medical Journal*, Aug. 15, 1908, vol. 2, no. 2485, Aug. 15, 1908.
- ¹⁰² Soorjo Coomar Goodeve Chukkerbutty, *Popular Lecturers: Subjects of Indian Interest*, Calcutta: Thomas S. Smith, 1870.
- ¹⁰³ Chittabrata Palit, "Mahendra Lal Sircar, 1833-1904: The Quest for National Science." In *Science and Empire: Essays in Indian Context, 1700-1947*, ed. Deepak Kumar, Delhi: Anamika Prakashan, 1991, pp. 152-55.
- ¹⁰⁴ "Sir Kailas Chandra Bose, C.I.E.," *The British Medical Journal*, vol. 1, no. 3451, Feb. 26, 1927, p. 405.
- ¹⁰⁵ Shantilal Roy, *Arakan Fronte*, Kolkata: Bengal Publishers, 1946.
- ¹⁰⁶ "Need for Research in Indian Medical Science: Proposed Integration of Indigenous and Western Systems," Chopra Committee's Recommendations, *Indian Medical Gazette*, Vol. 84, 1949, pp. 107-110.
- ¹⁰⁷ B. C. Roy, "Nilratan Sarkar", *Modern Review*, 1976.

Chapter 1

Pre-Colonial Oriental Medicine and The British Perspective

India underwent a significant social, political, and economic transition from Mughal rule to British colonial rule during the Eighteenth and Nineteenth Centuries. During this transitional age, medicine played a pivotal part in achieving the imperial aims of the British colonizers and establishing Indian orientation for the British. Medicine was one of the primordial instruments creating an encounter between native peoples and Europeans. They used the Western medical system to legitimize British rule, and as a result, the field of conflict between the indigenous medical system and the Western Medical system was prepared. In social history, health and medicine are viewed as a social issue; instead, it stays confined to a person. Human well-being plays a significant part in social-historical progress.¹ In Understanding the transitional history of Colonial Bengal, medical history is often treated as a separate scholarly discourse. History of Medicine has developed a wide range of social research with its multilinear characteristic that allows us to investigate the extensive nature of Western medicine in colonial Bengal. To analyze the reason behind the initial denial of the native people towards Western medicine, a discussion on the pre-colonial medical system of Indians, on which indigenous people much more relied, is evident here. This chapter is written to give a more extensive comprehension of the medical system from the ancient period to the modern period of India, and this will also recount the advent of the British in India and their early reaction to the Oriental medical system.

1. Health and Healing Practice in Pre-Colonial India -

The state's responsibility is to develop a proper healthcare system for society's prosperity. Though this is a modern concept, ancient rulers of India took minimal proof of concrete health policy. It was seen all together with social well-being. In India, from ancient pieces, a few kinds of clinical frameworks were practiced, which were created and changed with the evolving

rulers. For example, in Ancient India, Ayurveda was the prominent one. Similarly, the Unani medicine framework became famous during the Medieval period. The antiquity and breadth of India's medical practice are known from the Vedic literature of *Atharva Veda*, *Shatapatha Brahmana*, and medical treaties like *Charak Samhita* and *Shrushuta Samhita*.² Rishi Bharadwaj and Dhanvantari are the most famous physical of the Vedic era. Three Samhitas- *Charaka*, *Sushruta*, and *Bhel* – formed the classical text of Indian medicine, from which we can get a clear picture of medical knowledge that prevailed in ancient India.³ The Vedic medication was firmly connected with the Pre-Vedic magical and religious components. The strategy for treatment included both mantras(religious practices) and practical experimental methods. Brahmins, Kshatriyas, and Vaisyas were authorized to acquire scientific medical knowledge to serve humanity.⁴ Those engaged in the healing practice were called *Bhisaj* or *Vaidyas*.⁵ Under the Delhi sultanate and Mughals' rule, medical practice was much more secular from its religious base. Many hospitals were established under state patronage during Muslim supremacy in India. Many specialists, *hakims*, relocated to the Mughal court from Persia and Central Asia. Besides state patronage, *jagirdars* built hospitals as charity work in the 15th-16th century.⁶ Many *Vaidyas* and Tibb practitioners were appointed in those hospitals. After the advent of the British in India, the popularity of indigenous medicine declined, and slowly, Western medicine became famous.

1.1 Ayurveda in Pre-colonial Period -

Health and medicine have always been integral to Indian society since antiquity. Professor Andrea Cucina of the University of Missouri-Columbia examined the facts while inspecting one of the corpus's teeth. Later studies in the same region discovered traces of drilled teeth, earliest known at 9,000 years.

Ayurveda, a separate medicinal branch of medical science that developed and was followed during the Vedic era, was known as the fifth Veda by some scholars.⁷ *Ayurveda* means "science of life." Ayurveda is a science of life or knowledge by which energy can be extended, or its existence understood, with "Ayu" meaning life and "Veda" meaning science or knowledge.⁸ Ayurveda was first written as one of the branches of Atharva Veda, which was later divided into *Salya*, *Salakya*, *Kayachikitsa*, *Bhutavidya*, *Kaumarabhrtya*, *Agada tantra*, *Rasayana tantra*, and *vajikarana tantra*. According to the mythology, Brahma put forward the doctrine of Ayurveda to Prajapati, who transferred the knowledge to the Aswin brothers. The principles of Ayurveda and the surgical skills espoused by Charaka and Sushruta attest to our long history of scientific health care for people. Ayurveda is defined as a *upanga* or *upveda* linked to the Atharvaveda by both Charaka and Sushruta. Sushruta expounded *Shalya*, the surgical branch of Ayurveda. He is known as the "Father of Indian Surgery." He has described surgery under eight supervisors – excision, scarification, puncturing, exploration, extraction, evacuation, and suturing. His works are collectively known as *Sushruta Samhita*. For him, mental well-being is equally important as physical well-being.⁹

Our ancient medical systems took a scientific approach to health and disease, considering all health and disease factors. The two most notable instances of ancient India's surgical activity can be traced for the first time in Rigveda. The first instance of organic transplant surgery claims that when a young maiden named Vispala lost her leg in a fight, the Asvin, the divine doctors, provided her with an iron leg.¹⁰ Yagna's head was also successfully replanted by Ashwini Kumars. Another Hindu mythological instance of the limb transplant was God Ganesha's head transplant with an elephant's head. According to Frank McDowell, Shusruta's book is a sourcebook of plastic surgery.¹¹ Another scholar, Vaghat, wrote *Ashtanga Sangraha* and *Ashtanga Hridaya* in the 4th century. In *Ashtanga Hridyans*, he defined Maharishi Atreya's

rhinoplasty. In the 15th century, the science of rhinoplasty spread from India to Arabia and Persia and from there to Egypt and Italy.

The mythological theory regarding the sacrifices shows that the Aswini Kumar brothers are the doctors of the gods. The goddess Saraswati is regarded as a medicine for healing. The best doctor among the priests is Brahma. Aswin cures the sacrificer, the curing remedy is prepared with the assistance of Saraswati, and the sacrifice is entrusted with the help of Inner energies and vital strength.¹² Some chapters of the Samhita deal with oms, ghosts, evil spirits, and so forth. On his way to the treatment, the doctor found animals and birds favorable or evil omens. On this topic, there is a whole segment. Dark colors may relate to demonic powers, or the aboriginal, but dark colors are considered unwise or demonic.¹³

The Body Structure, Health, and Suffering command Ayurvedic philosophy and theory topics. Ayurveda views life as integrating the body, five senses, mind, conscience, and soul. The balance of three primary fluids (*dosas*), literally "defects" in the body, was thought to assess health: *Vata* (wind), *Pitta* (gall), and *Kapha* (mucus). The seven essential tissues (*Rasa, Rakta, Mansa, Meda, Asthi, Majja, and Shukra*) and bodily waste products like stool, urine, and sweat. The body was considered a composite of the five *bhutas* - water, fire, air, earth, and ether (vacuum).¹⁴ Since there are five of these *bhutas*, they are commonly called "Panchbhutas." Humours are physiological elements originating from various variations and subsets of *Panchamahabhutas*, whereas body tissues are components. The doctor notices the patient's internal physiological features and emotional state. He also looks into the damaged bodily tissues, humours, the disease's location, the patient's resilience and stamina, daily schedule, nutritional status, the intensity of medical symptoms, and other personal information.

Kunja Lal's three-volume translation of the *Susruta-Samhita* is considered the first detailed and accurate translation of the *Susruta-Samhita* into English.¹⁵ It ironically mingled the most

primitive and superstitious mental tendencies with the most holistic and sustainable approach, ignoring both divine and negative energy and taking burdens to equate the theory with the practical. The effect is overwhelming if the explicit directions of the scientific components of the Samhita are identified and utilized while putting out the rest, as Satya Prakash attempted. At least 2000 years ago, scientists in India whose firm, rational, and methodical experience can still serve as a model for the modern world.¹⁶

1.1.a. Surgery in *Sushruta Samhita* -

The excellence Ayurveda subsequently achieved in surgery was astounding, and in the nineteenth century, Europeans learned about plastic surgery following Susruta's lead. More than fifty-six kinds of surgical tools, such as knives, forceps, needles, lancets, scalpels, etc., have been described in the *Sushruta Samhita*. Different surgical instruments listed above indicate that professional iron smiths may have collaborated closely with physicians, similar to how technicians and scientists collaborate in experimental and clinical studies. It is worth noting that there are references to bamboo splinters and broken glass alongside the instruments designed by technicians in their workshops. According to Marshall's collection, glass was used to make containers in Taxila's chemical or medical research labs, and bamboo must have been used for cuts. The productive collaboration of surgeons with blacksmiths to draw on the optimistic mindset of the first towards manual labor is an undeniable Indian culture.¹⁷

In ancient medical texts, three steps are mentioned with great substance for surgical operations- i) *Purba karma* - Preparatory work or pre-operative steps, ii) *Pradhana karma* - main work or surgical procedure, and iii) *Paschata karma* - post-operative treatment are all accurately defined. Anesthesia, sterilization of surgical equipment, and preparing the operation room are essential aspects of *Purba karma*. Cleaning directions were given clearly and concisely. Before an operation, the instruments were sterilized with fire and covered in sterile cloth in wooden

frames.¹⁸ This does not imply that Susruta was conscious of germs. However, considerable care was taken to prevent causes that caused poisoning, gangrene, and septicemia. Despite the advances in surgical practice, former Indian doctors seem not to have had a high level of anesthesia expertise, indicating little advancement in this field. This condition is almost unknown as we remember sure signs of an entity's need to produce an insensitivity to the pain endured by surgeons. Wine, which Charaka and Sushruta rendered both, was used to blunt the consciousness. Susruta notes that wine is good for creating pain insensitivity before surgery.¹⁹ At *Bhojaprabandha*, Ballala alludes to a necessary surgery of King Bhoja, during which the drug named *sammohini* was made for him. It seems evident that by the 10th century after AD, Indian doctors were very familiar with anesthesia.²⁰ The two main steps of *Pradhana karma* were surgery and its eight procedures. In *Paschata karma*, bandaging the wounded area, Redressing, cleaning the wound, and other healing procedures were important.

In broken limbs, the patient was required to lay in bed with the leg immobile. This was done with the aid of nails that were carefully positioned on the wooden bed frame. Bamboo and other soft-wood splints were used in fixing the fractured limbs. The British Army in India used bamboo splints for their injured soldiers. European doctors commonly used leeches seem to have also been shared in ancient India. Bloodletting, which is so prevalent in Europe, may have developed in India. Intended initially to remove *dosa*, the leech may have proven to help lower headaches and blood pressure. Susruta tries eye surgeries and, in some cases, avoids blindness. He may also dissolve bladder stones.²¹

1.1.b. Plastic Surgery in Medieval India -

In 1784, an Indian soldier in the British army was caught by Tipu Sultan's force and was released with his chopped nose. He went to an Indian Vaidya who knew rhinoplasty for generation after generation. Vaidya successfully operated, which was noticed by the

Europeans. This was also reported in a medical journal in London.²² The Samhita mentions fifteen different forms of plastic surgery for the ear only. In 1816, the British Surgeon J. C. Carpue was successful in his efforts to do so. Today, plastic Surgery is performed by modern doctors in the same way as Susruta's era. We can say that they were then more advanced than the European scientists who only in the 19th century attempted to graft frog skins, etc., on people who suffered from burning.

1.1.c. *Satapatha Brahmana* -

The '*Satapatha Brahmana*' contains a wealth of knowledge on the body's essential constituents, known as '*dhatu*.' It addresses the words *mamsa* (*flash*), *asthi* (*bone*), *majja* (*marrow*), and others, referring to them as *dhatu*. Sayana, the text's commentator, described them as *dhatu*. Traditionally, the *Satapatha Brahmana* is thought to be written by Yajnavalkya. *Susruta Samhita* sheds some light on the Yajnavalkya, who was recognized as definitely an Eastern Indian person and was a contemporary of Ajatsatru, the king of Magadha. As a result, *Satapatha Brahmana* can be securely dated to the 5th-6th centuries BC. However, Dr. Hoernle has hypothesized that the author of the *Satapatha Brahmana* may well have had previous knowledge of Charaka's texts and *Susruta Samhita*, and this hypothesis may provide some evidence that the *Satapatha Brahmana* is most definitely a later composition.²³ If this is reasonable, then the medical explanations mentioned in the *Satapatha Brahmana* may have contributed to earlier Vedic or medical texts rather than Charaka and *Susruta Samhita* of later origin. The knowledge about Indian medicine is dispersed in the Vedic literature. *Satapatha Brahmana* provides much knowledge about the medical treatment and well-being of society at the time.

A detailed analysis of the *Satapatha Brahmana* would show that nearly 39 medicinal plants were commonly recognized at the time and used to cure approximately 30 diseases.²⁴ Some

modern illnesses, such as tuberculosis, blindness, leprosy, epilepsy, jaundice, eye inflammation, fever, skin infections, and so on. Any healing of bone fractures in the *Satapatha* has been mentioned often. It refers to the debridement or pouring of drugs from one articulation to bind broken bones with a special lotion. As a traditional healing balm, *Satapatha* prescribes one ointment in the body from the head down to the foot.²⁵ A description shows that a man healed his Skin infections using this ointment. Eye balm was used to cure the eyes' moisture development, and the eyes were then reinvigorated as ailments were relieved.

Ayurveda's early ancient texts are firmly attached to religious traditions, which is noteworthy. *Satapatha*, which has a principal connection with religion, interestingly cites such sacrifices to remedy certain diseases. It indicates the offering of *Varnapraghasa* to be effective for the condition of *Varunapasa* (dropsy) and *Sautramant* for patients with an impairment who cannot walk.²⁶ Sayana also describes the ceremonial offerings in his commentary as the cure for the evils of the earth and, thus, as the remedy for sickness the medicine appeared. These ceremonial type offerings, evil spirits, Good and lousy omens, etc., had also been mentioned in the Samhitas. Religious beliefs and medical treatment in Ayurvedic treatment were interlinked in ancient India.

Inadvertently, doctors searching for the scientific foundation for their practice challenged the hegemonic regime of spiritualism, ritualism, and faith consecrated by strong priestly companies and preferably endorsed by secular Brahmanical lawmakers. In reality, physicians had to pay a high cost in the age of religious dogma and extreme theological involution to compete for scientific understanding - from a respected rank in the Rigvedic society, they had to be reduced to the Shudras status.

A comparative study of the formulations of Charaka, the physician, and Sushruta, the surgeon, highlights the disparity between the physician and the surgeon in early India. Their compiled

materials are identical despite their metaphysical and practical concepts; the *Sushruta Samhita* is remarkably free of priestly distinctions superimposed on medicine. Charaka played a mixed role in his writing as a rationalist, scholar, and physician. However, Shusruta sought to throw off whatever priestly rule was left over then and establish an environment of independent analysis and research that was later characteristic of Greek medicine.

1.1.d. Siddha Tradition -

The Siddha method is followed in Tamil-speaking regions in the rural south. The word Siddha refers to accomplishments. Siddharth, another word for Siddha, were saintly people who attained success in medicine. In ancient times, the Siddhars were also recognized as famous scientists. The great Siddha Ayastiyar is credited with establishing the Siddha system of medicine. Many Siddha medical practitioners use any of his works as basic books of medicine and surgery.²⁷ In science and philosophy, however, these two systems are very similar. This system, like Ayurveda, claims that *Panchabhuta* makes up all things in the world, including the human body. This system, like Ayurveda, views the human body as a compendium of three humours, seven essential tissues, and human waste. Food is regarded as the main strength of the human body, converted into humours, body tissues, and waste products. The balance of humours is viewed as health, and its disruption or disparity is regarded as a disease. Siddha Medicines containing mercury, silver, arsenic, lead, and sulfur effectively treat certain infectious diseases, including syphilis.²⁸ Pratlting Yoga philosophy is an art and science for living harmoniously with Brahmanda the Universe. Yoga derives from the Vedas, the oldest record of Indian culture. It was codified as a unique *Darshana* (philosophy) in the Yoga Sutra by the great Indian sage Patanjali.

1.1.e. Yoga Sutra –

The Patanjali Yoga System is a body and mind discipline technique that leads to psychic spiritual preparation. It is the book that has commented on almost every part of life. In his "Yoga sutras," Patanjali, aptly called the "Father of Yoga," systematically collected and refined different facets of Yoga Sutra. Many behavioral, neuropsychiatric, and physical diseases are rooted in yoga; an incorrect way of thought induces them to work and feed. Yoga's central approach is to correct the lifestyle by maintaining a logical, optimistic, and moral outlook on all circumstances in life. Yoga does not deal only with the body but takes into account all five Kosa (sheaths), i.e., *Manomaya Kosa* and *Annaamaya Kosa*, *Pranamaya Kosa* (external body), and *Vijyanmaya Kosa* (intellectual sheath), *Anandamaya Kosa* (Bliss sheath). Like Ayurveda and Siddha, Yoga is the first step to combat the illness in the body's purification. Yoga is not a religion but a philosophy of life founded on psychological facts that seek to create a natural equilibrium between the body and mind, creating unity between the person and the universe. It is also the union with the spiritual.²⁹

1.2 Religion and Medical Knowledge in Ancient India -

It was influenced by religion at the advent of medical research. The embodiment of nature and its elements was a fast phenomenon in the Vedic era, so medical science was no exception. The legendary father of Indian medical science is Dhanvantari.³⁰ In Rigveda, we find the oldest reference to healing, which attributes divinity to different plants and herbs.³¹ Some herbs and metals in the *Atharvaveda* also contain medicinal benefits regarded as divine qualities, and heritage is still practiced. During the Jain Buddhist era in India, medicine made great strides because Buddhism insisted on relief from the plight. Several hospitals have been opened for men and animals.

Also, the secular sharing of medical expertise in ancient India is another essential thing to remember. There has been a relatively liberal exchange of ideas and experience among Hindu, Arab, Greek, Persian, and Jewish scholars as other branches of science. The academics from Sind were presented at the Abbasid Translation Bureau in Sanskrit work on astronomy, medical ethics, and administration.³² The Samhitas of Charak and Sushruta were translated into Persian and Arabic in about 800 A.D.³³

There were strict procedures for learning medical science in ancient India. The apprentice needs to know his teacher's theory and the science of medical treatment.³⁴ He joined a Gurukul and enrolled in a reputed university like Nalanda, Taxila, and Kasi. The medical training was also typically transferred to the next generation outside the university through practical training. However, in ancient India, only religious higher caste students were eligible for medical learning. They were called Vaidyas. Aside from the other requirements, the caste system has played a vital role in medical education. According to the tradition in ancient India, the medical profession should be one of the first three castes of the Hindu Society.³⁵ The ritual for initiating medical learning of the pupil was most solemn at the start of the training. The word used for a Brahmin medical student's initial practice was called *Upnayan Sanskara*.

1.2.a. Medical Education in Ancient India -

Students swore to their teachers to maintain all the institute's rules and regulations in this ritual. The teacher advised his students - "you should give up lust, anger, avarice, folly, vanity, pride, envy, rudeness, deception, falsehood, idleness, and all other reprehensible conduct. You should always have your hair and nails cut short, put on red-colored cloth, lead a pure life, avoid sexual intercourse, and be ready to obey your superiors. You should remain, go about, lie down, sit down, eat, and study according to my wishes, and you should always be ready to seek my

welfare. Further, he admonished these words: If you fail in your duty, you will be. Committing a sin, and your learning will be fruitless”.³⁶

The student's realistic, practical training experience had three steps – first, medicine planning; Second, surgical instruction; and Third, Checking patients. The medical student's schooling lasted seven years. The theory and the practical examinations were undertaken at the end of the training. The pupil was asked to read and describe a page from the manuscript in their theoretical exam. He was pronounced efficient if he described it satisfactory manner. In the *Samvartana* ceremony, the degrees were given to the outstanding student responsible for their subsequent actions and attitudes.

According to the custom, the individual who wishes to take up the occupation should be young and fit, full of vitality, physical strength, and stamina. He should have a steady temper and control over himself. He was to be a blend of reasonable fitness, high values, and complete engagement were principal qualifications for this profession. A doctor was entitled to maintain those standards of behavior. Like he can treat the patient entirely and in no way harm him. The patient's wife or belongings need not be looked at.³⁷ The patient's condition should not be revealed at home, and he should not say a word even if he fears death is close to the patient. He should give free treatment ‘to a Brahmana, a spiritual leader, the poor, a friend, an ascetic, and the like.’ Conversely, he can not examine ‘hunters, fowlers, outcastes, and sinners.’³⁸ It can be said that ancient indigenous medical practice was not just a medical treatment; it was full of ethics and sacred beliefs. It was not mere knowledge. It was a *sadhana*, a pursuit of knowledge, which one can earn through devotion and respect for the medical practice. *Ayurvedagya* was regarded to be a wise and sage-like person. The profession was not solely viewed as an earning path but as a sacred profession to aid the sick.

2. Medical Profession in Medieval India -

With the introduction of Muslim rule in India, the Arab medicinal system, known as *Unani Tibb* in India, was introduced. Ayurveda and Unani practitioners collaborated to exchange their theories and insights, resulting in a fusion of indigenous medicine. The Unani word itself refers to the system's roots. Unani is Yunani's Arabic language, which means the Greek language (Ionian). Muslims took over the Greek medical system at the beginning of the Islamic period. The mood hypothesis was developed and improved by Galen in the Hippocratic School.³⁹ It is based on Hippocrates and Gallen's teachings. It has been developed by Arabs in the intricate medical systems and further contributed by Rhazes, Avicens, Al-Zahravi, Ibne-Nafis, and others to its growth. In Egypt, Persia, India, China, Iraq, Syria, and other Middle East nations, Unani Medicines has been enriched with infusing what is best in modern structures for conventional medicine.

2.1. Unani - Tibb Medicine in Medieval India -

The Sultans of Delhi (rulers) supported practitioners of the Unani System and even applied for the status of staff and court workers. By the 13th century, the Unani medical system had become firmly established in India's towns and cities, especially Delhi, Aligarh, Lukhnow, and Hyderabad. Unani Medicine flourished in India in the 13th and 17th centuries. Unani practice faced a setback during the British reign due to its abolition of the State Patronage but was still practiced as the masses trusted the system.⁴⁰ The most significant explanation was that Unani Medicine survived in British times.

Unani is dependent on its standard and excellent diagnostic methods and is cost-effective. The disorder relies primarily on the patient's temperament (mizaj), ancestry and consequences, multiple grievances, signs, symptoms of the body, physical examination, pulse (nubz) test, urine, heat sink, etc. It is a different and remarkable standard treatment such as dietary therapy

(*Raj-bil-Ghiza*), atmospheric treatment (*Ilaj-bil-Hawa*), and cavalry therapy (*Ilaj-bit-Tadbir*). The well-being of the human body was the relative equilibrium of humans. According to Galen, sickness meant disturbing harmony. Unani's medical system was a multidisciplinary evaluation; fitness did not only mean the balance of humours individually but also about the equilibrium with the world.⁴¹

Unani Medicine prefers single or raw drugs to compound combinations. Besides, the Unani Medication materials were extensive, and the drugs were simple to get since most medicinal products were locally available. The medicines which occur naturally in this system are symbolic of life and are usually without side effects. Medicines such as crude toxicity were formulated and refined until use in several cases. Unani System has successfully treated diseases such as Arthritis, Skin diseases, Kidney problems, liver and nerve disorders, bronchitis, and many other acute and chronic diseases to which different mechanisms could not respond. It passed its regional borders and became famous worldwide among the masses.

While only a few independent universities deal solely with medical research or medical education in Mughal India, such as Aleppo, Egypt, or Iran, its presence in India is also testified.⁴² Monserrate spoke of a well-known medical school in Sirhind, from which doctors were sent to other parts of the empire."⁴³ Abdul Baqi Nahawei named the madrasa of Hakim Shams and Hakim Mu'in at Thatta, and there they delivered medical teachings.⁴⁴ Likewise, Akbar's contemporary Mir Abu Turab Gujrati had his exceptional teaching staff- *maktab*.⁴⁵ A Hakem Mir Muhammad Hakim, who also teaches at his school in Ahmadabad, is mentioned by Abdul Hamid Lahori. Hakim Alimuddin Wazir Khan, in his hometown of Chiniot in Punjab, is said to have founded a madrasa.⁴⁶

In the Tibb classes, a review of text on Tibb may be assumed for the curriculum. The idea that Akbar had ordered the inclusion of Tibb in the curriculum with other sciences can be

justified by Abul Fazal's statements in *Ain-i-Akbari*. Apart from other texts, the popular Nizami course contained the popular tibb texts. Such tibb texts are *Sharh – I – Asbab, Qanun, Mua'jaz al-Qanun*, etc.⁴⁷ Another mode of education in Tibb was through *dawakhanas* (dispensaries) and *sharbathanas* (sirup houses/distilleries), which are frequently conducted throughout the state.⁴⁸

However, during the 16th and 17th centuries, major medical training centers were found in Iran, where many doctors were employed from India. Evidence indicates that Indian students often had also been trained and educated in Tibb at these institutes in Iran. One such person was Ahmad Thattavi, who came from Sindh to Iran and studied under the guidance of two renowned physicians in Shiraz, Mulla Kamaluddin Hussain and Mulla Mirza Jan.⁴⁹ A study of Persian sources reveals that the tutor guides medical education. Many who want to learn go to a reputable doctor to get their education.⁵⁰

Medical science has made satisfactory strides since medieval times. In his well-known *Tarikh-i Firoz Shahi* book, Barani had given a long list of doctors and astronomers of the time. Sikandar Lodi's chief minister served science by working on science and medicine, compiled in the famous book *Tibb-i-Sikandari*. Mohammad Mumin Hussain's popular book *Tuhaphat-al-Mumeni* was also significant in Medical Science. It was regarded as basic medical research until the end of the 17th century. *Ma'danu'l Shifa-Sikandarshahi* is the most important Muslim medical text written in India in A.D.1512 by Miyan Bhowas.⁵¹

Usually, Arabic and Persian medical texts had been written in India and were translated into the vernacular in the 19th century. The books included scientific and analytical information, and the student had to communicate with the patients utilizing his guide. Observation and the example of a Hakim practice had to be followed to learn about the relationship between commerce, individual patient assessment, prescription care, medicine production, and surgical

procedures in severe cases. The trainee/future doctor may conclude his studies by giving an examination at the end of the training. They should still deem their course complete before they take the oath. The doctors were mainly required to obey the ethical guidelines of Hippocratic Oaths.⁵² Which is –

“you do solemnly swear, each man by whatever he holds most sacred, that you will be loyal to the profession of medicine and just and generous to its members; that you will lead your life and practice your art in uprightness and honour; that into whatsoever house you shall enter, it shall be for the good of the sick to the utmost. Of your power, you holding yourself far aloof from wrong, from corruption, from the tempting of others to vice; that you will exercise your art solely for the cure of your patient's aid will give no drug, to perform no operation, for a criminal purpose, even if solicited, far less suggest it. That what so ever you shall see or hear of the lives of men which is not fitting to be spoken, you will keep inviolably secret. These things do you swear. Let each man bow the head in sign of acquiescence. And now, if you will be true to this, your oath, may prosperity and good repute be ever yours; the opposite, if you shall prove yourself forsworn.”⁵³

2.1.a. Anatomy in Tibb – Unani Medical Treatment -

Unani anatomy is not just explaining the anatomical forms of a human being; which are a thoroughly modern concept of anatomy. This is because traditional remedies viewed the whole of being, the physical aspect of a small piece. Any of these Tibb Unani specialists may render artificial limbs. They are operative professionals. However, in Mughal India, the case of surgery, particularly nose transplantation, was also noticed. The first evidence for nose transplantation is given in India in 1686 in the book *Story d Mogor* by Nicholas Manucci of Italy. He described -

“At the commencement of the war (between Aurangzeb and Bijapur), when the men of Bijapur caught any unhappy person belonging to the moguls who had gone out to cut grass or collect straw or do some other service, they did not kill them but cut off their noses. Thus they come back to the camp, all bleeding. The surgeon belonging to the country cut the skin of the forehead above the eyebrows and made it fall down over the wounds of the nose. Then giving it a twist so that the live flesh might meet the other live surface, by

healing application they fashioned for them other imperfect nose.....in short time it would heal up, some obstacle being placed beneath to allow respiration. I saw many persons with such noses, and they were not so disfigured as they would have been without nose at all, but the they bore between their eyebrow the mark of the incision.”⁵⁴

Elphinstone also notes that medieval doctors would conduct at least 117 types of operations. Some of the Sultans were the Physicians (*Hakim*) themselves. Especially two prominent Tughlaq rulers, Muhammad bin Tughlaq and Firoz Shah Tughlaq had excellent knowledge of medicine. In 1595, Quli Shah constructed an enormous *Dar-us Shifa* in Hyderabad.⁵⁵ A big hospital was built in Delhi under the rule of Muhammad Sha at an annual cost of about Rs. 300,000.

Furthermore, the hospitals were built by many rulers and high government officers. They have all sponsored building hospitals in their realm - Muhammad bin Tughlaq, Firoza Shah Tughalq, Sikandar Lodi, Sher Shah Sur, and Akbar. Akbar's work is worthy of notice in encouraging the Mughal hospital building. In India, many Iranian doctors migrating in the reign of Akbar facilitated hospitals' construction, which enabled them to boost the number of hospitals in the following reigns.⁵⁶ Hospitals used to be fitted with teaching facilities, and pupils were advised or even required to visit hospitals where famous surgeons gave practical training. Selected works by Galen were used for theoretical research when no formal writings of Arabic authors were available. *Alexandrian Canon* was the backbone of the theoretical directions, which was a compilation of seventeen books from hundreds of books written by Galena. also known as the summaries of the Alexandrians.⁵⁷

3. Medicine as a Profession in Mughal India -

The doctor's career was prominent in Mughal India, as in other occupations. Historical records reveal the essential role occupied by doctors. The physicians of that time were seen with great importance and mentioned by Abul Fazal, Nizamuddin Ahmad, and Lahori. This is confirmed

by the list of doctors listed in the Mughal chronicles and the European traveler's observations that ethnically, Mughal India's Tibbs were primarily Iranian tribes. However, many Hindu tabibs at the Akbar court were listed in their *Atibba* of Abul Fazal and Nizamuddin. Perhaps the Hindu *tabibs* were Brahmins⁵⁸ and Ayurvedic specialists rather than Unani tibb.

Many tabibs in different capacities in the Mughal service were often given high ranks as *Mansab*. Some doctors were to be hired immediately to serve the emperor; some were to become nobles. The physicians and surgeons had to pass an extremely tough test to join the royal service. Perhaps the most experienced and qualified practitioner has been chosen or designated with extreme caution.⁵⁹ The writings of Manucci and the Mughul miniature paintings confirm the hierarchical division among the physicians in royal service. The chief physician was called *Saramad-i-abba* or *Saramad-i-hakama* in the Mughal terminology. Under the chief physician, there were several subordinate practitioners. The rank of *Hakimul Mulk*, or chief physician of the emperor, was significantly different from the Mansab held in his family and can also be discerned in the Imperial household. A depiction of the doctors' bureaucrats may distinguish the increasing prosperity of the medical profession. Doctors who entered the imperial or noble services were employed daily (*Yaumiya*) or annual salary (*Saliyana*) but had not received a Mansab. They got "pocket money" to keep a medication box containing vital drugs even though they were granted *Mansab*. A doctor's salaries were between Rs 300 a month, i.e., Rs 3,600 per year and Rs 100,000 per year.⁶⁰

3.1. Hospitals in Medieval India –

The government employed physicians for hospitals. In *Bahar-i-Ajam*, it is stated that the emperor built *makans* to treat *ghuraba wa masakin*, or the lower-class needy people.⁶¹ A doctor who entered the royal service seemed not tied to his employer. He could change his employers if he wished, as a true professional. However, building hospitals was not new in the Medieval

period. In 1442-43, Sultan Mahmud Shah Khalji of Malwa ordered the construction of a *darush-shifa* and a *darukhana* or dispensary at Mandu.⁶² Details regarding state hospital development begin with Jahangir's reign in the Mughal era. In its 12 edicts of the first year of reign, Jahangir ordered hospitals to be set up in all the great cities and cities of the kingdom. *Khalisa Sharifa* provided the expanses of these hospitals.⁶³ During Aurangzeb's reign, hospitals were established within the *altamgha* assignment of the large Mansabdars.⁶⁴ Many doctors and surgeons seemed to be headed by a chief physician who acted as the hospital's superintendent (*darogha*). Several clerks and Kotwal were also assigned to assist them in the hospital's general administration. In some cases, Madrasas were also connected to a *shifakhana*. These hospitals are often used as medical schools.⁶⁵ Shahjahan established a hospital in Delhi, Chowri Bazar, to treat travelers and students. The *Darus Shifa* of Ahmadabad was another government hospital that thrived in the medieval period. Hakim Mir Muhammad Hashim was appointed the chief physician by the Mughal emperor Shahjahan. Interestingly this hospital was not exclusive to Unani practice; ayurvedic physicians and surgeons were appointed to serve the state by treating poor subjects. *Darush-Shifa* of Aurangabad and *Darush-Shifa* of Surat were two famous government hospitals of Mughal India.⁶⁶

These hospitals were built mainly for the poor section of society. The physicians of these hospitals were given daily salaries (*yaumiya*) from the royal treasury (*bait-ul mal*).⁶⁷ Physicians had to provide an attendance certificate (*tasdiq-i hazari*) for their salary release.⁶⁸ However, in most cases, the chief physician (*darogha-I darush-shifa*) or the head of the hospital was exempted from presenting an attendance sheet for their salary. Sometimes, appointments were made with particular references from the *bakshi* or high-rank personnel.

3.1.b. Private Practitioners of Mughal India -

Mughal nobles also established several hospitals. In Mughal India, various doctors ran their hospitals, taught, and served the sick. However, some were just quacks (*na-tabib*), which Badauni has confirmed. The Bazar doctors seem to have mostly worked as private practitioners. For example, the word *mutatabib-sirhindi* was used by Badauni, which means private Sirhind practitioner.⁶⁹

In many cases, doctors chose to set up private clinics for government posts or accept a nobleman's patronage. We also see that private practice was considered a good option. According to Fryer's documentation, plenty of doctors sought work under the noblemen or aristocratic class of the Mughal society.⁷⁰ It was probably because jobs under a nobleman gave them a sense of stability and a relatively low but consistent salary.

The data shows that Mughal India gained substantial specialization in Graeco-Arabic medical science. Medieval doctors were well enough to treat eye diseases, health issues, and surgeries. Even good veterinarians were also there. Physicians had good knowledge of making medicines. They were responsible for their medicines; it was indeed a secret thing, as the unique ingredients of the medicine could make them famous. This may have been a significant factor in the development of pharmaceuticals. Medical practitioners were often experts in more than one area. For example, Hakim Yusum bin Muhammad Yusufi, who had come to India with Babur, was a specialist in symptom diagnosis, therapy, ophthalmology, and general medicine during Babur and Humayun's reign. He wrote at least twelve books on different health issues. Two treatises, *Fawa'id-ul Akhyar* and *Ilajul Amraz*, deal with hygiene and therapeutics.⁷¹ In addition, he composed a brief discourse on eye illnesses and their treatments.⁷² This evidence speaks of the advanced knowledge of pharmaceuticals and the functioning of the human body.

They were specialists in human anatomy, also. Humayun's contemporaries, Hakim Abdur Razzaq and Hakim Abdur Razzaq wrote *Khulasat-ut Tashrih*, a book about human anatomy.⁷³

3.2. Surgery in Medieval India -

During Akbar's reign, surgery received much attention. Shaikh Bhina, Mulla Qutubuddin Kuhhal, Hakim Bairjiu, Hakim Bhairon, and Chandrasen were skilled surgeons of this era. Bhina wrote a book called *Mujarrabat-i Shaikh Bhina*, a collection of medical prescriptions.⁷⁴ Hakim Ainul Mulk 'Dawwani' Shirazi was exceptional in the discipline of ophthalmology. He also knew a lot about collyrium and pharmacology. *Fawaid ul insan*, one of his treatises, is a verified study on pharmacology. Apart from his *roghan-i deodar* formula, Hakim Ali Gilani, one of Akbar's most competent physicians, had also created *sharbat-i kaifnak*, which relieved tiredness.⁷⁵ He also possessed an extensive understanding of skeletal structure research, muscle research, angiology, neurology, and the digestive system.

Much work on pharmacology was done under Shahjahan as well. Sheikh Muhammad Tahir, Hakim Ma'sum Shaustari, and Hakim Nuruddin Muhammad Ainul have left behind pharmacology books. According to Bernier's account, Danishmand Khan was a famous anatomist.⁷⁶ He had William Harvey's books on blood circulation, which were translated into Persian for him. Muqarrab Khan and Hakim Ali Akbar were prominent surgeons of Jahangir's reign.⁷⁷ These physicians even knew about the plague. *Ainul Hayat*, a book on the plague, was written by Nurul Haq Sirhindi.⁷⁸

Hakim Sanjak made significant contributions to ophthalmology during Aurangzeb's reign. *Tibb-i Qazi Arif*, a general text on medicine providing remedies for ailments specific to India, was written by Qazi Muhammad Arif.⁷⁹ A well-known physician during this era, Hakim Muhammad Akbar Arzani, produced a commentary on Chagmini's *Qanuncha* and translated a

well-known commentary of Najibuddin Samarqandi's popular thirteenth-century pathological treatises.⁸⁰

In Mughal India, the most significant number of books was written on medicine compared to other fields of science. Many medical texts were translated from Sanskrit, Graeco-Roman, and Arabic to Persian. However, during the later Mughals, these rich medical practices declined with the advent of Europeans and their Western medicine. The eighteenth century witnessed a slow decline in the popularity of indigenous medical practice.

4. Traditional Indigenous Medicines: Diverse Relationship -

Two Indigenous medical systems- Unani and Ayurveda, had many similarities. Both are based on humor theory and emphasize the importance of Humour balance for the patient's well-being.⁸¹ The medical system had traditional family hereditary teaching and university learning. There was open space for knowledge exchange. Ayurvedic texts were translated into Arabic in the 8th century, enabling the medical practice to amalgamate. Both systems relied heavily on medical and theological beliefs.⁸² For the sake of the people, Hakim Fathullah Shirazi translated Abu Ali Sina's famous Qanun into Persian. The great author of *Tarikh-i Ferishta*, Muhammad Qasim Ferishta, wrote *Dastur-i Atibba*, known as *Tibb-i Ferishta*, to stimulate Muslim interest in the Indian medical system.⁸³

Deepak Kumar has mentioned *Tibb* as a 'hybrid of Muslim-Hindu system.' He has shown that these two medical systems may have different philosophies and theories in many instances, but both intermingled. *Ma'din-al-Shifa-I-Sikandarshahi* AD 1512, written by Miyan Bhuwah, is one outstanding example of this knowledge exchange.⁸⁴ He depended highly on Sanskrit sources and considered the Greek system insufficient for the Indian constitution and environment. The notion of *arka*, evaporation, or extraction came from the Islamic medical tradition into Ayurveda. Some Sanskrit medical books have been translated into Arabic and

Persian, although there are few Islamic medical text translations. *Hikmat Parakasa* and *Hikmat Paradipa*, two Sanskrit books that allude to the Islamic System and use specific Arabic and Persian medical terminology, were noteworthy in the 18th century.⁸⁵ Several medical writings were written most often over the century, such as the *Tibb-I-Akbari* by Akbar Arzani and the *Talim-I-Ilaj* by Jafar Yar Khan, Madhava's *Ayurveda Prakasha*, Govinda Das's *Bhaisajya Ratnabali*.⁸⁶ Mirza Alavi Khan, an excellent physician of this century, wrote seven books, among which *Jami-ul-Jawami* is a masterwork that includes all medical areas then conceived in India.⁸⁷ Another famous physician in the Sha Alam II era was Hakim Sharif Khan, who composed ten notable books and included indigenous Ayurvedic plants to Unani medications. Some creations have been unique and unprecedented.⁸⁸ Unani practitioners also developed the notion of individual case studies and hospitals. It can be stated that the moving and continuously flowing relationship between India, Iran, and Central Asia created an open space for cultural knowledge exchange and enabled Ayurveda and Unani to enrich themselves with their extensive medical science.

Even though the two systems shared many commonalities and knowledge interactions, they differed in several areas. The confluence of body, senses, intellect, and soul is envisioned in Ayurveda as life. According to Ayurveda, the human body comprises five essential elements: earth, water, fire, air, and vacuum (ether), and any ailment is caused by the complete body matrix not being balanced. The disease is diagnosed by checking the patient's general physical state and taking a pulse reading, among other things. When a problem has been identified, treatment options include medications, a specific diet, and suggested daily activities.

The Unani system of medicine, like the Ayurvedic system, provides daily dietary quantities to patients and relies on drug therapy, which does not isolate the active component of the substance. According to Unani medicine, the medications have their temperament to act.⁸⁹ They can be warm, cold, wet, or dry. Similarly, each person has his or her personality, physical

structure, self-defense mechanism, and reaction to certain situations. As a result, the medicine is prescribed based on the individual's characteristics.

Interestingly enough, Europeans had never recognized this pre-colonial Indian medical advancement. Careri points out that European soldiers refused to join the Mughal armed forces since they did not have a hospital for injured men. There is, nevertheless, enough proof that trained, eligible physicians assisted the Mughal armies. Medieval Indian physicians also appeared very offensive to contemporary European doctors. Partly this may have resulted from the assumption by European doctors that they were superior to the Indian doctors. Manucci assures us that the Europeans could not tolerate salaries similar to the Indian doctors.⁹⁰ Linschoten talks with great respect about the Indian doctors who, according to him, did not differentiate in treating native and European patients, which was required according to him.⁹¹ Careri suggests in one of his highly observant passages that individuals with specific diseases identified in India responded more quickly to native medical treatment. However, Manucci thought that these tabibs had almost no medical understanding. He said they could not treat stones, blindness, dropsy, anemia, fevers, or serious problems.⁹²

However, the evidence reveals that within the framework of Graeco-Arab medical science, the medical profession in Mughal India had acquired a significant degree of specialization. Ophthalmologists, specialized surgeons, pharmacologists, veterinarians, sexologists, and anatomists appear among the hakims, Tibbs, and jarrahs. Manucci acknowledges that the Tibbs of the time were well-versed in pharmacy science. According to him –

“In this country, it is incumbent on a doctor to prepare medicines, ointments, and distillations – infact, all things that appertain to the apothecary’s office. Many a times it is also necessary to instruct as to the fashion of preparing the patient’s food.”⁹³

Qarabadin-I Ma’sum by Hakim Matsum discusses medication production, electuaries, pulps, pastes, syrup, tablets, enemas, gargles, ointments, and the effects of tea and coffee.

Hakim Nuruddin 'Ainul Mulk's *Alfaz-i Adwiyya* is a pharmacology encyclopedia. In contrast, his *Ilajat-i Dara Shukohi* is a medical science compendium that primarily instructs travelers on dietary considerations, anatomy, etc.⁹⁴

However, they could have been dogmatic to accept the changes in the treatment procedure. They did not go beyond their medical treatises and books, which made them succinct. For instance, Asad Beg Qazwini came to Akbar's court in 1603 and presented Akbar with a smoking pipe and tobacco. However, Hakim Ali Gilani refrained Akbar from using this product, as medical books are silent about tobacco.⁹⁵ So, he suggested further investigation before consumption. Nothing was allowed to him, which was not approved by the Unani tibb medical scripts written by the famous early physicians.

This conservative ideological limitation also applied to the new medicinal theories emerging from the West. However, that does not mean that among ancient Indian surgeons, the desire to improve was absent. Manucci's reference indicates that surgeons have innovative procedures that take us a step forward in unknown plastic surgery. In general, the doctors in Mughal India were separate, quasi-theological, highly reputed specialists who could enter the hierarchy of the ruling class. The Mughal doctors were much demanded and enjoyed as prestigious persons of society and at the court.

In addition to the colonial enforcement of the Western medical establishment over the indigenous medicine structure, which resulted from colonial education and predominance cultural policies, Ayurveda faced another crisis that limited the development of Medical Science in the Graco-Roman nation. It was considered unskilled work by the Vaidyas.

5. The Early Phase of Colonialism and the British Reaction -

The emergence and development of European Empires in India started in the late 15th century, when the Port of Calicut (today in the town of Kerela) on the Southern East Coast of India,

Vasco Da Gama, a Portuguese explorer, found a sea route to India in 1498. This marked India's colonial history when the Portuguese empire was founded in 1502 in Kollam, Kerala, the first European trade town. In 1505, King Manuel I of Portugal nominated the Portuguese Viceroy of India, Francisco de Almeida, then in 1509, Dom Afonso de Albuquerque. Since then, several European countries, such as France, Portugal, Holland, Denmark, and Britain, extended their empire and entered into a struggle of colonialism to expand their commerce.⁹⁶

The British came with their culture of law and order, education, and scientific development. Gradually with the Indian economy and politics being controlled by colonialist and imperialist forces, western medical science also gained influence in the region, where they wanted to establish strong political control. In the colonization of India, western medical discourse takes a crucial position. It was a control tool that would swing between force and persuasion according to requirements and a place for interaction and frequent opposition. It operated in many ways. It served the state in its previous function and contributed to its supremacy.

Some historians believe the European voyages were motivated by 'God, Gold, and Glory.' To Spread Christianity outside Europe, commercial expansion, and conquer land to make patron nations proud; primarily, these were the main objectives of the early voyagers and scientists of European countries. When the beginning of European colonialism in India is mentioned, it is intimately related to the worldwide spread of Christianity and its Western mission operations.⁹⁷ Since the beginning of the modern era, the two phrases colonialism and Christianity have been synonymous and interdependent since they have a connection, signifying the same thing. Therefore, if not linked with European colonialism, the growth of Christianity has coincided, leading to the dispute and disagreement in the relationship between Colonialism and Christianity amongst history and other social scientists. Historians have expressed skepticism and suspicion that these two agencies are tightly connected and believe Christianity has been the Western imperialist arm since the 16th century. K. M. Panikker defines the 'Vasco da Gama

time' in the book 'Asia and the western domination' as 'the ship of the Captain General' flown on its mast the flag of a wide cross of Christ with a cannon, the emblems of the new authority invading the East.⁹⁸ In the words of Brahmabandav Upadhyaya, recounted in 1899 by Dharmaraj, "First comes the missionary, and then comes the Resident, lastly comes the Regiment,"⁹⁹ which describes Christianity and its missions as the agents of empire. However, it is generally acknowledged that these assertions are overstated where thorough assessment is necessary.

At the beginning of the European expeditions to explore a new country to establish a colony, its team included sailors, a small army, merchants, and traders familiar with languages and physicians. They were essential interlocutors who accompanied each maritime convoy from Europe. They were the first to report on new territory flora, fauna, resources, and cultural customs and not just take care of sick people on ships and land. They were surgeons, natural scientists, and adventures. These scientists thought they were superior to other people in their dealings with medical procedures, even though they occasionally showed respect for the latter. But the, colonial physicians have increasingly become a cultural force. In their formation and perspectives, they began redefining what they saw. Their efforts include the knowledge and possible conquering of unknown illnesses and disseminating Western cultural values to non-Western countries. Political and economic reasons and numerous other variables influenced the colonial discourse of medicine. This discourse interacts with and produces polity, biology, ecology, material living conditions, and new knowledge.

In India, the British master continued to have the same underlying propensity to make financial profits from the colony as much as feasible. Developing modern medical science and its acceptability amongst the masses was natural. During the period of the Hindus in ancient times, Vedic medicine became quite famous in India; during the Medieval reign, the Unani medical system became famous. The instance of the European medical system was not different from

the first two. Allopathy was no different. Their colonial desires were essential to preserve a healthy atmosphere and a healthy environment. Their first duty was to protect European health in a new and unfamiliar country.¹⁰⁰

5.1. Western Medicine and Colonial Politics -

In the first phase of the naval expeditions, Western medicine was not commanding in its connection with indigenous society and was generally kept to the Europeans. Seldom have European physicians diagnosed Indian rulers with business as opposed to clinical targets. The treatment of Shahjahan's daughter and the Farruk sayyiar, the then Mughal emperor, were exceptional cases of Gabriel Boughton, physician of the English boat Hopewell.

A daughter of Emperor Shahjahan, who was burnt, is believed to have visited Gabriel Boughton, surgeon of the English vessel Hopewell. The vizir Asud Khan advised that the European physician provide help and sent a note to Surat, and The Surat Council chose Gabriel.¹⁰¹ From the effects of her injury, Gabriel effectively healed the young princess. Gabriel was therefore favored in court. Accordingly, Gabriel became the most loved European in the Mughal court. He was given free will to request his prizes from the ruler. He looked for no private remittance; however, he pleaded that his country might be free to trade, liberated from all duties obligations to Bengal, and set up a factory in that notion—*Firman* issued by Shahjahan involving the acknowledgment of the apparent multitude of remittances mentioned by Gabriel. Unexpectedly, Western medicine gave streamlined commercial opportunities to the British. For the first time, Europeans had the free hand to grow trading relations with India and set up a factory in Bengal for commercial purposes. This incident implies that the British considered a medical framework as an imperial tool to extend commerce or reinforce bases in India.

The treatment of the Emperor by William Hamilton had tremendous advantages for the English by bringing them highly to the Mughal court. Hamilton had been asked to treat Taqarab Khan

before the end of July, but his case was deemed hopeless.¹⁰² In August, treating the King for swellings was necessary and successful. Once again, two months later, Emperor Farrukh Siyar was struck with intense agony in October, and he was afraid of developing a fistula. Hamilton was similarly successful in treating him, and on 7 December 1717, Emperor marriage was celebrated to the daughter of Jodhpur's Raja Ajit Singh, who was long delayed by sickness. Hamilton received a lavishly honored elephant, a horse, five thousand cash rupees, two diamond rings, gemstones, a set of gold buttons, and models for all its golden instruments.¹⁰³

Until 1800, Europeans often sought the support of local physicians in stark contrast to the late 19th century, mainly because there were relatively few of them, partly because of their perception of the indigenous physician being more familiar with the sickness and medicine of their home country. Even the East India Company urged its staff to rely on indigenous rather than costly imported medicines in India. However, western medicine's unique logic and better efficacy started to be seriously considered by European medical professionals and laypeople, just as it had been in the 18th century.

The history of medicine in India succumbed to the multiplicity and complexity of social interaction and encounters between indigenous and Western medicine. At some point in colonial dominance, the Western and indigenous medical practices had a distinctive syncretized nature. But the question is whether it was only a ceremonial academic exchange of knowledge or a hidden agenda of British imperialism. Newly came European doctors in India during the 17th century faced unfamiliar extreme climate problems and unknown tropical diseases. The high death rate stressed the British and constrained them from discovering Indian maladies. David Arnold remarks that Western Science in India is a colonial science, not merely an extension or clear transfer from the West to a colonial outpost.

George Basalla, in his article, *The Spread of Western Science*, looks for a couple of inquiries—who were the transporter of Western science, in which disciplines of science they have been involved, what changes occurred in Western science throughout the transplanting era, and, thus, how a thriving scientific heritage was recreated among countries outside Western Europe.¹⁰⁴ He said Western science unfolds in three predominant levels – i.e., the “non-scientific society”- advancing Europe’s scientific tradition. Non-Scientific Societies served Europe as a source of scientific insights and observations. Europeans explored areas, made plans, carried out surveys, collected samples, and collected specimens during their world exploration. While commerce and the possibility of European settlement were also significant drivers of this scientific recognition, Basalla saw in it the importance of this growth of the scientific culture of Europe. European enquirers were inheritors to the scientific revolution, a series of events that showed the civilization of the West that the physical universe should be understood and subdued by a direct, active confrontation with the natural *phénomène*, not through uncontrolled speculation or mystique contestation. Exotic material from around the world allowed European science to undergo learning and development while spreading worldwide.¹⁰⁵

Basalla has called the second phase of his "colonial science" typology, which indicated "dependent," not weakened science. The term 'colonial' was supposed to be descriptive, not derogatory, and not suggest a kind of scientific imperialism that suppresses or maintains science in a non-European nation in a subservient status. The variety of science engaged was more significant than in the previous phase, exploration, but colonial scientists remained dependent on an outside European scientific culture without being fully involved.¹⁰⁶ Their training focused on areas and issues that they did not choose themselves but was previously identified by European scientists.

The third stage noticed the apparent fruition of the transplantation cycle. The third phase of Basalla witnessed the seeming conclusion of a transplant procedure characterized by a quest to create an autonomous scientific tradition. The emergence of a governmental, educational, and technical foundation has led to establishing and maintaining contemporary scientific research inside national borders. The transfer process has now been finished.¹⁰⁷

The significance of the Basalla model lies in discussing the history of colonial medicine in India. But Basalla's approach also raises many problems not addressed or unsolved by his assertions and omissions. There is no evident recurrence. Basalla believes that, depending on historical conditions, each stage's magnitude and duration might vary from one country to another. Basalla's model is diffusionist and valuable in the context of center-periphery explanations. David Arnold shows that the history of Western medicine in India in the 19th century shows the constraints of the Euro-centered diffusionist model, highlighting the need to integrate the history not only of scientific ideas and practices with metropolis forces but also of local conditions and requirements of political and professional effects, as well as to the development of scientific theory.¹⁰⁸ Western medicine in India always participated in an interaction between, on the one hand, the push of metropolitan science and the gravity pull of the requirements, limits, and possibilities recognized by India. It produced conflicts and inconsistencies that were almost unsolved, affecting colonial philosophy and practice in Indian medicine.

David Arnold and Mark Harrison pointed out that social and cultural interpretations of the history of colonial medicine depicted that the British decision-makers adopted a 'gradualist' approach to stifle epidemic diseases. Western medication scarcely reached out past a little enclave and was carefully restricted from the 1860s. William Twining, one of the most unique and compelling medical writers of the first phase of nineteenth-century India, composed his *Clinical Illustrations of the More Important Diseases of Bengal* in 1832.¹⁰⁹

5.2. Reaction of the European Physicians in the early phase of colonialism in India -

Some European physicians considered a job in India unprofitable, less dignified, and not as much reputed as their counterparts in Britain. Their salary was not the same as the medical officers in Britain. However, it was an unavoidable substitute for them as a government employee. Some considered India another open door for investigating, examining, and analyzing illness and its effects on human wellness.

In some prior European examinations concerning Indian sickness and the danger of some misrepresentation, we can see an insular movement in British clinical works identifying with India created between the 1770s and 1850s. In this type of writing, Jhon Clark's *Observations on the Diseases in Long Voyages to Hot Countries*, distributed in 1773, was concerned only with the well-being of Europeans.¹¹⁰

Charles Curtis composed a monograph for *the Diseases of India, as They Appeared in the English-Fleet, and the Naval Hospital at Madras, in 1782 and 1783*. It was published in 1802. William Hunter wrote an *Essay on the Diseases Incident to Indian Seamen, or Lascars, on Long Voyages*, dated 1804. The focus turned more comprehensively to Indians had been an item of clinical interest.

James Johnson's famous book on *The Influence of Tropical Climates, More Especially the Climate of India, a European Constitutions*, which first appeared in 1813, however, was reissued in a widely updated and appreciably revised version by J. R. Martin as late as 1856, denoted a considerable move to the issues of European endurance in an alien and unfriendly condition and opposed surroundings. Despite his brief stay in India, James Johnson, a Royal Navy physician whose work had a more profound impact on the following fifty years of medical thinking and practice, was disappointed by medical authorities from Europe who had never spoken about tropical illnesses. He proclaimed his book 1813 not to be only a child of

fertile thought or an excellent library; it is based on fifteen years of experience in various climates, including the Indian environment.¹¹¹

James Annesley, a former surgeon at the Madras General Hospital, published *Sketches of the Most Prevalent Diseases of Bengal* and provided specified accounts on sicknesses amongst Indians while still prioritizing European fitness—Charles Morhead's two-volume *Clinical Researches on Diseases in India* in 1856. James Annesley offered his study on warm climate illnesses to India and other "inter-tropical" places as a product of twenty-five years of service.¹¹² The argument was made several times that only people who understood India for a prolonged period could reasonably comment on the nature of its ailments and medical or health issues or comprehend how cultural and environmental elements may influence Western medical science's direct implementation.

As a secretary, Charles Morehead pointed out the wide variety of conditions for illness in India in the first issue of the *Transactions of the Medical and Physical Society of Bombay*, published in 1838. The introduction to the first volumes of transactions – *Calcutta's Medical and Physical Society* – of 1825 had comparative perspectives, demonstrating the broad goals and scientific aspirations of at least some British physicians in India. Therefore, society in Calcutta would happily welcome the insight that may be given by knowledge from reliable sources or actual observation of Oriental medical history.¹¹³ Those comments by many other scientific publications of this period emphasized some of the main characteristics of colonial medicine in India of the 19th century- self-awareness of science as a logical and reasonable endeavor, a responsibility to its active pursuit and promotion, awareness of changes imposed by the local influence on western medicine. By the 1850s, when science had divided into more specialized areas, medicine was a significant theme for scientific discourse in India, a disciplinary and professional core around which other "exploratory" sciences had been specified. D. G. Crawford has demonstrated that, throughout the late 18th and early 19th centuries, many of the

botanical, zoological, geological, meteorological, moral, and philosophical innovators were medical professionals, almost all in the service of East India Company.¹¹⁴ Whether for personal interests or to promote their official tasks and responsibilities, many of them produced reports of the flora, fauna, geology, and climate of the Indian areas and their neighbors.

The broad and connected character of their scientific interests, illustrated by the medico-topographical studies conducted from 1820, led to a more extensive environmental, economic, and social focus in India beyond simply a concern for Europe's health and survival. It also created a topographical or environmentalist colonial legacy that endured fiercely into the 19th century and beyond in colonial India. The medical discourse of the era was connected not just with modern scientific concepts and techniques in Europe but also with political and economic challenges to colonial governance and the acquisition and categorization of colonial information about India. Only after British power had increased to such an extent that India and the Indians were subject to colonial inspection and control when the nature and survivability of British rule had become immediate practical issues that companies were able and meaningful to address the diseases and medical problems.¹¹⁵

In Clark, Curtis, and Hunter's clarification, it is imperative to deal with his subject's health alongside Indian seamen's health to ensure Britain's maritime trade and military powers. It is not merely a reason for humankind but for the enthusiasm for extraordinary commercial advantages, which gets support from the working section of the nation. Twining at Calcutta's General Hospital, acquainted with the possibility of Britain as an external force immovably settled in India, with allegiance toward the Indians just as European occupants.¹¹⁶ Twining was one of the primary clinical essayists to deliver a manual for treating different diseases explicitly to a district in India. Hunter highlighted the relevance of the health of the Indian seamen, not only as regards the cause of humankind but also as regards the interest of a significant trade country deriving benefit from the work of that labor class. Clark, Jonson, and, to a certain

extent, Hunter placed their discussion of disease within an established kind of maritime health and the 'warm climate' disease, which frequently included the Mediterranean but usually meant a board belt of the world forming Western Indies, West Africa, India, and South-eastern Asian Island and the seas of China.¹¹⁷

5.2.a. Making of Medical Topography: Geographical Understanding of Illness in India -

From the mid-nineteenth century, medication and sickness likewise started to figure noticeably in clinical writing and all-encompassing studies and surveys of the company's territory. Alongside the geological highlights of India, endeavors were made by the British government to get some answers concerning explicit ailments in specific areas. In 1807, specialist Francis Buchanan was bidding to eastern India to make a topography of the conurbation, public health of that particular region, maladies, their techniques of treatment, food habits, religion and traditional customs, natural assets, market, commerce, etc. Buchanan presented his comprehensive report following seven years of strenuous work.¹¹⁸ It was significant for them to know India. They likewise expected to have every single information on the warm tropical atmosphere and the district's widespread tropical sicknesses related to it to dispose of obscure maladies in 1835, James Ranald Martin, who served as a surgeon in Bengal from 1817 to his retirement in 1840 in Calcutta, persuaded the Government of India to favor a progression of medico-topographical surveys by medical practitioners on the various stations and areas where they were found. His *Notes on the Medical Topography of Calcutta*, issued in 1837, was generously accepted by William Farr, a prestigious clinical statistician and nosologist.¹¹⁹ This topographical survey was further nurtured by the more complete imperial and municipal gazetteers during the second half of the nineteenth century. These topographical surveys proceeded to the second half of the nineteenth century, supplanted by the royal and region gazetteers, who were government servants as much as they were a scientist.¹²⁰ Medical geology embodied the provincial request's reasonable and political need to know as much as any savvy

interest the logically disapproved of specialists may themselves bring to their subject. As indicated by Buchanan, without information on the realities, it is challenging to reach agreeable determinations concerning pestilence maladies and varieties in the pace of mortality and multiplication.¹²¹

Bengal, tormented by illness, starvation, and pandemics, became an impediment to the assortment of the lease by the British. As production declined, so did the income of the British Government. If this tropical disease does not allow for proper management by the government, it is necessary to cure the disease. In this case, the job of Western doctors was to keep Bengal free from diseases and continue the source of income for the British. The doctor's errand was to shield Europeans' well-being from the warm climatic ailments. This conviction offered to ascend to an assortment of clinical and sanitary reactions, from geological reviews to the foundation of clinics and dispensaries. However, the loss of salary and business alone was, by all accounts, not the only explanation the British were concerned about. The exorbitant death toll has drawn criticism from Indian officials in Britain and elsewhere. We cannot thwart political motives either. By collecting topographical guides and local and regional information, the British became well aware of the unknown regions of Bengal, which helped them to grow their realm in that area. It allowed the British to establish dominance over the region's people and plunder the resources. C. Macnamara, the surgeon of Calcutta Ophthalmic Hospital, also highlighted the material significance of illness management to the colonial state.¹²² In 1866, he stated that the British government had "unquestionably made a massive deal for India. After finding the nation in disorder and devastation, peace and security were achieved for all classes. However, according to him, a profitable effort was still needed to overcome the devastation people experience yearly with epidemic and chronic illnesses. It was viewed as the responsibility of the physician to develop measures to safeguard or recover the health of Europeans in the fatal climate they experienced. This belief led to a range of medical and health

reactivity from topographical surveys to determine which places were safer than others. It could thus provide secure locations for military barracks and hospitals, temporary relocation of soldiers and prisoners to avoid the outbreak of epidemic diseases, or condemnation of negative aspects of European food intake, clothing, and social behavior.¹²³

5.2.b. European Idea of Racial Differences in Exposure to Illness in India -

In the first few years of the advent of Western medication in India, European doctors needed to know whether Indians were, in fact, minor subjects to specific illnesses than themselves. If so, then why? Johnson was a reliable promoter of Indian medical practice to the Western Medical system. He had a more liberal way of dealing with the racial and social milieu of Europeans and Indians than at a later age. He lauded the viability of some indigenous treatment and their tonics. He also held noteworthy cultural and constitutional differences, just as social contrasts among Europeans and Indians to be considered.¹²⁴ He complimented Indians for their cold therapy in fever treatments and commended their medicines and tonics for their efficacy. In contrast to the Indians of seeming restraint and moderation, he deplored European indulgence with large quantities of hot food consumption and alcohol. He considered their light and smooth clothing far more temperature-appropriate than heavy European dresses; he defended the Asian effeminacy of the Europeans in India as a rational response to the smooth environment.

Twining thought that Europeans might do much to reduce the impact of the high heat in India and maintain their health. In his view, diseases that might plausibly be attributed to high temperatures and the consequence of inflammation in Indians were typically considerably less than in Europeans, presumably to a significant extent because of the particularities of their constitutions, which are climate-adapted. However, he also indicated that the difference

depends to some extent on the simplicity of Indian food and beverage practices, which must, in all respects, be recognized as being better than Europeans.¹²⁵

However, By the mid-19th century, medical records shifted towards explaining the distinctive features of Indian society, morality, and culture more prominently as there began to dissipate a sense of great European weakness. Robert Rankine thought that considerable constitutional distinctions needed to be considered regarding regional diversity and cultural differences between Europeans and Indians. He listed a series of reasons for sickness in his topographical report of the Saran area in Bihar, many of which showed an increasing tendency to blame Indians for their diseases.¹²⁶ Indians were condemned for their evil well-being and high death rates. They were accused of being a vital factor in European's health issues. Their physical shortcoming and lower protein diet, their obliviousness and sluggishness, their packed houses and unsanitary urban cities, their superstition and rigorous religious practices, and Child marriage to an aged person to maintain cast hierarchy were thoroughly alluded to as proof that Indians were the creators of their hopelessness.¹²⁷

If the social conditions, the propensities, and ethics of the Indians came increasingly more to endure the weight of obligation regarding diseases, it was simpler for Europeans to accept that it is not their low immunity that caused sickness but the Indian counterparts, who spread the diseases by their ineptitude. Then it will be easier to take fundamental precautionary measures, endure, and succeed. Medication accordingly started to give contentions to European predominance even in a situation which had, however, as of late, shown up generally antagonistic to European well-being and to show that Western medicine can represent India just as European constitutions.

5.2.c. Orientalist Attitude of Europeans Towards Indigenous Medicine-

In the early nineteenth century, the British encompassed a positive outlook toward the Indian medical system. With the establishment of the British colony over South Asian Countries, Oriental study emerged as a new area of study. European Physicians examined the literature and indigenous sources to offer them knowledge of Indigenous nature, mainly Hindu medicine. Therefore, the main official reason for the research of Indian medical literature was the practical usefulness of discovering Indian medicines and adopting them into Western medical systems, but it was not their sole objective.¹²⁸ The propensity to regard medicine as evidence of Western civilization's superiority over the East also profoundly influenced the perception of Indian medicine and its understanding of the connection with Western medicine.

Mridula Ramanna shows that the British even allowed spaces for Indian drugs in imperial hospitals. As newcomers to India, the British felt they might advantageously learn a lot of that was of incentive to them that had been collected through years of experience preliminary and perception. Imperial doctors studied Ayurvedic and Unani texts and also took help from the “native informants” to furnish them with bits of knowledge about the idea of India.¹²⁹ The pragmatic utility of finding Indian medications and fusing them into the Western framework was the essential authority inspiration driving the examination of Indian clinical writings. However, it would be wrong to envision that a favorable material position was the primary motivator. The developing propensity to consider medication to be a show of the predominance of the progress of the West over that of the East additionally powerfully affected how the Indian medical system was seen and its relationship with Western medication was perceived.

In this manner, the “tropical” or colonial medicine developed with the advent of the British in India was not only Western items deracinated from London Europe and proliferated unaltered in Indian presidencies. It was anything but a free swapping of scholarly sciences between

equals, yet generally, if there should be an occurrence of Europe taking from India whatever seemed helpful to its comprehension and practice and disposing of the rest as useless or unimportant debris.

Sir William Jones, the preeminent British Orientalist of the late 18th century and founding member of the Asian Society in 1784, was schooled in law, not medicine. Once, he observed that Europeans should undoubtedly discover what had been contained in the Hindus' old writings on medicine and sickness.¹³⁰ Between 1810 and 1830, Benjamin Heyne and Whitelaw Ainslie of Madras commenced a series of extensive research works on Ayurveda. Ainslie's *Materia Indica* of 1826 was one of the primary endeavors to set up a consolidating joint between the material medica of Europe and that of Asia. He also grieved the abandonment of and forgetting of the old practice of dissection, vividly described in early Ayurvedic texts, as the doctor unavoidably had to be left unaware of the inner functioning and diseases of the body without studying human anatomy. J. F. Royle, and T. A. Wise, followed them.¹³¹ T. A. Wise admired ancient India for its excellent efficiency level in the educational process and accepted Ayurveda as a scientific medicinal system in its respect.¹³²

There were two different approaches to the research of Indian medicine: the interpretation and critical analysis of literature and the observation and interrogation of Vaidya and other professionals. In 1833, *Calcutta Clinical and Physical Society* published the translation work of the *Taleef Shereef* or *Indian Materia Medica* of George Playfair. In it, the conflict between Western medical doctors and Indian medical literature was explained. Playfair remarked that he repeatedly lamented that he did not have a written guide, which would make him familiar with the composition of indigenous remedies, in 26 years as a doctor in India. As utilized by Indian practitioners, the most favorable results in many ailments were usually fruitful, for which our pharmacopeia could not provide a suitable solution. He trusted that the distribution

of this translated book would urge other European specialists to take due note of local drugs and their implications.¹³³

H. H. Wilson, who came to India in 1808, was a Company surgeon but shortly turned into the famous Sanskritist of his age. He was among the first to expound on indigenous medicine based on Ayurvedic texts. In 1823, he distributed an article on “The Medical and Surgical Science of the Hindus” and planned to compose a far-reaching account of the subject, which he never finished. He published papers on the Ayurvedic treatment procedure for leprosy and cholera in the *Transactions of the Calcutta Medical and Physical Society*. Wilson accepted that Western clinical science should research the different fixings endorsed to discover a few substances of genuine utility amid such apparent disorder. In his endeavor, he was assisted by Vaidya Ramcommmu Sen, one of the patrons of the *Native Medical Institution* in Calcutta. Ramcommmu Sen wrote *Kushta or Leprosy*, known to the Hindus, by taking notes from Charaka and Susruta Samhita.¹³⁴ Wilson also pointed out that he was moving forward with Western medicine's high point of view, trusting the safety of sophisticated medical knowledge in Europe to ensure that any mistake in Hindu books would not lead him much too far. Regarding leprosy illness therapy, he found Ayurvedic literature even less helpful. However, Wilson still deemed it necessary for Western medical researchers to look into the different components suggested to identify those compounds of genuine usefulness in such a seeming disorder. However, he considered it vital to be conscious of the numerous significant flaws in Hindu medicine.¹³⁵ William Twining claimed to have used some of the medications they recommended. He felt them particularly suited to Indians, whether they wanted their drugs and avoided European therapies or because they called for different cures from Europeans.¹³⁶

5.2.d. Change in the Attitude of Europeans towards Indigenous Medicine -

In the early years of the British in India, we can observe some readiness to gain from direct perception from discussions with *Hakims, Kavirajas*, and other “native informants” educated

about Indian diseases and clinical practices.¹³⁷ However, by the 1850s and 1860s, Europeans got some distance from Ayurvedic texts since they thought of them as dubious as guided to contemporary Western medical practice. They eliminated Indian physicians as ignorant quacks. However, by the 1860s, mentalities, never all-around energetic, had coarsened. As Western medicine became the strong confidence of British imperialists and political authority, they became free from the humoral pathology that had previously brought them into line with Ayurvedic and Yunani principles. As they began to take accountability for Indian and European health, thus more clearly seeing indigenous medicine as its competitor, it showed an increasing tendency to discard indigenous medicine. In 1837, Martin criticized Indian physicians for the gross "impostures" he termed.¹³⁸ The indigenous medical practice that Morehead declared was utterly unscientific.

Indeed, Indian medicine had been seen as confusing, hazardous, and outdated. European doctors have tested the human body to circumvent the legitimacy of indigenous medical treatises. In the early 19th century, postmortem medicine in India was significant to clinical findings. When Indians strongly opposed Postmortems and considered the procedure emblematic of the filthy character of Western medicine, Europeans got the opportunity to dismiss the scientificness of the indigenous medical system.¹³⁹ European doctors regarded their rejection as a display of Indian superstition and a barrier to the progress of Indian medicine. This changing notion of European doctors clearly shows the growing importance of imperial politics. By dismissing the Indigenous medical system, they wanted to establish their supremacy in science, considered the most intellectual field of study. Indigenous medical science and its activeness in treating Indians and Europeans were hampering their colonial racial arrogance. By the 1860s, the imperial notion was influential on the perspective of the British officers, reflected in their writings. An ideological shift in colonial rule was the real driver of their attitude.

6. Role of the Christian Missionaries in Spreading Western Medicine in India -

To identify the ideological constraints of British officers, we need to discuss the changing political and philosophical notions of that period. If we start with the modernization effort initiated in Europe around the time of the Enlightenment has experienced several modifications over the past two centuries. The French Revolution became a political movement for freedom, equality, and solidarity associated with science, rationality, and the war against religious superstition. It was also connected to modernized Christian evangelicalism in Britain, which accepted the Newtonian and Cartesian view of the universe and reserved God a position over and above the natural forces that he had; it was believed, created, and moved. As anti-slavery advocates and electoral reformers, Evangelicals led radical British politics. Also, as missionaries, they participated extensively in colonial expansion, one of the main characteristics of British power.¹⁴⁰

One particular perspective claims that the advancement of Christian missionary efforts has declined and mostly adopted a passive stance within this historical progression since modernity primarily included transitioning from a religious to a secular cultural framework.¹⁴¹ In the development of enlightenment and attendant upheavals, sociologist Max Weber stated that secularism was inevitable. In the later part of the nineteenth and early 20th centuries, radical liberals and Socialists championed it with growing success, and it was only in the latter part of the 20th century a prominent component of Western culture.¹⁴² For the evangelists of the Middle Class, the working poor of their country, and the barbarian masses of the world might become civilized – and indeed Christian – through purifying and expanding their respective cultures. To do this, evangelicals launched missions both in and out of their nations to gain the emerging civilizations' sympathies and subsequently educate the people and include them in the public sphere that had just come into being. In India, the British prohibited Christian missionaries until 1813 and afterward permitted them to enter not just for solid evangelical

administrators but according to the religious faith of Indians, which became a fundamental impediment to its peoples' complete modernization.¹⁴³

The colonial project acquired a new, added edge once the evangelist modernism effort moved to foreign settlements. As claimed by Partha Chatterjee, colonialism worked in the name of modernity. It enforced what he called the 'a rule of colonial difference', which consistently opposed efforts to attain equality with its colonial rulers by those who had accepted this modernity.¹⁴⁴ In other words, they were seen as suited only for subordinates under white dominance and control. In colonies, Christian missionaries met people whose language, culture, and faiths were strange and difficult to understand, and they often interpreted this as a symbol of a big racial difference. Their writings emphasized the "primitivism" of the "backward" indigenous people, among whom missionaries would be the backbone of morale and intelligence to govern every community of Christianity converts.¹⁴⁵ In colonial areas, the conversion to modernity was structured significantly different.

A medical objective for the mission was presented from the very beginning. Until the 1870s, the evangelist and the medical missionary were little distinguished. There was a tremendous increase in the number of missionaries. There were just 7 in 1858 in India and China together; in 1882, there had been a total of 28; in 1895, there were 140; in 1905, there were 280. In the 1890s, there were 680 Protestant missionaries with medical qualifications overseas. By 1916 the international protestant medical mission had expanded to 1052 physicians and 537 nurses. In India, 27 percent of these doctors were served, and 20 percent of nurses were in India.¹⁴⁶

6.1. Hospitals and Clinics of Missionaries in India -

By 1916, missionaries operated 183 hospitals and 376 clinics in India, treating more than 1,250,000 million people yearly.¹⁴⁷ In the late 19th century, the traditional perspective of such activity was that it was carried out not purely for medical reasons but as a beneficial tool to

disseminate Christianity. David Hardiman showed that it was carried out where most conversions could be gained, not necessarily where the need was highest. It was intended as a magnet to lure patients from close and far to missionaries in the dispensaries and hospitals. It was also shown that Christians practiced their preaching, highlighting their religion's supremacy.¹⁴⁸ However, we can't deny the overpowering work of missionary doctors in the health care system of British Bengal, though they had different agendas to fulfill.

'Biomedicine' was often referred to by medical historians as the bacterial element to and healing of diseases utilizing remediating medicines or preventing bacterial infection via vaccination and sanitation. These were undoubtedly the main characteristics of the Western medical system from the later half of the 19th century. However, the word 'biomedicine' is not frequently used in India; 'allopathy' is mainly used. The phrase came in the early 19th century, focusing on the frequent use of medicines in mainstream European medicine to treat and overwhelm a disease. Hahnemann, the pioneer of homeopathy, developed the phrase because he wanted to make his practice different from that of the rest of his day's medical practitioners.¹⁴⁹ However, in India, the word was typically employed to differentiate between colonial types of medical treatment and indigenous alternatives, such as the Ayurveda and Yunani Tibb systems of medicine,

In India, the widely recognized Western medicine frequently concentrated on the figure of a white-coated doctor with a stethoscope around the collar and an operative knife; the system as a whole was called '*Daktari*' or 'doctor.'¹⁵⁰ The result was a congruent approach to this problem. However, in the area within the subject matter of this research, the name 'Foreign Medicine' is typically distinguished by its purported location of origin, some called '*Vilayati Dava*.'¹⁵¹ The fact that it had a profoundly symbolic aspect is not so much a precise definition that counts. An essential element of the medical system practiced in a colonial framework by Europeans was making a clear distinction with the indigenous medical practices. It also

demanded that individuals decide whether to embrace or reject it. As such, it was always considerably more than a medical issue to provide and accept 'English therapy.'

Conclusion -

The situation in India was very different from other colonized countries of Europe. During the colonial era, there continued to be a clear division between British medical treatment and other indigenous healing methods. As the Western medical system developed in certainty and a political situation, it liberated itself from the humoral pathology that had before kept it in contact with the Ayurvedic and Yunani medical practice, assumed as their liability for Indian people just as European people's health and well-being. They started to see indigenous medication as its adversary of Western medicine. They used the limitations of the indigenous medical system as an excuse to declare it as unscientific. However, the *Medical and Physical Society* of Calcutta was established in 1825 to consider the utility of indigenous medicine. This institution considered indigenous medicine a flawed science yet still disparaged it as an experiment and not a science at all. The practitioners of indigenous medicine were called quacks and harmful to those who took indigenous drugs. During the first half of the nineteenth century, there was a prevailing perception that indigenous doctors without affiliation with Western medicine were not deemed reliable for medical assistance.¹⁵² The British experts in charge of hospitals were willing to train a pair of Indian individuals on the basic methods of Western medicine to identify illness and Western medicinal treatment procedures. On May 9, 1822, the medical board sent a note to the Secretary of the Government of India at the military office, specifically emphasizing the stated matter.

In April 1824, the government authorized printing a vocabulary of clinical terms in the Roman, Persian, and Devnagari Characters, and a Pundit was delegated to help the administrator in his work. A school opened in October 1824 in Calcutta for training native people in medical

science both in the indigenous and western medical systems. Subsequently, a new period of Westernization of the medical system was initiated, and the next step toward this path was the foundation of imperial medical institutions to celebrate the superiority of Western medical science over any other alternative medical system. That was furnished with the foundation of the Medical Council in India.¹⁵³

From this, the political aims of the British can be perceived. They needed to demonstrate the supremacy of the Western medical system by calling the Indian medical practitioner informal and less educated. Through this, they desired to make Indians reliant on Western medicine. The hidden objective was to hinder the prestige of indigenous practitioners by calling them oblivious, absurd quacks, which were intentionally promulgated. Before the appearance of the British, the Indians were acquainted with the local medical framework. They were not intrigued by this new Western clinical framework. Extensive research is needed to decide whether British doctors called the indigenous medical practitioner informal to cut the competition in the medical market. It can be defined as their business mentality, which always wanted to establish a monopoly to earn the highest profit. Certainly, this situation was influenced by not just economic factors but also political motivations. Nevertheless, the British administration sought to establish social legitimacy for their authority in India by concurrently developing a favorable perception of the British among the Indian population. This may clarify whether the British eradicated the Indian medical practice because it was superstitiously unscientific or because monetary thought processes persuaded it. At the beginning of the 19th century, indigenous practitioners who did not know Western medicine were no longer considered safe to risk company officers' lives.

Western approaches to Indian treatment at the beginning of the 19th century were dual in character, as were the utilitarian and the hegemonic perspectives. This research further seeks

to investigate the Orientalist and Anglicist approach to the British policies and Acts taken by the British administration to eliminate the Indigenous medical system and establish the supremacy of the Western medical system. The next chapter will discuss an elaborate Western medical procedure to understand how the Western medical system influx slowly with the changing political attitude.

Notes and Reference:

- ¹ K. Park, *Preventive and Social Medicine*, 7th Edtn, Jabalpur: Banarsidas Publishers, 2002, pp. 11-12.
- ² Mridula Saha (ed.), *History of Indian Medicine; Based on the Vedic Literature: Satapatha Brahmana*, Kolkata: The Asiatic Society, 2015.
- ³ P. Kutumbiah, *Ancient Indian Medicine*, 2nd edition, Chennai, orient Longman, 1999. pp. xi-xvii.
- ⁴ Ibid., p. xi.
- ⁵ A. L. Basham, 'The Practice of Medicine in Ancient and Medieval India', in *Asian Medical System: A Comparative Study*, ed. Charles Leslie, Delhi: Motilal Banarsidas, 1988, p. 20.
- ⁶ O. P. Jaggi, *Medicine in India*, Delhi: Atma Ram and Sons, 1977. pp- 32-38.
- ⁷ *National Health Policy, Government of India Ministry of Health & Family Welfare*, New Delhi 1983.
Web Link: <http://mohfw.nic.in/kk/95/ii/95ii0101.htm#nhpO>
- ⁸ Charle Leslie (ed), *Asian Medical System: A Comparative Study*, London: University of California Press, 1976, p.20.
- ⁹ P.K. Sanyal, *A Story of Medicine and Pharmacy in India*, Calcutta: Navana Printing works Pvt. Ltd., 1964, pp. 49-61.
- ¹⁰ S. C. Raychoudhary, *Social Cultural and Economic History of India*, Vol. I, Delhi: Surjeet Publication, 2005, p. 247.
- ¹¹ Frank McDowell. *The Source Book of Plastic Surgery*, Baltimore: Williams and Wilkins Company, 1977, pp. 65-80.
- ¹² Mridula Saha (ed.), *History of Indian Medicine: Based on the Vedic Literature: Satapatha Brahmana*, Kolkata: The Asiatic Society, 2015, pp. 52-53.
- ¹³ R. L Brahmachary, "Susruta-Samhita: From Devil Worship to Moden Surgery" in *Studies in History of Sciences*, Edited by Sanimay Chatterjee, M.K. Dasgupta, Amitabha Ghosh: Calcutta: The Asiatic Society, 1997, p. 109.
- ¹⁴ Dr. P. Kutumbiah, *Ancient Indian Medicine*, Hyderabad: Orient Longmans, 1962, pp. i – xx.
- ¹⁵ Kunja Lal Bhisagratna, *An English Translation of the Susruta Samhita: Based on Original Sanskrit Text*, Vols I - III, Calcutta, Franklin Classic, 2018.
- ¹⁶ Satya Prakash, *Founders of Ancient Indian Science*, New Delhi: Research Institute of Ancient Scientific Studies, 1965. pp. 33-80.
- ¹⁷ *Sushruta-Samhita*, cited in D.P. Chattopadhyaya, *Science and Society in Ancient India*, Calcutta: B.P. Gruner Publishing Company, 1977, p. 94.
- ¹⁸ R. L Brahmachary, Ibid., pp. 105-106.

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- ¹⁹ *Charaka-Samhita*, University of Ayurveda, Prague: Ayurvedacharya Publication, Vol. III, 2016, pp. 36-37.
- ²⁰ Vijay Kumar Thakur, "Surgery in Early India: A Note on the Development of Medical science," in Deepak Kumar (ed.), *Disease and Medicine in India: A Historical Overview*, Delhi: Indian History Congress, Tulika Books, 2012, p. 24.
- ²¹ Dr. P. Kutumbiahn, op. cit., p. i- 10.
- ²² R. L Brahmachary, op cit., p. 107.
- ²³ A.F.R. Hoernle, *Studies in the Medicine of ancient India*, op cit., pp. 107-11.
- ²⁴ Mridula Saha (ed.), *Ibid.*, pp. vi-viii.
- ²⁵ *Ibid*, p. 50.
- ²⁶ *Ibid*, P. 52.
- ²⁷ CK Sampath, 'Evolution and Development of Siddha Medicine' in S.V. Subramanian and V.R. Madhavan (eds.) *Siddha Medicine*, Madras: IITS, 1983, pp. 1-20.
- ²⁸ Henry R. Zimmer, *Hindu Medicine*, Baltimore: The Johns Hopkins Press, 1948, p. i-xxi.
- ²⁹ Jawaharlal Nehru, *The Discovery of India*, UK: Penguin Books, 2004, pp. 194-99.
- ³⁰ *Ibid*, p. 116.
- ³¹ S. C. Raychoudhary, *Social Cultural and Economic History of India*, Vol. I, Delhi: Surjeet Publication, 2005, p.246.
- ³² S. A. A. Rizvi, *The Wonder That was India,1200-1700*, Vol. II, London: Pan Macmillan, 2005, P. 11.
- ³³ K. Park, op. cit., pp. 2-11.
- ³⁴ O. P. Jaggi, "History of Science, Philosophy and Culture in Indian Civilization", vol. IX , part 1, D.P Chattopadhyay (ed), *Medicine in India: Modern Period*, New Delhi: Oxford University Press, 2011, p 31
- ³⁵ Henry. R. Zimmer, op. cit., p.78
- ³⁶ D.P Chattopadhyay (ed), op cit., p. 33.
- ³⁷ Deepak Kumar (ed.), *Disease and Medicine in India: A Historical Overview*, Delhi: Indian History Congress, Tulika Books, 2012, p. 35.
- ³⁸ *Ibid.*,p. 66.
- ³⁹ *Ibid*, p. 44.
- ⁴⁰ K. Park, op cit., pp. 6-11.
- ⁴¹ *Ibid*, pp. 2-11.
- ⁴² Syed Ali Rezavi, 'An Aristocratic Surgeon of Mughal Empire: Muqarrab Khan,' in Irfab Habib (ed.), *Medieval India*, Vol. I, New Delhi: Oxford University Press,1993, pp. 154-67.
- ⁴³ Anthony de Montserrat, *The Commentary of Father Monserrate, S. J., On his Journey to the Court of Akbar*, translated by J. S. Hoyland, annotated by S. N. Banerjee, London: Oxford University Editions 1922, p. 103.

-
- ⁴⁴ Abdul Baqi Nahawandi, *Ma'asir-i- Rahimi: Memoirs of 'Abd ur-Rahim Khan Khanan*, edited by Hidayat Husain, Vol. II, Calcutta: Asiatic Society, 1931, P. 274.
- ⁴⁵ Shah Nawaz Khan, *Ma'asir – ul- Umara*, edited by Maulvi Abdur Rahim, Vol. III, Calcutta: The Asiatic Society, 1888-90, pp. 280-81.
- ⁴⁶ Abdul Hamid Lahori, *Padshanama*, edited by Kabiruddin Amad and Abdur Rahman, I, Vol. ii, Calcutta: Asiatic Society, 1867, p. 345.
- ⁴⁷ S. Ali Nadeem Rizavi, "Physians as Professions in Medieval India", in *Disease and Medicine in India: A Historical Overview*, edited by Deepak Kumar, New Delhi: Tulika Books, 2012, p. 41.
- ⁴⁸ Abdul Baqi Nahawandi, *Ma'asir-i- Rahimi*, Vol. III, op. cit., p. 46.
- ⁴⁹ Shah Nawaz Khan, *Ma'asir – ul- Umara*, Vol.III, op. cit., p. 263.
- ⁵⁰ A.H. Israili, 'Education of Unani Medicine during Mughal Period', *Studies in History of Medicine*, Vol. IV, No. 3, September 1980.
- ⁵¹ S. C. Raychoudhary, *Ibid*, p. 153.
- ⁵² *Op. cit.*, p. 50.
- ⁵³ *New Illustrated Columbia Encyclopedia*, Vol. X, New York: Columbia University Press, 1978, p. 3111.
- ⁵⁴ Deepak Kumar (ed.), *op. cit.*, p. 80.
- ⁵⁵ D. V. Subba Reddy, 'Dar-Us-Shifa Built by Sultan Muhammad Quli: The First Unani Teaching Hospital in Deccan,' *Indian Journal of History of Medicine*, Indian association of the History of Medicine, Madras: The association, Vol II, 1957, pp. 102-05.
- ⁵⁶ Charle Leslie (ed), *Op. cit.*, p. 48.
- ⁵⁷ *Ibid*, p. 49.
- ⁵⁸ John Fryer, *A New Account of East Inda and Persia in Eight letters being Nine Years Travels begun 1672 and finished in 1681*,(1698), Delhi: Asian Educational Service 1985, p. 115.
- ⁵⁹ Niccolo Manucci, *Storia Do Mogor*, translated with Introduction and notes by William Irvine, Vol. III, London: Forgotten Books, 1966, p. 332.
- ⁶⁰ Niccolo Manucci, *Storia Do Mogor*, IV, pp. 205-10.
- ⁶¹ Munshi Tek Chand, *Bahar-i-Ajam*, 1739-40, Nawal Kishore v, Lucknow,1916, Vol.II,p.166.
- ⁶² Deepak Kumar (ed.), *op. cit.*, p. 47.
- ⁶³ Saiyid Ahmad Khan, Vol. II, Ghazipur, 1863, p. 4.
- ⁶⁴ Ali Muhammad Khan, *Mirat-i-Ahmadi*, Nawab Ali (ed.), Vol. 1, Baroda: Oriental Institute, 1927, p. 376.
- ⁶⁵ *Ibid*, p. 209.
- ⁶⁶ S. Ali Nadeem Rezavi, *op cit.*, p.48.
- ⁶⁷ *Mirat-i-Ahmadi*, *op cit.*, p. 187.
- ⁶⁸ Y. H. Yahya (ed.) *Selected Documents of Shahjahan's Reign*, Hydrabad: Daftar-i-Diwani, 1950, pp. 211-12.

-
- ⁶⁹ Badauni, *Muntakhab-ut Twarikh*, edited by Moulvi Ahmad Ali, Vol. III, Calcutta: Asiatic Society, 1869. P. 169.
- ⁷⁰ John Fryer, op cit., p. 115.
- ⁷¹ S. Ali Nadeem Rizavi, op cit., p. 53.
- ⁷² Ibid.
- ⁷³ Ibid, p. 54.
- ⁷⁴ Badauni, *Muntakhab-ut Tawarikh*, Vol. III, p. 230.
- ⁷⁵ Jahangir, *Tuzuk-I Jahangiri, or Memoirs of Jahangir*, Vol I, Delhi: Atlantic Publishers & Distributors Pvt. Ltd., p. 152.
- ⁷⁶ Francis Bernier, *Travels in the Mogul Empire (1656-1668)*, translated by Irving Brock, Vol I, London: William Pickering, 1826, pp. 353-54.
- ⁷⁷ *Tuzuk-I Jahangiri*, op. cit., p. 347.
- ⁷⁸ S. Ali Nadeem Rizavi, Op cit., pp. 52-53.
- ⁷⁹ Maulana Azad Library, *Subhanullah Collection*, 616/16.
- ⁸⁰ *Tibb-I Akbari*, Maulana Azad Library, *Subhanullah Collection*, Nos. 616/15, 616/6.
- ⁸¹ Charle Leslie (ed), op. cit., pp. 50-54.
- ⁸² Ibid, pp. 39-40.
- ⁸³ *Tibb-I Ferishta*, Maulana Azad Library, *Subhanullah Collection*, No. 616/17, pp 1-7.
- ⁸⁴ Deepak Kumar, ‘ Probing History of Medicine and Public Health in India: A Study of Encounters at Multiple Sites,’ in Deepak Kumar and Raj Sekhar Basu (eds.), *Medical Encounters in British India*, New Delhi: Oxford University Press, 2013, p. 25.
- ⁸⁵ G. J. Meulenbeld, ‘Reflections on the Basic Concepts of Indian Pharmacology,’ in G.J. Meulenbeld and Dominik Wujatyk (eds.), *Studies on Indian Medical History*, New Delhi: Motilal Banarasidas, 2001, pp. 1-9.
- ⁸⁶ Deepak Kumar and Raj Sekhar Basu (eds), op.cit., pp. 24-26.
- ⁸⁷ N.H. Keswani (ed.), *The Science of Medicine in Ancient and Medieval India*, New Delhi: Thompson Press India, 1974, pp. 127-42.
- ⁸⁸ Hakim Abdul Hameed, *Exchange between India and Central Asia in the Field of Medicine*, New Delhi: Jamia Hamdard, 1986, p. 41.
- ⁸⁹ S. U. Rais, ‘The Concept of Temperament in Unani System’, In *Proceedings of the symposium on Dermatology and Unani System of Medicine*, New Delhi, December 12, 1985. P. 4.
- ⁹⁰ Niccolo Manucci, *Storia Do Mogor*, Vol. IV, op cit., pp. 205-10.
- ⁹¹ John Huighen Van Linschonten, *Voyages to East Indie*, Vol. 1, Haklyt Society, 1885, p. 230.
- ⁹² Niccolo Manucci, *Storia Do Mogor*, Vol. II, op cit., p. 333.
- ⁹³ Manucci, ibid, Vol II, p. 187.
- ⁹⁴ S. Ali Nadeem Rizavi, op cit.,pp. 54-55.

-
- ⁹⁵ Deepak Kumar (ed.), op. cit., pp. 57-58.
- ⁹⁶ Pynhunlang N M Shullai, 'Colonialism, Christianity and Mission Activities in India: A Postcolonial Perspectives', in *International Journal of Humanities & Social Science Studies*, Volume-III, Issue-V, Karimganj, Assam: Scholar Publications, March 2017, pp. 324-334.
- ⁹⁷ David, M. D. *Western Colonialism in Asia and Christianity*, Bombay: Himalaya Publishing House, 1988.
- ⁹⁸ Panikkar, K. M., *Asia and Western Dominance*. London: George Allen & Unwin, 1959.
- ⁹⁹ Dharmaraj, Jacob S., *Colonialism and Christian Mission: Postcolonial Reflection*, Delhi: ISPCK, 1993.
- ¹⁰⁰ Anil Kumar, *Medicine, and the Raj*, New Delhi: Sage publication, 1998, p. 11.
- ¹⁰¹ D. P. Chattopadhyay(ed.), op. cit., p. 219.
- ¹⁰² Ibid, p. 220.
- ¹⁰³ Ibid.
- ¹⁰⁴ George Basalla, 'The Spread of Western Science', *Science*, Vol. 156, Issue. 3775, Us: American Association for the Advancement of Science, 5th May 1967, pp. 611-22.
- ¹⁰⁵ David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India*, Delhi: Oxford University Press, 1993, pp. 15-16.
- ¹⁰⁶ Ibid, p. 16.
- ¹⁰⁷ Ibid, pp. 16-17.
- ¹⁰⁸ Ibid, pp. 16-18.
- ¹⁰⁹ William Twining, *Clinical Illustrations of the More Important Disease of Bengal with the Results of an Enquiry into Their Pathology and Treatment*, Calcutta: Baptist Mission Press, 2nd ed., Calcutta: Mission Press, 1832, pp. xxiv.
- ¹¹⁰ John Clark, *Observations on the Diseases in Long Voyages to Hot Countries and Particularly on Those Prevail in the East Indies*, London: Wilson and Nicol, 1773.
- ¹¹¹ James Johnson, *Report on the Epidemic Cholera Morbus, as It Visited the Territories Subject to the Presidency of Bengal in the Year 1817,1818, and 1819*, Calcutta: Government Press, 1820. pp. ix-xii.
- ¹¹² James Annesley, *Researches into the Causes, Nature, and Treatment of the Most Prevalent Diseases of India, and of Warm Climates Generally*. 2 Vols, London: Longman, Rees, Orme, Brown, and Green, Paternoster Row, 1828, Vol. 1, pp. vii.
- ¹¹³ David Arnold, Op cit. pp. 20-22.
- ¹¹⁴ D. G. Crawford, *A History of the Indian Medical Service, 1600-1913*, London: Thacker and Co., Vol 2, Chap. 29.
- ¹¹⁵ David Arnold, op cit., pp. 23-24.

-
- ¹¹⁶ Ibid, pp. 15-60.
- ¹¹⁷ Charles Curtis, *An Account of the Diseases of India, as They Appeared in the English Fleet and the Naval Hospital in Madras in 1782 and 1783*, Edinburgh: Laing. 1807.
- ¹¹⁸ James Ranald Martin, *Notes on the Medical Topography of Calcutta*, Calcutta: G. H. Huttman, Military Orphan Press, 1837, p. 49.
- ¹¹⁹ Ibid.
- ¹²⁰ Joseph Fayrer, *Sir James Ranald Martin*, London: Innes and Co., 1897, p. 59.
- ¹²¹ David Arnold, op cit. pp. 20-22.
- ¹²² *Indian Medical Gazette*, Vol 1(7), U.S. National Library of Medicine, US: Pandeya Publication 1866, p. 178.
- ¹²³ David Arnold, op cit. p. 40.
- ¹²⁴ James Johnson, *The Influence of Tropical Climates, More Especially the Climate of India, on European Constitutions*, London: Stockdale, 1813, p. 417-38.
- ¹²⁵ William Twining, *Clinical Illustrations of the More Important Disease of Bengal with the results of an Enquiry into their Pathology and Treatment*, Calcutta: Baptist Mission Press, 2nd ed., 1835, 2 Vols, Vol. 2, pp. 417-438.
- ¹²⁶ Robert Rankine, *Notes on the Medical Topography of the district of Sarun*, Calcutta: Huttman Publication, 1839, p. 26.
- ¹²⁷ David Arnold, op. cit., pp. 42-43.
- ¹²⁸ Cited in David Kopf, *British Orientalism, and the Bengal Renaissance: The Dynamics of Indian Modernization, 1773-1835*, Berkeley: University of California Press, 1969, p. 152.
- ¹²⁹ Mridula Ramanna, *Western Medicine and Public Health in Bombay 1845-1895*, Hyderabad: Orient Longman, 2002, pp. 1-9.
- ¹³⁰ Girindranath Mukhopadhyaya, *History of Indian Medicine from the Earliest Ages to the Present Time*, Vol. 1, Calcutta: University of Calcutta, 1923, pp. 4-5.
- ¹³¹ David Arnold, Op. cit., pp. 11-60.
- ¹³² James Wise, *Commentary on the Hindu System of Medicine*, 2nd ed., London: Trubner and Co., 1860, pp. i-v.
- ¹³³ George Playfair, "The Taleef Shereef, or Indian Materia Medica", *Transactions of Medical and Physical Society of Calcutta*, Calcutta: Thacker & Co., 1833, p. iii.
- ¹³⁴ H. H. Wilson, "Kushta, or leprosy, as Known to the Hindus", *Transactions of the Medical and Physical Society of Calcutta*, Vol. I, Calcutta: Thacker & Co., 1825, pp. 1-44.
- ¹³⁵ Ibid, pp. 25-26.
- ¹³⁶ William Twining, op. cit., pp. 332-334.
- ¹³⁷ David Arnold, op cit. p. 52.
- ¹³⁸ James Ranald Martin, op. cit., p. 60.
- ¹³⁹ Annesley, 1825, op. cit., pp. 45-46.

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- ¹⁴⁰ Peter Van der Veer, *Imperial Encounters: Religion and Modernity in India and Britain*, Princeton: Princeton University Press, 2001, pp. 3-54.
- ¹⁴¹ Stuart Hall, David Held, and Tony McGrew, 'Introduction', in Stuart Hall, David Held and Tony McGrew (eds.), *Modernity and its Futures*, Cambridge: Polity Press, 1993, p. 2.
- ¹⁴² Callum G. Brown, *The Death of Christian Britain: Understanding and Secularisation 1800-2000*, Abingdon: Routledge, 2001.
- ¹⁴³ David Hardiman, *Missionaries and their medicine: A Christian modernity for tribal India*, Manchester, and New York: Manchester University Press, 2008, p. 7.
- ¹⁴⁴ Partha Chatterjee, *The Nation, and its Fragments: Colonial and Postcolonial Histories*, Princeton: Princeton University Press, 1993, p. 10.
- ¹⁴⁵ David Hardiman, op. cit., p. 8.
- ¹⁴⁶ Rosemary Fitzgerald, "Clinical Christianity": The Emergence of Medical Work as a Missionary Strategy in Colonial India, 1800-1914', in Biswamoy Pati and Mark Harrison (eds.) *Health, Medicine, and Empire: Perspectives on Colonial India*, New Delhi: Orient Longman, 2001, p. 77.
- ¹⁴⁷ David Hardiman, op. cit., p. 12.
- ¹⁴⁸ Dr. A. Lankester, *Medical Mission in Theory, Mercy and Truth*, February 1900, pp. 39-41.
- ¹⁴⁹ David Hardiman, op.cit., pp. 1-16.
- ¹⁵⁰ Neshat Quaiser, 'Politics, Culture and Colonialism: Unani's Debate with Doctory', in Biswamoy Pati and Mark Harrison (eds.), *Health, Medicine and Empire: perspectives on Colonial India*, New Delhi: Orient Longman, 2001, p.137.
- ¹⁵¹ Helen Lambert, 'Plural Traditions? Folk Therapeutics and "English" Medicine in Rajasthan', in Andrew Cunningham and Bridle Andrews (eds.), *Western Medicine as Contested Knowledge*, Manchester: Manchester University Press, 1997, p. 193.
- ¹⁵² *Transactions of Medical and Physical Society of Calcutta*, Calcutta: Thacker & Co., 1825. Vol. 1.
- ¹⁵³ David Arnold, op. cit., pp. 55-60.

Chapter 2

A ‘Triumph!’ over Indigenous Medicine: Introduction of Western Medical Education in India

The cultural aspects of plural medical systems in India have already been discussed in many scholarly discourses. However, the political component associated with this phenomenon has not been adequately addressed. In the early years of colonial India, an open, pluralistic, tolerant, and accommodating attitude was seen in the medical system. Nevertheless, significant changes occurred due to the changing dynamics of power between Indians and Europeans, with the emergence and increasing influence of European medicine throughout the 19th century. According to an early Government Resolution of 1821, the British authorities expressed their intention to gradually pursue all possible methods to disseminate European knowledge. In contrast, the Kavirajas and Hakeems of Bengal presented a counter-argument to the perceived dominance of Western science. In this chapter, we have investigated why the British government considered all the alternative medical practices, including the indigenous medical system, unscientific. In the nineteenth century, how did Western medicine in India establish its superiority over other alternative branches of medicine? The responses of indigenous physicians and their efforts in modernizing their respective medical branches have also been examined here. This chapter has also highlighted the emergence and establishment of Homeopathy in Bengal against significant opposition from conventional "allopathic" treatment. The current research focuses on the concept of writing a manual detailing common diseases in the region and possible treatment methods used during that era. This study highlights the influences of modern culture on Indian nationalism.

1. The Connection between the Indigenous Medical System and the Nationalist Movement in India -

The growth of Western medicine in colonial India not only meant academic progress but also perpetuated a continuation of a habit of establishing colonial superiority and hegemony over Indian knowledge of science and medicine. The conflict between the demands of colonial policy and the fundamental interests of the great majority of Indians led to the gradual growth of the anti-imperialist movement in India. Perhaps this dichotomy led to India's known national movement encompassing many classes and communities.¹ The supporters of Hindu cultural nationalism also encouraged the development of a sense of nationalism because they believed that the impact of Western civilization on India's traditional cultural systems had greatly accelerated India's adversity and the subsequent destruction of its national identity. During the late 1920s and 1930s, there was a growing prevalence of the notion that India would attain political independence. This sentiment was so pervasive that the Indian National Congress established a National Planning Committee to develop comprehensive proposals on a variety of issues. By 1924, the Indian National Congress had secured a majority in a significant number of municipalities and district boards. Subsequently, by 1937, it got an absolute majority in province legislatures. However, the medical policies were controlled by the British authority. The connection between India's nationalist movement and the resistance against the British marginalization of the Indigenous medical system is not a linear progression. The phenomenon under consideration had a multi-linear complexity. Assessing Bengalis' views on state patronage of Western medicine and alignment of indigenous medicine cannot be analyzed linearly. It has multiple layers, as Indian people had different perspectives and objectives in mind. Bengali middle-class intellectuals strongly sought economic growth in the Western medical profession, but nationalists saw this as a precedent for the British establishment of a form of political subordination. Also, Bengali

philanthropists and wealthy donors were instrumental in establishing Western medical institutions in Calcutta during British rule.

The campaign to revive Ayurveda, as ancient medical expertise was intrinsically linked to their cultural heritage, may be considered a component of the increasing sense of national identity among Indians since the Sanskrit language and literature were given a significant role in the revivalist movement of the Hindu nationalist. The promotion of India's history was then relentlessly pursued to demonstrate the superiority of native culture and customs over Europe's much-heralded industrial civilization. The sense of cultural nationalism was so pervasive that it was frequently equated with the national movement. Indians felt and lamented the country's economic exploitation as they realized imperialism was an obstacle to their development.²

The confrontation between the Indians and the British rulers, sparked by the expansion of English education among the population, whose institutions, habits, and traditions were radically different from those of the former, was thus evidently a root cause of cultural nationalism. It is apparent that the emerging Indian intellectuals contributed to the expansion of the Indian national movement. Ayurveda practitioners started the revivalist movement to restore and promote the indigenous medical system, a crucial component that fuelled the Indian national movement.

The movement, however, has had a significant impact on Indian history; it sought to build institutions and gain recognition and importance by appealing for State support. It began to manifest itself at the beginning of the 20th century and finally resulted in the creation of a dual system of medicine, or, to put it another way, the simultaneous presence of institutions devoted to traditional and modern medicine throughout India. The movement gained significant momentum in 1907 with the founding of the *All India Ayurvedic Congress*, which

served as the preeminent association for *vaid*s at the time and was composed of a group of qualified native practitioners. The Indian National Congress approved a resolution calling for the popularisation of schools, colleges, and hospitals for teaching and treatment by the indigenous systems of medicine in 1920, supporting the campaign seeking State assistance for Ayurveda. As part of the Non-Cooperation Movement, renowned Ayurvedic scholars established educational institutions in Bengal.³ Gandhi set the groundwork for the hospital of the Ayurvedic institution in Calcutta some years after inaugurating the new campus of an Ayurvedic institution in Delhi in 1921.⁴ But, all these initiatives were unsuccessful in creating standard programs for training and job possibilities for graduates in the field. One of the compelling explanations for this situation was the internal debate among revivalists about standards for education and employment.

Gandhi's pursuit of medicine and health emerged due to his broader criticism of modern Westernized civilization.⁵ Gandhi's criticism might be seen as a kind of defiance against Western supremacy and the allopathic or biomedical system that was associated with it. He criticized the modern medical system for making people dependent on them. He stated that –

“I overeat, I have indigestion, I go to a doctor, he gives me medicine, I am cured. I overeat again, I take his pills again. Had I not taken the pills in the first instance, I would have suffered the punishment deserved by me and I would not have overeaten again. The doctor intervened and helped me to indulge myself. My body thereby certainly felt more at ease; but my mind became weakened. The fact remains that the doctors induce us to indulge and the result is that we have become deprived of self-control...”⁶

Gandhi believed that modern medical practitioners and hospitals primarily focus on bodily therapy while neglecting the significance of the soul or spirit. He antagonized Western medicine by calling it “black magic,” as it “tempts people to put an undue importance on the

body and practically ignores the spirit within”.⁷ Gandhi developed a scientific approach known as Nature Cure, which was intricately linked to the concept of *Panchabhutas*. Gandhi had a stance against the excessive use of drugs. According to his perspective, the physician who prescribed the fewest medications was considered the most admirable. During his political movements, he supported the cause of indigenous and homeopathy medical practitioners to achieve their legal goals.

An investigation of the relationship between Indian national politics and its stance on the hegemonic nature of British rule in the medical field unveil the plurality of perspectives of Indian people, including from adherence to resistance against them. This chapter will focus on the idea of “medical pluralism” with a detailed discussion of the different medical schools in Bengal during the colonial era. We have tried to discuss why the British administration declared the indigenous medical system and other alternative branches of medicine unscientific. How did Western medicine in nineteenth-century India establish its superiority over other alternative branches of medicine? How did indigenous and Homeopathy medicine find its ground in Bengal while facing tremendous rivalry from the “allopathy” medicine? This chapter has investigated the formative years of Western medicine in India and the position of Indians in it.

1.1. Medical Pluralism: Alternative Medicine in Colonial Bengal -

'Pluralism' plays a significant role in recent writing on the history and evolution of medicine. For instance, S. Cant and U. Sharma's most recent work is *A New Medical Pluralism?*⁸ They questioned whether we were witnessing a new kind of medical pluralism in light of the recent rise in alternative treatments' popularity. According to historical analyses like R. Porter's *The Popularisation of Medicine, 1650–1850*, the terrain of healing has always been marked by great diversity, with modern scientific medicine existing together with traditional, famous, or

folk medicine and alternative medicine, as well as "quackery".⁹ Asian Medical Systems, one of the first classics of medical anthropology, is founded on the idea that Asian medical systems are inherently dynamic and constantly changing, much like the cultures and communities in which they are ingrained. The "culture of plural medical systems" is heavily explored in several articles.

In contrast to much of the medical historical and sociological research from the same period, patients were seen as active participants rather than merely passive objects in the context of medical anthropology, controlled by the dominant medical discourse and experiencing the treatments imposed on them by domineering medical experts. Most importantly, however, from the perspective of medical anthropology, Western medicine's pretense of epistemological and therapeutic supremacy was being called into question by comparing it to the effective treatment outcomes and high levels of patient satisfaction of various non-Western medical systems. It was demonstrated that Western medicine was not always the preferred or readily available form of treatment across all countries and that several profoundly efficient and highly developed 'traditional' systems of healing not only existed before the advent of contemporary Western medicine in non-Western cultures but also successfully adapted to the demands of the modern age. Social historians of medicine inevitably drew on anthropological perspectives. They considered the development of non-Western medical theories and indigenous medicine worthy subjects of historical analysis due to critical writings on the history of colonial medicine and the tenacity and challenge of fashionable subaltern and post-colonial theories.¹⁰

Interestingly, the plural words like "indigenous medicine," "folk medicine," and "healer" were seen as synonymous with "unscientific," "superstition," and "quack," and their scientific standing, the reliability of their body of knowledge, and the moral character of their practitioners were almost always questioned during the colonial period. Even though 'Western

medicine' was often exempt from having to defend the legitimacy of its classification as a 'scientific' practice. Now we can raise a question: Why did British medical practitioners announce these alternative medical practices as “unscientific”? What was the motive behind this assertion? When they knew the medicinal merits and benefits of indigenous or alternative medical systems.

Thus, emphasizing medical pluralism alone cannot provide a simple solution for dichotomous division. However, it may be philosophically preferable to the prior emphasis on "Western medical superiority," "power," and "domination" that did as much to reify them to expose them. This is due to its apparent potential to combat Eurocentrism, cultural backwardness, and prejudices. An emphasis on medical pluralism means – that the fields of medical concepts and professional institutions, and regarding patients' freedom of choice collaborate with the perception of the medical market and sphere of treatment, in which patients of all social and cultural backgrounds are supposed to have free will and easy access to their preferred medical treatment; where medical professionals of all school are said to ply their trade equally, where it is claimed that all groups of medical professionals work side by side and with respect for each other; and where biomedicine is not only just one of many different healing modalities but also refrains from making unwarranted claims of epistemological superiority and higher effectiveness and efficiency.¹¹

Analyses emphasizing pluralism must be placed within the larger social and political framework to properly contextualize and respond to questions of power and medical supremacy. Patients' and practitioners' preferences for particular approaches, as demonstrated by David Arnold and Sumit Sarkar-Scheid, Liebeskind, and Reis, were not just personal choices; they were also closely related to the fight for nationalist identity, the assertion of cultural supremacy, and resistance to political hegemony. The opposition of supporters of the European medical tradition to indigenous medical practices was an inevitable consequence of

the Western medical system's quick transformation into what we now refer to as biomedicine in the second half of the nineteenth century. In British India, the term "allopathy" had also been used to refer to the "modern," "English," or Western medical system. The transition from a miasmatic to a germ-based perspective on the causation of illness is one example of how this medical revolution brought several practical and theoretical concerns to the fore. As a result, the points of commonality and disagreement between the various medical systems changed, and proponents of biomedicine shifted the conflict over what constituted a "proper" medical system onto the realm of the "science" domain.

The imperial expansion of Europe over the nineteenth and twentieth centuries resulted in the extension of ideological conflicts into non-Western regions—European intellectual traditions interacted with other philosophical traditions that had different ideas about knowledge and science. Unani medicine has long been a part of Indian medicine, Ayurveda (primarily by Hindus) and Siddha (South Indian medical practice). Ibn Sina's (980–1037) writings served as the foundation for Unani medicine as it was practiced on the subcontinent. He had organized the Hippocratic and Galenic schools of medicine, which the Arabs had passed on and advanced. In his *Qanun*, Ibn Sina incorporated Greek humoral medicine into an Islamic framework; this work has since been translated, condensed, and discussed in India. Since the seventeenth century, when various European commercial companies first arrived on the subcontinent, traditional treatment practitioners engaged with other indigenous practitioners and Western medical systems. The colonial power championed biomedicine almost exclusively and withheld legitimacy from the indigenous medical procedures due to changes in the power dynamics between Indians and Europeans in the eighteenth and nineteenth centuries and changes in the European medical tradition in the nineteenth century.

Only in 1919, when the Montagu-Chelmsford reforms ceded the power of the provincial legislative assembly to Indians for the first time, and the central government was given less

responsibility for medical service, did this situation change. Even when political expediency changed the official position on indigenous medical systems after 1919, the biomedical elite, including the colonial Indian Medical Service (IMS) and biomedical societies, continued publicly expressing their hatred against them. Attempts to reserve the term "modern scientific medicine" for what had previously been referred to as "allopathic" or "Western" medicine in the late 1940s were the culmination of their rivalry.¹²

2. Government Educational Reforms -

The administration of indigenous medicines was first taken up by provincial governments in the 1920s to control education through government-owned schools and colleges or controlled tests and credentials. Indians were given greater authority in running the country following the Montagu-Chelmsford reforms of 1919, which were implemented after World War I. The Ayurvedic revival was becoming more closely associated with nationalist politics throughout the nation. One of the changes was the implementation of the diarchy (or dual authority) system in the provinces, wherein, in addition to the control held by imperial authorities, areas like health and education were wholly under the jurisdiction of the provincial legislatures. Indian representation in the legislature gave them several opportunities to express their aspirations for restoring India's prestigious history and culture.¹³ Despite political support, Ayurveda was unable to compete with Western medicine.

The scenario of Bengal was different in nineteenth-century colonial India. After the establishment of the medical college in Calcutta, a decline in Ayurvedic medical facilities commenced. Traditional Ayurvedic instruction was continued in the Kavirajas' homes. Still, a few Tols (the ancient Indian education system) maintained that their financial efforts were incomparable to the magnificent, well-equipped Western medical college that provided a

wide range of training options.¹⁴ Naturally, young guys who desired to become doctors were drawn to allopathic medicine rather than the Tols and did not wish to enroll there.

2.1. Native Medical Institution -

The East India Company also followed and developed the practice of imparting medical instructions to Indians attached to hospitals. Indians usually were employed as cooks, washermen, coolies, and assistants. British administrators did not involve the local medical system during the first twenty years of the nineteenth century. In 1787, one native doctor was considered to be appointed at each battalion of Sepoys on the payroll of a Havildar, which enhanced the demand for native physicians in the army, accelerating the need for training Indians as hospital assistants. In a letter to the Court of Directors dated 8 July 1793, the Government of Bengal brought the Directors' consideration of the founding of a native hospital in Calcutta, which could be financed and supported by European inhabitants and Indians. This was accompanied by a public announcement that a hospital would be established for the natives' relief. The lack of a hospital or institution for the relief of accident victims was keenly felt by the natives of Calcutta, especially the working class. Therefore, a plan is proposed to establish an institution that will most effectively provide relief. In addition to the other measures, the Charter Act of 1813 was the primary cause of the initiation of medical training for the Indians. However, this act did not immediately address the type of education to be given to the Indians. It was common practice for them to hire Indians as hospital assistant medical staff. People who acquired competence in this manner were sent to regiments and civil positions as "Native Doctors." As a result of the need to disseminate medical education among the Indians, clinical instruction became essential, necessitating the establishment of hospitals. The hospitals also provided job prospects for both European and growing communities of Indian physicians, as well as for local service providers. Thus,

starting in the nineteenth century, the hospital sector began to manifest in various forms as an integral element of the city's economic and social activity.

In 1822, Dr. Rober Wilson, a member of the Medical Board, submitted to the Governor-General's Council a proposal to establish a full-fledged institution to train native physicians for the army and the 'relief of the natives suffering from accidents and sickness.'¹⁵ As the need for these employees grew, a medical recruit training program of twenty Indians for the army and civilian cadre was sanctioned by Bengal's government in May 1822.

The School for Native Doctors was the first institution to offer medical sciences instruction. A memorandum was passed on 1st May 1822, where the Medical Board declared their idea of a Native Medical Institution.

"it has appeared to the Medical Board, that the only means holding out a fair promise of remedying the evil, and of providing a numerous class of well trained and skilful persons to serve as Native Doctors, will be found in the Institution of a regular school for their education, and the nomination of a skilful medical officer to instruct them in the most necessary branches of medical knowledge..... It is proposed to establish at the Presidency a class of Native pupils whose number shall never fall short of twenty; and whose vacancies be filled up as they occur."¹⁶

In addition, the memorandum stipulated that the students selected for admission to the school should be able to read and write Hindustani in Nagari or Persian script and not be older than twenty years old. In Calcutta, the 'Native Medical Institution' was established to educate Indians with Western knowledge and the traditional medical system. Teachers taught in the vernacular, and several translated medical textbooks were used to accomplish this. It was believed that the tropical diseases were well known to the Indians, and their bodies had the inbuilt immune system for the disease, which was lacking in the Europeans, who were new to the climate. The maladies that affect Indians are not always identical to those that affect Europeans. As a result, it was deemed essential for the teacher to have substantial knowledge of the most prevalent disorders of an Indian climate and to be well-versed in their

distinctions, as these disorders harmed the uniquely constructed bodies of the Europeans and the Indians. The government suggested that Dr. Jamesen, the Secretary of the Board himself, whose abilities and devotion were so highly regarded by the Governor-General in Council, be considered for appointment of superintendent of the institution.

Dr. Srilata Chatterjee has shown that the “native hospital” was considered a charitable institution that functioned through a group of elected trustees. However, it was controlled by the European gentlemen in charge of receiving subscriptions and the administrative management of the institution.¹⁷ On 30th May, the Board submitted the regulation for the approved medical school. It was proposed that the salary of the head of the school should not be less than a sum of 600 Sicca rupees per month, "in the case of his being selected for the exclusive performance of the duty",¹⁸ and one-half of that sum in the case of his being allowed to perform the duty alongside to any other medical appointment he might hold at the Presidency. Within a month, the Military Department issued the Governor-General's general order No. 41 on June 21, 1822, which established the School for Native Doctors.¹⁹ The following excerpts from this decree are provided:-

1. The name of the institution was the School for Native Doctors, which was established at the Presidency for the instruction of Natives in medicine. The institution was placed under the management and supervision of a Medical Officer, who will be known as the Superintendent of the School for Native Doctors.
2. The hospital aimed to educate Native Indian physicians for civil and military services.
3. Only 20 students were allowed to be taught there. And their age was between 18 to 20 years. Students should be honest about their character traits. Knowledge of Hindi written in Devanagari and Persian script was mandatory.

4. Hindus and Muslims all had the opportunity to get admission there, with the exclusive requirement that they be of reputable caste and character and willing to perform all the duties of their occupation with a cheerful disposition.
5. If a soldier wanted, he could get admission there if he got a certificate and permission from the medical board and the supervisor.
6. The students shall be consistently enrolled as Soldiers, commencing from their admission, and shall receive financial support from the Government. Upon meeting the necessary qualifications, they shall be granted Certificates by the Medical Board. Subsequently, they shall assume the role of Native Doctors in the event of vacancies arising in either the Army or Civil Department. The duration of their Enlisted Service must span 15 years after they depart from the Institution as Native Doctors unless hindered from serving for such a duration due to a verified impairment, as determined by a Medical Committee and duly attested. Upon completing a 15-year tenure, individuals may use their right to request their release during periods of peace.
7. It was stated in the proposal that the students affiliated with various European hospitals would be assigned to the apothecaries associated with those hospitals. Their responsibilities will include attending to the hospital wards and dispensary, assisting in patient dressing, preparing and administering medications, and performing other routine tasks within the hospital's operations.
8. The individuals mentioned in the document were to be assigned to the Native Hospitals, where they would work under the supervision of the hospital officials. Similarly, those assigned to the General Dispensary would report to the Apothecary and his Deputy. Their responsibilities were expected to align with the tasks typically performed at these establishments.

9. All Native Doctors who received education at the Institution and were affiliated with Civil Stations were subject to the responsibilities of serving in the Army upon orders from the Government or the Commander in Chief, particularly at the time of war. In such instances, these Native Doctors get equivalent benefits as those attached to specific Corps.
10. The monthly stipend of students was Rs.8. Native doctors who successfully complete the test will get a monthly remuneration of 20 rupees while employed in civilian healthcare facilities and 25 rupees when deployed in areas affected by warfare. If they work for seven years, they will get a salary increase of 5 rupees. In case of physical debilitation after a period of 7 years, a native doctor will get a monthly pension of 7 rupees. After a period of 15 years, the person will get a monthly retirement stipend of 10 rupees. After 22 years of service or after 15 years of war injury, half of that salary will be a monthly retirement allowance.
11. The superintendent's salary was set at 800 Rupees per month, accompanied by a Moonshee who was meant to assist with reading and translation at an amount of 60 Rupees per month, a Writer at 30 Rupees, and a Peon at 5 Rupees per month.

The order is a comprehensive document that encompasses various aspects of the School, including its aims and objectives, the duties and responsibilities of the Superintendent, matters pertaining to students such as admission qualifications, maintenance costs, hospital educational possibilities, and post-qualification job prospects as Native Doctors.

The institution was first started at the Elbert College building of Ramkamal Sen. In September 1822, and the medical board formally petitioned the government to implement rules in the Bengali version to increase the number of students. The decision was approved by the government, resulting in a subsequent rise in the student population to a total of thirty

individuals. Jameson delivered lectures at the institution pertaining to the fields of physics, surgery, and pharmacy.²⁰

James Jameson, the individual responsible for designing the idea and serving as the first superintendent and administrator of the educational institution, passed away in January of 1823 at the age of 35. After his passing, the Medical Board issued an application request for the position of Superintendent of the School through Divisional Superintending Surgeons. Many applications submitted by Drs. W. Farquhar, George T. Urquhart, John Tytler, and Peter Breton. Additionally, the divisions suggested two other individuals, namely Alexander Davidson and J. T. Royle, but they did not submit their applications.²¹

2.1.a. Peter Breton

In a letter dated May 23, 1823, Peter Breton, Surgeon of the Ramgar Corps in Hazaribagh, a prominent figure recognized by the Medical Board, was officially designated as the superintendent of the School of Native Doctors on October 3, 1823, as stated in the general order. It was from this particular day that the educational and scholarly endeavors of the School began. Despite the medical board's recommendation of a monthly salary of Rs 1600, the government chose to disregard it. Subsequently, the monthly remuneration for Breton was fixed at 1000 rupees.²²

In February 1824, Breton was bestowed with a housing allowance commensurate with the remuneration received by the Secretary of the Medical Board. Breton rented a house where he lived, and the Medical Board and School functions ran from there. In October, the name of the institute- The School for Native Doctors underwent a change in nomenclature and thereafter became recognized as The Native Medical Institute.

Breton's salary increased to 1600 rupees on April 19th, 1824. Furthermore, in accordance with the directives of Lord Amherst, he received all the due remunerations from the day he joined the service. Bathgate Company purchased two skeletons for a total cost of Rs. 709, with the

intention of using them for the educational enrichment of ten students.²³ Regarding the lecture, Breton reports that,

“Lectures in Hindoostanee are delivered to them on particular cases and on operations; and Demonstrations of the Human Body are given as opportunities offer at the General and Native Hospitals. Lectures on comparative anatomy illustrative of the structure and functions of the various parts of the animal Body, and discourses on Materia Medica and Practice of Physic are also given to the students in the Super- intendent's own Premises, and the substance of the lessons delivered in the Hindoostance Language are written in the Persian and Nagree character by the Moonshee and Pundit attached to the School, assisted by my own private Persian and Nagree writers and are subsequently printed in Lithography for the instructions of the Students and the Native Practitioners of Hindoostan.”²⁴

Breton mentioned on one occasion that the Indian students made satisfactory progress in their study - “I have no hesitation in saying that they already knew as much of anatomy and medicine as the generality of the medical students in England (who have not had the advantage of seeing Hospital Practice and of attending public lectures) do after the completion of their apprenticeship.”²⁵ Teaching tools such as human bones, dissecting equipment, and other appliances were imported from England. He also got all those from the Honorable Company's Dispensary, with the authorization of the Medical Board.

Meanwhile, on 15th September 1824, the Court of Directors gave a letter to East India Company to abolish Native Medical Institute for some reasons like²⁶ –

First, the Indian students do not understand the English terms of some scientific words. Second, paying the supervisor and his attendants is costly. And third, in 1814, students of Madras went to general hospitals for better practical learning. However, the students of NMI are not educated in that way. So, it was recommended to abolish the post of supervisor.

On the 4th of May 1825, the Medical Board responded affirmatively, expressing the belief that NMI (Native Medical Institution) had significant advantages for the indigenous population of India. In October 1825, Breton submitted the following proposals to the Medical Board intending to enhance the quality of the School.²⁷

First, he proposed reducing the age limit for enrolment in the school. In order to enhance student appeal, he suggested an increase in the monthly stipend provided to students.

Second, Breton further implemented a system of monitors and assistants. Based on this arrangement, it is recommended that all students who have received training at the institution should not be eligible for appointment as native physicians upon their certification. It is recommended that four highly proficient students be designated as permanent monitors and helpers inside the institution, receiving the same remuneration as local physicians. These individuals were intended to assist the Superintendent and alleviate some of his responsibilities. The primary responsibilities of the individuals would be instructing junior students on the fundamental aspects of medical science at a basic level.²⁸

Third, This system aims to identify the top four students from the School for specific training opportunities. The highest-ranking student will be chosen to undergo anatomy training at the General Hospital. The second-ranked student will be assigned to the company's dispensary to gain experience in the preparation and administration of medication. The third-ranked student will monitor patients' conditions and administer medication at the Native hospital. Lastly, the fourth-ranked student will be able to observe the operations of the Native Medical Institute.²⁹

Breton's idea received endorsement by the Medical Board, resulting in a reduction of the minimum age requirement for student entrance from 14 to 21. The monthly allowance provided to students noted an increment of Rs. 10 during the first two years, followed by a further rise of Rs. 12 in the third year. The student population also grew significantly, rising from 20 to 50 individuals.³⁰

Students are sent to General Hospital, East India Company's Dispensary, King's Hospital, and Native Hospital for practical training in medical education. Lithographs were used as a means to mitigate the linguistic barriers experienced by the pupils. The lithographic books proved to be valuable resources for the instruction and training of indigenous medical practitioners. Lectures on apothecary and pharmacopeia were conducted in Hindi every Thursday and Sunday. The students received explanations of the challenging sections of the lithograph books on Mondays, Wednesdays, and Fridays from 8 to 10 p.m. Breton elucidated the concepts of air pumps and electricity to the students using his equipment. The pupils' engagement throughout the instruction of 'Anatomy Science' was evident. According to Breton, the students' diligent efforts in the field of medicine at that particular institution were deemed comparable to the medical education received by students in England during that era despite the relatively short duration of their three-year study period.³¹

According to Breton's report submitted to the Medical Board on April 10, 1826, it is evident that the Native Medical Institute did not impose a predetermined duration for the academic pursuits of its pupils. During this investigation, Breton suggested implementing a four-year study course. Explaining the Native Institute, Breton said its main objective is to teach medicine in a European manner and to enable Indians to enter the general and military departments as native doctors. Breton expressed hope in the report that there is a great need for an institution like NMI in India. By this, both the government and the common people will be benefited.³² While the European system of medicine was being taught at the school, Breton recognized the significance of the indigenous medical procedure, which included valuable remedies. He stated, "...Many native Remedies are probably superior to those of Europe, and possibly only require to be made known to English Professional men to be rendered extensively beneficial."³³ The following Table no. 1.1 is a

compilation of the first 18 students who were selected for the esteemed positions held by native doctors across various places³⁴ –

Table No. 1.1: Native Doctors Passed from NMI

Date of Appointment	Place of Appointment	Name
1 st March 1831	Saugor	Pursaud Singh
”	”	Shaikh Peer Bux
”	Cawnpore	Gunga Pursaud Digt
”	Barrackpore	Shaikh Ahmud
”	”	Yakoob Alee Khar
28 th August 1831	Ramree	Meer Kasim Allee
”	”	Gunga Pursaud Tewaree
”	”	Meer Reaz Allee
”	Meerutt	Shaikh Tegh Allee
”	”	Shaikh Muskeen
”	Bhaugulpore	Guneas Pursaud
2 nd September 1831	Governor General Household	Shaikh Enaet Hoseen
8 th October 1831	Governor General Household	Runjeen Nyn Doss
19 th October 1831	Assistant Surgeon to the Commander-in-Chief	Gausee Pursaud
22 nd October 1831	Lunatic Asylum	Shaikh Hedaet Alle
15 th November 1831	Balasure	Buldoe Tewaree
”	Ramree	Shaikh Wahud Allee
14 th December 1831	Elauah	Rung Loll

Source: Compiled by S. N. Sen, in *Scientific and Technical Education in India 1781 – 1900*, New Delhi: Indian National Science Academy, 1991, pp. 137-138.

2.1.b. John Tytler -

Breton's health deteriorated, ultimately leading to his death on September 10, 1828, during his endeavors to impart knowledge to pupils and provide educational materials in Persian and vernacular languages. After his death, John Tytler, Assistant Surgeon of Monghyr Garrison, was appointed as the Superintendent of The Native Medical Institute (NMI). He played an essential role in the Anglicist and Orientalist debate, in which he defended the Orientalists.

He was well-versed in Arabic and Persian. He translated many books from these two languages. He was concerned about the quality of the students at the institution, as he found inappropriate teaching methods at the school. He made several changes to the teaching methodology. He introduced four classes – one was for anatomy, the third was for training in *Materia Medica* and pharmacology, the second was with Physics, and the first one was for Surgery. Tytler produced an extensive scholarly publication on the fundamental principles of Chemistry, including the subject matter discussed in his lectures.³⁵

Tytler posited the notion of presenting a sheep's heart as a means to explore potential similarities between the anatomy of the human heart and that of the sheep. Following the students' approval of the accuracy of the representation, there was a significant rise in the utilization of this particular form of instructional activity involving animal dissections. As a result, Tytler formally proposed that a student be selected and trained specifically for this task to permanently assign them to the School as a dissector. This individual would hold the position and receive the equivalent payment of a teacher. Regarding the increasing fascination with dissection, he mentioned a noteworthy occurrence. At a certain juncture, he had a significant lack of a suitable subject to present the membranes of the brain, although he could not obtain a recently deceased human skull. Shortly after, at Durshun Lall, a Hindu student presented him with a skull that his friend had discovered along the banks of the river. The skull exhibited significant damage and decomposition, although a portion of the Dura mater remained intact, allowing for the demonstration of its processes.³⁶ Despite being a minor issue, the experience demonstrated that the boys could overcome their deep-seated prejudices towards handling human corpses to facilitate learning and foster a more comprehensive knowledge. After a brief period and under more advantageous conditions, the students started conducting human dissections inside the medical college.

Tytler's second significant change was the development of improved tracts and reading materials for the students. According to his assertion, these tracts were a very effective method for disseminating and maintaining knowledge among the indigenous population. When considering Indian students, it becomes apparent that unless they have the means to review and reinforce their knowledge, it will quickly fade away after leaving the educational institution. Furthermore, even while still attending the institution, the absence of a class book that students can read and study privately alongside their teacher significantly hinders their educational progress. He wrote a good number tracts for the students. In reference to Tytler's translation of the description of the arteries, veins, and absorbents in his treatise on the vascular system, he said that the treatise had been composed based on the most reputable anatomical sources available to him.³⁷ The study of the vascular system is a fundamental component of the anatomy curriculum for students in the early years of their education. It serves as a crucial starting point for their academic journey. The documents present a comprehensive inventory of pharmaceuticals and medical equipment often used in hospitals. The items are organized into columns, with matching labels provided in English, Persian, and Nagari scripts. This arrangement facilitates students' ability to comprehend and accurately transcribe the names. Hakim Abdool Mujeed, a knowledgeable practitioner of Unani medicine from Calcutta, and Madhusudan Gupta, a medical scholar from the Sanskrit College, collaborated with Tytler to provide assistance at the NMI.³⁸ Tytler received significant criticism for his support for oriental knowledge.

In the year 1830, as a result of insufficient financial resources, the government put out a proposal to relinquish the Native Medical Institute. However, the proposed solution was not put into practice. The issue revolves around the reduction of student subsidies. During the period spanning from 1825 to 1837, about 194 native doctors received formal education at

NMI and subsequently entered the medical field. The following Table No. 1.2 displays the annual count of students.³⁹

Table No. 1.2: Year and the Number of Students of NMI

Year	Number of students	Year	Number of students
1825	8	1831	10
1826	4	1832	19
1827	7	1833	15
1828	22	1834	32
1829	10	1835	19
1830	10	1836	25
		1837	13

Source: Purnachandra Dey, 'Kalikata Medical College', *Bangashree*, Bengali year 1342, Vol 1, no. 6, Ashar, pp. 771-773.

The school's activities proceeded in the manner planned for 1831 for the course of the next three years. Tytler proceeded with the production of translations pertaining to diverse areas, including anatomy, surgery, and medicine. In late 1833, the Government established a commission led by Dr. J. Grant to assess and provide a comprehensive report on the status of indigenous medical education. The committee conducted many visits to the school and acquired responses to various inquiries from the Superintendent.⁴⁰

2.2. Medical Class at Sanskrit College -

In addition to establishing the Native Medical Institution, Sanskrit medical courses were initiated at the Calcutta Sanskrit College. The success of Breton's efforts in establishing medical courses at the School for Native Doctors served as a catalyst for similar initiatives at two more institutions, namely the Calcutta Sanskrit College and the Calcutta Madrassa. The secretaries of the Madrassa Committee and the Sanskrit institution sent requests to the General Committee of Public Instruction in June 1826, asking the government to set up

medical schools at each institution. The response of Hindu Vaidya may be seen in the commencement of Sanskrit medical courses.

The efforts of the Native Medical Institute were met with disapproval by a segment of the Hindu community during that period. Hence, in the year 1826, the Vaidya students of Sanskrit College wrote to Dr. Hore Heyman, the head of the General Committee of Public Instruction. The establishment of a department of Ayurvedic education at Sanskrit College, especially for the Vaidya Jatis, was requested by them.⁴¹ The idea was approved by the General Committee, leading to the establishment of the class, which was then entrusted to the supervision of Dr. Tytler. The petition was endorsed by Dr. Wilson and Dr. Tytler, who then corresponded with the government to advocate for the advantages and indispensability of Ayurvedic education. Following the government's approval of the plan, an Ayurveda course was initiated at a Sanskrit college in 1827. The department was named Medical Class in Sanskrit College.

In 1827, Sanskrit College began offering Ayurvedic studies and some teaching in Western medicine. The Ayurvedic medical treatises, namely the Susruta and Charaka-Samhitas, were used as teaching resources, with the European medical system also being included in the curriculum. In the English class, many textbooks were used, such as Hooper's Anatomists' Vade-mecum, Physicians' Vade-mecum, and Surgeons' Vade-mecum, Thomson's Conspectus of the Pharmacopoeia, Fyfe's Manual of Chemistry, and Conquest's Outline of Midwifery.⁴² Under British sponsorship, this institution was established in Calcutta in 1824, and it introduced concurrent education in Ayurveda and Western medicine into the medical curriculum. Dr. John Tytler acquired the responsibility of teaching anatomy and physiology in the medical department of the Sanskrit College in the year 1828. Dr. John Grant succeeded him in 1831. There, Ayurveda was formerly taught by Kaviraj scholar Khudiram Bisharad. Nabakrishna Gupta and Madhusudan Gupta emerged as notable individuals from the cohort

of Vedic scholars who were granted admission to the institution. During that period, there was a notable prevalence of Sanskrit poetry expressing appreciation for both the instructor and the learner. The text was obtained from Ishwarchandra Vidyasagar Mahashay and afterward translated into Bengali by Purnachandra in the following manner.

“Khudiram Bisharad Khyato Bhumondole (Khudiram Bisharad is renowned in the world,)
Ayurved- Mahasindhu Sobe jar bole. (Ayurved-mahasindhu, who was called.)
Naba Krishna Gupta, Gupta Shri Madhusudan (Nabakrishna Gupta, Gupta Sri Madhusudan)
ei dui manthan Dutta driroh bilokkhon (These two Duttas, with strong determination)
koriya ashim shrom lobhe obosheshe (Given their infinite labor, at last achieved)
Charakadi sudharas moner horoshe.”⁴³ (Happy achieved the knowledge of Charaka)

Following a period of diligent effort spanning three years, Madhusudan Gupta attained a high level of proficiency in anatomy. In the first weeks of May, Khudiram Bisharad resigned from taking classes at Sanskrit College for certain reasons. Subsequently, Dr. Wilson designated Madhusudan Gupta for the position.⁴⁴ Consequently, Madhusudan's classmates expressed their discontent. Some students left early out of pride.

Various papers, including *Samachar Darpan*, started arguing about this. They were vocal against the replacement of Mr. Khudiram Bisharad by Madhusudan Gupta. According to *Samachar Darpan*, it was recommended to include English language instruction into the curriculum for Vaidya students enrolled in Sanskrit Colleges. Acquiring medical knowledge published in English and Sanskrit would assist medical students in effectively providing healthcare services to indigenous populations. Khudiram Bisharad was replaced by Madhusudan Gupta, who began teaching anatomy in Western style. During that period, the concept of dissection in medical curricula was absent in Sanskrit College. The educational curriculum included the practical instruction of students in the technique of shearing goats

and sheep. However, the bones were managed by the students. The source of this information is derived from the report authored by Dr. Wilson.⁴⁵

2.2.a. Hospital at Sanskrit Medical College -

In the latter part of 1831, Ramcomul Sen supported the establishment of a hospital, including a total of 30 beds.⁴⁶ Notably, this hospital also included a medical class to provide a convenient learning environment for students. Dr. J. Grant was assigned as the supervisor, while Navakrishna Gupta got the duties of the apothecary. In this role, he was supported by a fellow student on a monthly rotational basis. Both individuals were required to reside inside the hospital facilities continuously during the day and night. This initiative facilitated the equitable distribution of essential clinical experience among all students using a rotational system. At that juncture, a resolution was made to assign each student to serve as their assistant for one month. The European apothecary, facing financial constraints for acquiring medicinal supplies and equipment, submitted appeals to the Government. The government denied the demand. According to the aforementioned data, it is evident that in the year 1833, a total of 94 patients had medical care at the hospital. The provision of their sustenance was sourced from the medical facility. Daily, a total of 158 individuals exhibited symptoms of illness and were administered medication. The apothecary tried to visit those who could not attend the college for treatment.⁴⁷

Although the number of patients treated was rather low for a hospital, it was sufficient to provide therapeutic guidance. There were a multitude of small procedures and mechanical processes that had significant importance for the students studying surgery. Consequently, the students were allowed to witness and, to some extent, participate in the superintendent's presence in various medical procedures such as bleeding, catheterization, incision and drainage of small abscesses, wound dressing, and the correct application of dressings and bandages.

2.2.b. Response of the Native People and the British -

On January 1, 1834, Tytler published his second report, which said that poor patients could not be operated on even if necessary, due to a lack of courage. However, some simple surgical and herbal treatments have beneficial effects on the minds of the students. The later joining of assistantships has brought out a lot of agility relatively earlier. According to his statement, Sanskrit literature has a plethora of essential knowledge in the field of medicine. Regrettably, it is being squandered. According to his perspective, combining theoretical errors within the field of medicine with practical errors is deemed inappropriate. According to him, *Vaidyas* might have some mistakes in their theory, but they are correct in practical application. Even many European doctors can't compete with *Vaidyas* in that regard. In this scenario, it is inherent for an Indian to prefer being treated in their local culture and medicine. Even students who have received training in Western medicine hardly apply this method. In most instances, indigenous methodologies were used, and patients actively sought medical treatment from indigenous practitioners. He is, therefore, opposed to discarding Sanskrit medicine entirely until something better has been given a chance. The purpose of the authority was to impart the light of knowledge among the natives. Due to limited proficiency in the English language, the abstract and symbolic characteristics of medical linguistics, and the incorporation of Latin and Greek terminology, only a small proportion of students at this educational institution could attain comprehensive knowledge of English literature. According to Tytler, the dissemination of information might be achieved alone via meticulous translation. Expecting success in any aspect of native education would be completely worthless otherwise. He argued against discontinuing the study of Sanskrit until all medical departments had their Sanskrit texts satisfactorily translated into Bengali and English.

Conversely, there exists a dearth of European drugs in the local market. Tytler realized that, without establishing needed pharmaceuticals, it would be futile to encourage people to accept

Western medicine instead of easily available indigenous drugs. Though less efficacious than Western medicine, Indigenous drugs were readily accessible commercially. So Tytler proposed under such circumstances, it would be entirely unsuitable to withhold access to indigenous medicine from the general population, regardless of its limited effectiveness, until there is a significant rise in the availability of Western medicine.⁴⁸

However, it is impracticable to disseminate Western knowledge among the nation's vast population only via educational institutions. To get approval, The British understood that it was essential to establish and cultivate relationships with the native people. Attempting to eradicate Sanskrit literature from such a perspective would likely intensify the existing hostility amongst the indigenous and Western medical practitioners. While some collaborators may acknowledge the use of Western medicine, ordinary people might not readily embrace its perceived superiority. The British understood that the Indians would acknowledge the superiority of the Western system of medicine if they let them study Eastern and Western science alongside one another rather than enacting coercive methods. This will demonstrate that the English do not have any feelings of jealousy towards the intellectual achievements of the East.⁴⁹

Several efforts were made to translate Sanskrit medical texts, not just to acquire knowledge about indigenous medical techniques. One of the aims was to illustrate the British government's impartial stance towards the indigenous healthcare system. They wanted to prove their neutrality for the science.

Indian people believed there was a distinction in their bodily composition compared to those of European origin. In order to maintain their mental and physical health in the tropical hot environment, native people choose food habits, wear light clothes, and construct houses accordingly. This is the reason for their ability to thrive in the tropical environment of

this place. They believed that medicines made from natural ingredients of this country are also useful for the health of native people. Tytler also supported this belief. Wollaston, professor of English at the Sanskrit College, also supported Tytler.⁵⁰ He felt that denying native knowledge of medical education meant denying the merits of that nation.

On January 29, 1835, Tytler, in a report on the medical science class of the Sanskrit College, requested that the students be shown the dissections of the animals until the dissection of human corpses began for the teaching of anatomy. However, this request was denied by John Grant because it is worthless to dissect animals to understand the anatomy of the human body. According to the report dated February 7, 1828, W. Price, the Secretary of the College, personally conducted anatomy classes with a Bengali translation of an English book on the subject.⁵¹ Tytler further presented the students with a visual display of the bones of the human body and some soft anatomical parts of animals. He believed educating students through pictures depicting precise human dissection would be most effective. However, Grant assumed that with time, Indian religious superstitions might be removed by dissecting animal corpses. Their interest in science will grow, and they will get a basic Western medical education.

On February 5, 1830, the Secretary of the Sanskrit College submitted a report to the Subcommittee of the Hindu College on medical education. It stated that all the books required for teaching medical education had been procured. Students of Sanskrit College acquired knowledge of surgery and medicine like European medical students.⁵² Table No. 2.1 shows the names of students who joined the medical class in Sanskrit College between 1826 to 1835.

Table No. 2.1: Students of Medical Class in Sanskrit College

Name	Joining Date at College	Joining Date in class	Scholarship
Madhusudan Gupta	July 1824	March 1827	In 1826, it was 11Rs. From 1827, it was 8Rs. Per month
Haladhar Sen	November 1826	November 1826	Same
Harihar Gupta	Same	Same	Same
Rajkrishna Sen	Same	Same	Same
Iswarchandra Sen	Same	Same	Same
Radhanath Sen	Same	Same	Same
Brindaban	Same	Same	Same
Radhanath Gupta	Same	Same	Same
Ganga Gobinda Sen	April 1827	April 1827	Same
Gobinda Chandra Sen	Same	Same	Same
Harish Chandra Sen	Same	Same	Same
Harish Chandra Sen	November 1825	February 1828	Same
Shib Chandra Sen	July 1824	February 1828	Same
Naba Krishna Gupta	Same	Same	Same
Ganga Prasad	June 1827	November 1830	Same
Nabakrishna Sen	February 1827	August 1830	Same
Girish Chandra	June 1830	June 1830	Rs. 8 Per Month
Madhusudan	August 1830	August 1830	Same
Krishnahari	November 1830	November 1830	Same
Kalachand	November 1831	November 1831	Same
Haradhan	Same	Same	Same
Bhagaban	March 1834	March 1834	Same
Gopal Krishna	Same	Same	Same
Haralal	January 1834	January 1834	Same

Source: Collected from Binoy Bhushan Roy, *Chikitsa Bigganer Itihas: Unish Shatake Banglay Paschaty Shikkhar Probbab*, Kolkata: Sahityalok, 2005, pp. 72-78.

From the above table, we can say that students were generally given 8 Rupees per month. On several occasions, students had to pay fines for various reasons. In several instances, a portion of the whole scholarship funds were withheld as a penalty.

In January 1834, Tytler and Bramley examined the English medical class, during which they observed that the students had extensively studied Hooper's Anatomists Vade-mecum and Surgeons Vade-mecum, demonstrating a commendable level of proficiency in their understanding and application of the subject matter. Their limitations resulted from the lack of human dissection, which prevented them from accessing advanced areas of medical and surgical expertise.⁵³ The initial objective of the College was to educate the Indian students simultaneously in the Ayurvedic and European systems of medicine. However, the latter system gradually and unavoidably became more significant over time and under European supervision.

2.3. Medical Education at Calcutta Madrasa -

The Calcutta Madrasa also began offering lectures in Yunani medicine in 1827, as did the Sanskrit College, which included the most famous treatise on Ayurveda, the books by Charaka and Susruta. Previously, there were two distinct positions at Calcutta Madrassa, one dedicated to teaching medical knowledge and the other focused on providing healthcare services to students. Abdool Mujeed occupied both of these positions. In 1824, he was relieved of his duties due to unsatisfactory performance, resulting in a temporary suspension of the medical class. In a correspondence dated June 13, 1826, D. Ruddell, the Secretary of the Madrassa Committee, addressed the General Committee of Public Instruction. The purpose of the letter was to formally seek the reinstatement of the positions of medical instructor and medical attendant for the students. Maulavi Zoolfukhur Alee received a recommendation for his appointment to the posts of 'Hakim and Lecturer of Medicine' with a monthly salary of one hundred Rupees. Zoolfukhur served under Breton for a period of time,

providing assistance in translating medical texts into native languages for the benefit of the Native Medical Institution. In his recommendation to Ruddell, Breton asserted that Zoolfukhur Alee possesses a distinct advantage over his fellow professionals due to his firsthand exposure to the teaching methods and curriculum employed at the Native Medical Institution. This exposure was gained through several months of collaboration with him on the development of medical literature in the Hindoostance language, specifically intended for the education of native students.⁵⁴

European anatomy, treatment, and surgical textbooks were translated into the vernacular language for the advantage of students. Dissection was not done, but acquiring clinical experience in various hospitals and clinics was essential. Zoolfukhur Alee assumed the position on June 30, 1826, and mostly adhered to Breton's approach at the Madrassa. In the following year, Breton conducted an evaluation of the first batch of students enrolled in the medical program in 1928 and provided a positive assessment.⁵⁵

Name of the medical students of Calcutta Madrassa was - Insuf Alee, Samar Alee, Kadim Kasyn, Azeemabadu, Umur Oollah, Abdulu Barce, Koorban Alee, Abdool Uheed, Zynool Abideen, Imdad Alee, Farid Puree, Islam Ullee, Gholam Qulundur, Usud Alee, Juffur Alce, Golum Kulendar, Golum Muktadur, Alee Haidar, Md. Taki, Korban Alee, Iqdam Alee, Golum Mahiuddin, Abdul Ahed, Maqbool Ahmed, Golum Sobhan, Tajmul Hossain etc.⁵⁶

On February 1, 1831, John Tytler presented a report to Ruddell, the Madrasa secretary, on improving the medical education in Calcutta Madrassa. At the beginning of that report, he mentioned that Madrasa students were familiar with Unani medicines written by famous authors in Arabic. According to his analysis, the main obstacle to future advancements lies in the limitations of Muslim herbal treatment. As mentioned earlier, one contributing factor to the inaccuracy may be the insufficient transcribing of the renowned writer Gallon. Tytler asserts that the Greek medical texts found in India are derived from incomplete summaries of

the Abyssinian Galleons. Gallon depicted psychological conditions, inherent qualities, and operations previously disregarded by reasonable medical practices. In addition, the text exhibits an inadequate and inaccurate examination of anatomical concepts, including two distinct enumerations of medical conditions and pharmaceutical substances. However, the topics of surgery, midwifery, and pediatrics were not addressed in the current subject of discussion. The absence of discourse around obstetrics and pediatrics, two crucial departments, results in an ongoing sacrifice of many lives. In summary, it can be seen that the drug list, although it lacked the organized structure akin to Greek letters, was precisely replicated by the Arabs. However, this replication overlooked a crucial aspect: the scientific understanding of drug preservation and use. Consequently, European critics had difficulty extracting curative facts from Gallon's work, although he possessed substantial scientific expertise and extensive opportunities to analyze the material.⁵⁷

Likewise, traditional medicine experienced a significant decline due to a lack of knowledge and expertise among indigenous medical practitioners. Obtaining the appropriate dose from the Indian market was a significant challenge, even for those striving to become medical professionals. To address this issue, he proposed the translation of medical books written in English into local languages. He advocated for the appointment of teachers who could provide explanations of its content. Furthermore, he requested all students to study English whenever they got the chance. Implementing this measure is expected to alleviate the burden on educators while enhancing their professional credentials. Nevertheless, he favored using the aforementioned strategies for a certain duration to yield outcomes. Tytler believed that the Arabic translation of the Anatomists Vademecum, known as *Anus-ul Mosharraheen*, ought to be distributed among the students, which was translated by him. It is recommended to additionally study *Farsi-ul-kul (Fashreeh-ul-kul)*, a specialized account pertaining to the heart. In addition to this, no other books were available at that time.⁵⁸

Tytler investigated how the medical class functioned in 1833. In 1833, Tytler presented a two-part report on the madrasa examination. A report on student progress was tabled on January 11. It gives a lot of information about the Madrasa medical class. Second is the period of admission. Initially, students were granted admission to the third class and then advanced to the second and first classes based on their performance in exams. In the event of failing the examination, the individual is required to remain in his present academic class. The second report was delivered on February 2nd, 1830. He said that by the year 1833, there was a noticeable shift in the circumstances, with an increase in the student population to a total of 20 individuals. Out of these, 12 students studied Arabic medical literature, while the remaining students used the Hindustani translation of Hooper's Vade-mecum as their educational resource.⁵⁹ However, none of them acquired practical knowledge. A few Arabic books worth mentioning include Shurul-Ushbab, Asari, Sudid, and Qanunchi. At the outset, there was a notable lack of demand for medical education. To clarify, one group acquired knowledge of the Unani system, whereas the other group selected the European system. Shuruh Asbab, Akurace, the Sudeedee, and the Kanooncheh were among the Arabic books studied by the students who chose the Unani System to study. Hooper's Anatomists Vade-mecum's Hindustani version was given the name Anees-ool-mosharra-heen.⁶⁰

Regarding the examination, Tytler expressed disappointment with the state of their textbooks. The manuscripts exhibit significant signs of deterioration, incompleteness, and scarcity. The primary challenge students faced was their ability to effectively respond to questions using information only derived from written materials. However, their comprehension of manuscripts seems to be lacking in depth, and a significant number of students struggle to provide satisfactory responses when queried about manuscript-related matters. The second issue pertains to the education system at Madrasa. Like their counterparts in other educational institutions in Calcutta, Madrasa students mostly engage in rote memorization without

comprehending the underlying significance. To illustrate, referring to scientific terminology often used in medical literature was necessary. Students often remembered words and their meanings without really grasping their meaning. The students could not respond sufficiently when Tytler asked for an illustrative example. However, Tytler wanted to ensure that the recipients fully understood the definitions, accompanied by illustrative examples.⁶¹

As a proposed solution, Tytler recommended four potential suggestions. One of the aforementioned practices was the inclusion of critical sciences, such as Western medicine, in Madrassa curricula, which required suitable teachers and textbooks. Furthermore, Madrassa was established for many causes, irrespective of the dominant notions surrounding Orientalism. The practice of indigenous medicine was important to encourage the native students to learn medicine. However, according to Tytler, there were several unnecessary topics, but a few subjects needed to be presented in front of the students by an experienced teacher.

The British placed a higher emphasis on their scientific pursuits. They realized that the popularity will thus be lost if indigenous medical education is removed from the curriculum, resulting in an imperfect understanding of Western education. However, with continuous learning, native people will realize what their indigenous medical knowledge is lacking. The British thought that one of the contributing factors is that individuals often have a favorable perception of their scientific knowledge due to a lack of awareness or understanding. To eliminate it, it is essential to comprehend that the British have no animosity towards indigenous medical knowledge. Furthermore, they are strongly willing to provide complete educational opportunities in the medical field. They were sure that by giving enough time to cultivate innate intellectual capacities, Indians might acquire the ability to discern and evaluate information from both Eastern and Western medical traditions, refining their understanding by eliminating erroneous beliefs and embracing truths.⁶²

Similar to other medical institutions, the medical section of Madrasa was also dissolved, resulting in herbalism being offered only as an elective course in the fourth grade. Subsequently, the students had the opportunity to choose a topic of their preference from various disciplines, including law, rhetoric, natural science, herbalism, and astronomy. The works of Qanunchi, Anis-ul Musarahin, and Sudeed were studied in indigenous medical science.⁶³

3. Change in the Educational Policy -

The medical profession's imperial nature often corresponded with those of the Indian government, which was cautious of meddling with local medical traditions and subjugated indigenous medicine to military and political principles of colonial directives. However, this cordial cohabitation between the systems did not persist since, in 1835, a new institution was founded to make European medicine the sole recognized system of study.

The Anglicists overturned many vernacularism and orientalist educational ideas in the 1830s. "The Asiatics ought to be educated in the sciences of the West," written by Charles Trevelyan, an ardent Westernizer. Some misinterpretations had been made about the Official Patronage of India's medical systems and its eventual removal in 1835. A receptive orientalist policy of embracing and fostering indigenous medicine is said to have unexpectedly changed in 1835 when an exclusionary policy of the same replaced it. This transformation had devastating implications for the indigenous medical systems and ended the amicable cohabitation of both medical systems. In reality, the government strategy seems to have been geared toward the eventual victory of European medicine. Rather than promoting traditional medicine as an equal or alternative to Western medicine, the main objective of the Europeans was to convince the medical students of the supremacy of Western medicine.

Around 1830, the Native Medical Institution was being targeted by Europeans who were increasingly opposed to government funding for indigenous medical education and favored a

much more explicit policy of teaching Western science entirely through the English language. An inquiry committee was formed in 1833 by Lord William Bentinck to investigate the status of medical education in Bengal and the teaching of indigenous medical systems. Native Medical Institution training and assessment were condemned in a report issued in 1834 by a committee chaired by Dr. John Grant, who served as its chairman. The absence of practical anatomy education was also criticized. "Education of natives" was one of the recommendations in the report. As in Europe, Indian students should be taught about the many areas of medical science. It is required that trainees be able to read and write in English, Bengali, and Hindustani and be excellent in math. Two consecutive results of such a report were the abolition of the Native Medical Institution (NMI), and the medical classes at the madrasa and the Sanskrit College ceased to operate in 1835. Calcutta Medical College was established in 1835 and marked a fresh start for medical education in India.

His cordial cohabitation between the systems, however, did not persist, as in 1835, by a strategy intended to make European medicine the sole recognized system of study, the previous medical programs were dissolved, and a new institution was founded. The Anglicists won the debate between British Orientalists who favored the traditional Indian culture and Anglicists who wanted to replace it. When an Indian performed the first dissection of a dead human corpse in the new institution, Lord Macaulay ordered a cannon salute of fifty rounds to be fired from Fort William as a sign of victory.⁶⁴ Lord Macaulay's Minute changed the whole education system in British India. In his words –

“We must at present do our best to form a class who may be interpreters between us and the millions whom we govern; a class of persons, Indian in blood and colour, but English in taste, in opinions, in morals, and in intellect. To that class we may leave it to refine the vernacular dialects of the country, to enrich those dialects with terms of science borrowed from the Western nomenclature, and to render them by degrees fit vehicles for conveying knowledge to the great mass of the population.”⁶⁵

British policy to keep control over the native population included the elimination of Ayurvedic courses in the Sanskrit College and the promotion of the English culture and language. Macaulay see this as an unprofitable attempt to teach students in Indians language.

“This is proved by the fact that we are forced to pay our Arabic and Sanscrit students while those who learn English are willing to pay us. All the declamations in the world about the love and reverence of the natives for their sacred dialects will never, in the mind of any impartial person, outweigh this undisputed fact, that we cannot find in all our vast empire a single student who will let us teach him those dialects, unless we will pay him.

I have now before me the accounts of the Mudrassa for one month, the month of December, 1833. The Arabic students appear to have been seventy-seven in number. All receive stipends from the public. The whole amount paid to them is above 500 rupees a month. On the other side of the account stands the following item: Deduct amount realized from the out-students of English for the months of May, June, and July last-103 rupees.

I have been told that it is merely from want of local experience that I am surprised at these phenomena, and that it is not the fashion for students in India to study at their own charges. This only confirms me in my opinions. Nothing is more certain than that it never can in any part of the world be necessary to pay men for doing what they think pleasant or profitable. India is no exception to this rule”⁶⁶

He criticized orientalist for wasting money on printing books in Indian languages.

“The committee have thought fit to lay out above a lakh of rupees in printing Arabic and Sanscrit books. Those books find no purchasers. It is very rarely that a single copy is disposed of.... The sale of Arabic and Sanscrit books during those three years has not yielded quite one thousand rupees. In the meantime, the School Book Society is selling seven or eight thousand English volumes every year, and not only pays the expenses of printing but realizes a profit of twenty per cent. on its outlay.”⁶⁷

He vehemently advocated for English education in India. According to him, Indians were wasting their time reading Arabic and Sanskrit, which would not help them earn money. He mentioned that Indians were also interested in learning foreign languages for a better future.

Furthermore, this approach needed to consider the objectives of Christian missionaries. The missionaries of that era despised the traditional Ayurvedic texts as the products of paganism and superstition despite being part of sacred Hindu traditions. Lord Macaulay, who oversaw the strategy, was the son of a Christian missionary and is known to have consistently backed attempts by ministers to win the hearts of the Indians to Christianity.⁶⁸

By offering scholarships and providing free medical texts, charts, and models, British policy promoted Western Medical Education. Additionally, compared to those schooled in the outdated Tol methods, allopathy students had a considerably higher probability of obtaining a decent professional position. Initially, traditional Kavirajas forbade their sons from studying allopathic medicine, but after seeing the financial benefits, many sent their boys to Western medical colleges. The students were accepted as first-class Native Doctors and received certificates allowing them to practice medicine and surgery. The third class consisted of people whose education was restricted to hospital apprenticeships. In contrast, the second class consisted of Native Doctors who had received their training at the short-lived college founded in 1822.

Even in the college established in 1835 and designed after medical colleges in England, all young Indians were educated for inferior roles or subordinate positions. However, allopathic institutes were well attended because of the economic advantages. After 1835, the British strategy sought to displace Indian traditional medicine and favor the European method. The British authorities intended to "seek every practicable means of effecting the gradual diffusion of European knowledge,"⁶⁹ according to an early Government Resolution from 1821. This political choice was developed over several stages. Initially, the Sanskrit College was permitted to teach both European and Indian medical books side by side.

4. Institutionalization of Western Medical Science in India -

It will be helpful to consider the context that made the acceptance of Western science in India at the time and location when it happened so favorable before continuing to understand why it happened. Regionalism must be acknowledged as a contributing aspect to India's cultural growth. People in India (particularly in Bengal) were separated into several castes, among which the Brahmin, Vaiysha, and Sudra were three of the most prevalent. In the numerical sequence, they have been listed, these three maintained their relative social positions, and each had unique privileges and professions. A sub-class known as the vaidyas, or the doctors, quickly emerged from the first two. They combined the riches and intelligence of the Vaishyas with the wisdom of the Brahmins to become a caste of Bengal. They belonged to a privileged class that allowed them to practice medicine and make and dispense medications. According to Gopaul Chundar Roy, M.D., F.R.C.S., in ancient times, the Hindus classified their knowledge of medicine into three categories. Medicine, medical Materia Medica, and anatomy. Expecting dissections and a solid foundation in anatomy was incompatible with the attitudes already in place. Handling and examining dead bodies for information was against their religious convictions, and they were treated with terror and loathing.

One cannot anticipate much progress in the anatomical study from a country that views everyone as filthy if they merely touch a relative's corpse and mandates washing the dead in the holy river as a kind of atonement for impurity. However, Gopaul Chundar Roy found that the consensus among the population was that the Indian Materia Medica contains some remedies that are truly helpful in treating intestinal and pulmonary complaints and that, if methodically applied by experiments and sound reasoning, they may compete in efficacy with the most effective medicines in the British Pharmacopoeia. He further asserts that "It is needless to "multiply instances of old and absurd doctrines, but it suffices for our present purpose to say that the ancient Hindoos started in their practice of medicine with an attempt

to base their treatment on anatomical - truths.”⁷⁰ As an Indian who received Western medical education, Gopaul Chunder tried to establish that ancient medical practitioners had anatomical knowledge. He evaluated the ancient treatment process and found the great curative power in those medications. He confessed that remedies from indigenous medicine found places in British Pharmacopeia.⁷¹ Many plant-based medicines recommended by Hindoo doctors are worth trying. He testified that he had observed patients "recovering from an advanced stage of consumption when pronounced by European surgeons as past recovery."⁷² He advocated for the medical knowledge of the indigenous healers. He wanted to set an idea of ancient Indian scientific and medical notions when the British administration tried to ignore the validation and acceptability of indigenous medicine. Such writings demonstrate that Indian physicians had been trying to highlight the availability of indigenous medical systems to the British since the 1870s.

4.1. Calcutta Medical College -

The initial idea for promoting the spread of English medical knowledge among the native inhabitants was not envisaged until the year 1836, under the supervision of Lord William Bentinck. The success that came with the founding of English schools and colleges had convinced the authorities of a Hindu's intellectual ability, and strong efforts were made to launch a medical college to provide medical education. Bengal's intellectual development was relatively unrestricted by tradition, especially in Calcutta. The Bengal Renaissance had developed over fifty years since Calcutta Medical College (see Appendix I, Plate 1.1) was established. Calcutta had a homegrown intelligentsia acquainted with happenings in Europe, conscious of its historical legacy, and increasingly informed about its future in the modern world. The energetic, vibrant, and well-educated Bengalis were notable everywhere. For instance, when a school that taught English was founded in Benares, 70% of the students came from Bengal. In addition, many Bengali Hindu doctors also shifted to Western

medicine. Literate Indians could absorb the new information without jeopardizing their caste or customs. It is crucial to realize that this was not a mass movement but a new urban middle class of elites fluent in English, largely Westernised, and open to contemporary scientific and literary ideas (see Appendix II). Lower-level government officials, educators, attorneys, technicians, entrepreneurs, and medical professionals were involved. For them, the arrival of Western learning was a big and glorious event, comparable to the arrival of the Renaissance in Europe in the fifteenth century.

Professors for the new College were selected from the Indian Medical Service of the Army of the East India Company. The earliest lecturers had studied anatomy, botany, and chemistry in the top Scottish and continental medical institutions. Thus, they were well-versed in these fundamental core sciences of the medical curriculum. Even though their popularity depends on their research, it is sometimes overlooked that most ancient scientists, including Copernicus, were also physicians. Medical men were essential to developing English science in the late eighteenth and early nineteenth centuries. Mountford J. Bramley, an assistant surgeon, was the College's mentor during its formative years (1803–1837). He served on Bentinck's 1833 committee and was suggested as the college's principal in a letter from the Court of Directors on 8 April 1834, which favored the establishment of a medical college. After moving to Calcutta in 1829, Bramley soon had the idea to impart contemporary medicine to locals in English. He started out working by himself but eventually solicited assistance from others to get past a formidable barrier from different edges.

Most of the Anglican English population believed that the idea of an Indian doctor with scientific training was absurdly unattainable. The Europeans viewed Indians as having inferior moral, intellectual, cultural, and physical qualities, and they were generally spoken about with arrogance and scorn. However, educated, traditional Indians knew well that Western medicine would threaten some of their most cherished customs. Bramley urged

young Indians to enroll instantly as he was informed about the intentions for establishing a Western medical school. While ensuring the beginning of the college, Bramley was a superb administrator, facilitator, and expeditor. Still, amid all these difficulties, he acknowledged the significant role played by David Hare, whose influence was crucial and pivotal in enabling the formation of a Hindu medical class. Without his influence, any such initiative would have been ineffective.

The College was inaugurated on June 1st, 1835, despite a climate of uncertainty. Most fervent Anglicists doubted how well Indian students would fare in practical sciences like anatomy, chemistry, and botany. The initial lectures took place in a former prison. There was no teaching hospital, no library, no labs, no museum, and no equipment of any type. Enrolment was the only positive aspect. Even the prospect of receiving enough applications from young men was uncertain. However, because of the support of individuals like David Hare, about 100 applications between the ages of fourteen and twenty showed up. They were carefully tested, particularly in oral exams and written English. Based on European practice, fifty were approved and given monthly stipends to start a four to six-year study term. There was no differentiation based on caste or creed. There was one Christian in the first class, but no Muslims. Some Muslims went on to enroll in school, although they were always a tiny minority. Local Hindus from the Brahmin and writing castes comprised most of the enrollees. Henry Goodeve (1807–1844) was the only professor chosen by Bramley's proposal, although Bramley served as College Principal. In a comprehensive exposition of his educational philosophy, he articulated that medical colleges should focus on practical education and consider the student's mental, moral, and physical well-being. Anatomy is a vital subject in Western medicine. Many intellectual and enlightened Indians and Europeans had the belief that Indian students would never be able to properly understand modern anatomy because of their thoughts about touching a dead body. Despite his reservations, Bramley realized he had

to confront this issue directly. He and Goodeve worked together to plan and deliver a series of lectures using human bones. After each lesson, the students were given the bones to examine individually, and none of them displayed any discomfort or even the least hesitance. Plates and models accompanied the lectures rather than text to prevent rote memorization. The Indian Medical Service sponsored weekly oral examinations and public examines. The instructors were delighted with the course's development during its three-month duration. They started a different approach from October 1, 1835, through March 31, 1836. Osteology remained the main focus of the teaching, but more delicate tissues and larger corpse sections were added, and the student's enthusiasm and interest continually grew.

4.1.a. The Dissection Day -

On October 28, 1836, Goodeve gathered the class in a temporary dissection room with the help of Pundit Madhusudan Gupta, an assistant who was well-read in anatomy and had a strong command of English. Gupta was the first to use the scalpel and start making incisions, and four other students soon followed. To avoid an illogical assault from the public, who frequently threw stones outside the palings to vent their anger, a tiny dissection room was built with high surrounding walls and police guards. To harm the institution's image, absurd allegations were spread about kidnapping children and killing sick people so that their bodies might be dissected. The fact that young Indians could transcend their predecessors' prejudices and participate appropriately in studying human anatomy made this an essential event in the history of modern science in India. This scientific discovery had significant societal ramifications since it allowed Indians to practice and benefit from Western medicine. Bramley was overjoyed, declaring that by choosing a study method formerly viewed with such dread by their fellow citizens, these four young men achieved the most significant step towards real civilization that education has yet to accomplish.⁷³ After this day, dissections proceeded until the course's completion on April 1st, 1837. Gopaul Chunder Roy mentioned,

“His (Madhusudan Gupta) portrait has been placed in the theatre of the Medical College in honor and commemoration of his commendable deed.”⁷⁴

On June 27, 1837, an assembly was arranged in the college theatre with Governor-General Lord Auckland as the chief guest. Distinguished members of the government, well-known businessmen, and Various Indian leaders, including a nawab and a rajah, as well as the general English populace. In the ceremony, Goodeve praised the students for their excellent written and practical (dissecting) test results. A gold and silver medal awarded by the government, cash prizes sponsored by one of the Indian philanthropists, and certificates of excellence were awarded. At that ceremony, Goodeve stated, "That the prejudices of ages should in six short months have been overthrown and the iron bonds of a most debasing and mischievous superstition have been ... burst asunder by a few simple youths . . . was indeed a spectacle worthy to behold."⁷⁵ The professors of anatomy in Calcutta had no trouble making human anatomy study mandatory due to easy access to resources. Within two or three years of the initial dissection, the outstanding pathology department of the Calcutta Medical School was ranked among the best anatomical teaching institutions in the world, thanks to the availability of a museum, curator, and local artists to create plates and anatomy demonstrations. This history of high standards started by the early professors persisted throughout the 20th century, where it continued to get positive feedback.⁷⁶

4.1.b. Titles and Job Prospects of the College Graduates -

Sub-assistant surgeons was the title given to the college's graduates. Under the direction and control of European medical officers, they were sent to various locations in charge of hospitals, and the manner they carried out their tasks more than lived up to the expectations held for them. The number of hospitals increased nationwide, and the requirement for these institutions became more pressing. They faced numerous challenges as

they attempted to spread "English medicine," much of this was attributable to the gradual abandonment of those ridiculous practices, such as vaccination and implicit reliance on the religious priests' incantatory abilities in life-threatening illnesses. By 1837, the students' successes had ensured the success and survival of the Medical College, assisted by the competent instruction of four eminent surgeon-scientists in the fundamental disciplines of anatomy, botany, and chemistry. The government donated funds, and land and money donations came from Indian donors.

The unexpected death of Bramley on January 19, 1837, caused one catastrophe. He was their cherished instructor and mentor, which demoralized the kids. However, David Hare stepped in to ease their grief.⁷⁷ With Governor-General Auckland's approval, the General Committee on Public Instruction worked swiftly to designate two new clinical professors within a week. At this time, R. O'Shaughnessy received the position of demonstrator of anatomy, and Wallich was appointed. Auckland also followed the recommendations made by Goodeve and O'Shaughnessy to eliminate the role of principal and create a College Council made up of the faculty, which was entrusted with directing the institution's operations. This Council was expected to operate precisely comparable to the Medical Colleges of Edinburgh, London, and Paris. The institution has every amenity a full-fledged medical college should have by 1840. The primary structures included a dissection room, three hospitals, a lecture hall with seating for 500 people, a library, outpatient dispensaries, offices, a chemical lab, physics equipment (some physics was usually included in the chemistry course), a hostel, and a museum. The original faculty had grown from two to five and the staff from four to sixteen by May 1842.⁷⁸ To study Western science and medicine, young men from various backgrounds—including Europeans, Ceylonese, Armenians, Burmese, Christians, Muslims, and local Indians—enrolled. The entry age was raised to sixteen in 1844–1845, and the requirements for spoken and written English were tightened. Written exams were taken in place of oral exams to

maintain students' proficiency in grammatical norms. The instructional program was lengthened to five years and split into two sessions each year. A compound microscope and a mineral cabinet, two crucial teaching aids, were provided. To fulfill the necessary criteria, the faculty made significant adjustments to the curriculum, prohibiting a professor from teaching various courses. As a result, additional professors were employed, mainly benefiting clinical studies and chemistry. As indicated, O'Shaughnessy incorporated physics into his chemistry course, but he also included topics like *Materia Medica*, toxicology, and medical jurisprudence, primarily applied chemistry.

4.1.c. Bengali Medical Students at Foreign Land -

Four college students, Bholonath Bose, Dwarkanath Bose, Gopal Seal, and Soorjo Chuckerbutty⁷⁹, left for further study in London during this decade, another noteworthy development. The four pupils and Goodeve sailed for England on March 18, 1845, with some financial assistance from the government but primarily from the Indian and English philanthropists of Calcutta.⁸⁰ He attended University College London after enrolling. The first three returned to India in January 1848 after receiving their M.B. degrees from the University of London in November 1847 to start extremely lucrative medical careers.⁸¹ Once they had finished their studies and returned home and enlisted in the Second Anglo-Sikh War of 1848–1849, both received an award medal with a clasp. Chuckerbutty was the most brilliant one among the four. He was too young to earn his degree and license among the rest. He was the only one receiving government assistance, but Goodeve saw such great potential in him that he requested further funding so he could complete his studies. He returned to Calcutta in 1850 after earning his M.D. from the University of London in 1849. The majority of Englishmen would not have predicted that these Native Indians, who were considered to be ill, feeble, and superstitious, coming from frontier towns or villages would have even a remote possibility of success. Even someone familiar with the staff, curriculum, and

standards of Calcutta Medical College might have been delighted to see these students graduate from University College with just passing marks. Results, however, showed that any such unfavorable assumptions were not founded. They passed and did it honorably, earning certificates of achievement and gold and silver medals in courses ranging from zoology to anatomy and chemistry. Graduates from Calcutta Medical College found placements in various sectors- military, civilian and private practices. And like that, Western medical science got gradual acceptance from the native population. The four students who visited England later became professionally and financially prosperous professionals.

Mel Gorman pointed out that the significance of these educational trips to England can be interpreted differently. First, it demonstrated conclusively and dramatically that Indians were capable of mastering Western science and medicine on an equal scale with Europeans. Secondly, after returning to India with certifications from the Royal College of Surgeons and degrees from the University of London, these students were ambassadors for contemporary science and inspired upcoming Indian physicians and scientists. Finally, because of their example, a genuine flow of Indian students to England to pursue studies in various professions started.⁸²

New regulations stated in 1849 were put into effect. The courses to be provided in each session were planned for five years. In addition to six terms of anatomy, dissection was required at every session (more than 500 corpses were used in 1851). Chemistry was covered in three sessions, and botany in one. Ten chairs covered the complete spectrum of medicine. In 1852, a brand-new, sizable College Hospital was built, with one ward bearing the names of O'Shaughnessy and Goodeve. The fact that the government and private sectors, both Indian and English, made noteworthy financial commitments was a testament to the institution's rising fame.

4.1.d. Calcutta Medical College Hospital –

The inauguration of the hospital linked to the Medical College for the reception of sick patients was described as "the most important event connected with the history of the Medical College during the past session"⁸³ in the Report of the Medical College. The Council of Education received the old Fever Hospital Funds, totaling Company Rs. 61,248-7-10, in April 1847 after considerable urging in order to establish the intended hospital that would house 300 patients. In addition, the subscriptions were collected, and contributions from people like Pertab Chunder Singh increased the council's financial resources. A total of Rs. 2,36,772 had been raised from different sources when the hospital became operational.

Endowments and contributions given to the hospital by both Europeans and Indians helped the institution's finances even more. In 1856, W.N. Hedger gave the Medical College Rs. 4,000 for both the hospital and the college. In 1859, Mr. Fagan gave a total of Rs. 2,850, while John Elias gave Rs. 6,000. Endowments also came from Indians, including Sattya Charan Ghoshal, who provided Rs. 1,000, Gopal Lall Tagore, the Maharajah of Ulwar, who gave Rs. 10,000, and Prince Golam Muhammad, who gave the biggest amount—Rs. 73,800—to the hospital fund. It was invested in official documents. The wealthy Christian, Hindu, and Muslim populations' increased interest in medical aid, particularly for Western medicine, actually contributed to the hospital's ability to survive. Beginning in the middle of the nineteenth century, donations from Indian benefactors arrived willingly, funding both the hospital, medical college, and medical education. (See Table. No. 3.1.)

The Medical College Hospital transformed the colonial approach to clinical medicine through its nature and operational settings. The functions of this institution included a wide array of activities, including medical and surgical treatments, ophthalmology, maternity care, pathological dissections, and the study of morbid anatomy. These activities together

represented the practices often seen in modern hospitals. However, its establishment as an educational medical facility associated with the Medical College was more significant.

Table No. 3.1: Medical College Fund, 1835 – 54

<i>Sources</i>	<i>Amount Donated (in rupees-anna-pice)</i>
Old Fever Hospital subscription	58,366-10-8
New Fever Hospital subscription	39,800-0-0
Balance of the Lottery Committee Fund	
(i) Presented by the government	57,771-13-11
Donations from Babu Pertub Chunder Singh	50,000-0-0
Interest on the New and Old Fever Hospital	
(i) Funds	25,462-12-0
Discount gained on the purchase of	
(i) Company's paper	158-11-11
Premium gained on the sale of Company's paper	
(i) As per statement of the government's agent	2,015-2-0
(ii) By sale of old material	3,197-0-0
TOTAL	2,36,772-0-30

Source: IOR/V/24/4478 Annual Report of the Medical College, 1835-54

The hospital provided medical care to people, both European and Indians. The European ward not only ensured the presence of a nurse to cater to the needs of patients, particularly those confined to their beds, but it also implemented a policy of comprehensive racial segregation between European and Indian patients in both the male and female wards. The impoverished but respectable European families living in Calcutta avoided sending the ladies of their families to the Medical College Hospital due to the lack of private accommodations for the European Christian women in both the surgical and medical wards.⁸⁴ In the year 1859, a division was implemented inside the female ward to provide distinct spaces for European and Indian women. The Magistrate of Calcutta allocated the funding for the restructuring of the wards. The organizational structure facilitated the separation of European and Christian patients from the 'local' Indian females based on ethnic and religious factors.⁸⁵

The dietary allocation for European patients was four annas per day, whereas Indians received one and a half annas. The daily wage for Europeans was then increased to six and a half annas, while Indians received three annas. The differential between European and Indian patients was also evident in the kind of expenses allocated for the dietary needs of the European patients. (see Appendix III) The Director General of Hospitals often expressed concerns with the inadequacy of the allowance provided for European patients who were ill. In 1858, there was a noticeable rise in the expenses associated with maintaining the Hospital, coinciding with a notable surge in the number of European patients seeking medical care. The additional financial resources allocated to European patients were obtained from the funds originally allocated for local patients. The college Principal acknowledged that the allocation for Indian patients resulted in a surplus due to the consistently lower number of patients. Consequently, the allocation of this resource was redirected to attend to the medical needs of the European patients.⁸⁶

In 1857, the government founded the University of Calcutta, with which the authority of granting degrees shifted to it from the Calcutta Medical College. (CMC). The following year saw the transfer of power; the East India Company was dissolved, the Crown took complete control of Indian administration, and a new period for all Indian people's endeavors began, eventually leading to nationhood.

5. Medicine Chest: An Account of British Imperialism and Health Policy -

The foundation of the British Empire in India in 1858 was made up of European officers who held military and administrative positions. However, the British Government in India was criticized for the high death rates of European officers in the mid-nineteenth century in India. This impeded the expansionist agenda of the British Empire. The lack of accessibility to the Western Medical system in challenging places worsened the problem. During the latter half

of the 19th century, there was a notable effort to adapt Western medical methods to the local setting. The British government expressed concern over the well-being of European individuals residing in regions lacking access to Western medical treatments. The dissemination of Western medical knowledge among Indians was not only driven by the academic interests of the British. Its potential political and economic advantages drove the need to ensure stability within the newly established empire.

The British officials in colonial India had little understanding of the tropical environment, dietary customs, and clothing. Combating the unknown illnesses of the tropics was like starting an unfair war. The limited Western medical facilities were inadequate compared to the demand. As a result, sudden illness became common among Europeans. The British government expressed concern upon seeing an atypical rise in mortality rates among European officials and their families. Initially, the increasing mortality rate impeded the British imperialist expansionist objectives. Furthermore, it was expected of British authorities to ensure the safety and well-being of its personnel stationed in unfamiliar locales, far apart from their homes and loved ones.⁸⁷ It became a challenge to protect British officers, especially those working in the Customs, Opium, Forest, and Public work departments, who were not receiving the necessary medical care.

5.1. High Death Rates -

According to Hamilton, "In 1700, there were about 1200 English in Calcutta, but in the following January 460 were buried, higher than any year up to 1800, except 1760, when 305 died".⁸⁸ From 1770 onwards, British commanders witnessed the harrowing death marches in Bengal, mostly attributed to the devastating effects of starvation and plague. Based on the findings presented by Mr. Hickey, it was seen that a total of 26,000 people lost their lives on the streets of Calcutta during the period spanning from July to September in the 1850s.

During the 1850s, there were smallpox epidemics in Calcutta and other places in India. Another epidemic, namely the Plague, emerged between 1898 and 1907. In 1918, influenza and flu were prevalent, and the historic Famine of 1943 took place in Bengal.⁸⁹ The prevalence of fever, stomach disorders, physical weakness, and unexpected death was seen as a regular occurrence resulting from the chilly temperatures throughout the night, foggy conditions, and inadequate clothing in the thatched houses. In 1817, 704 men serving in the British army died of cholera.⁹⁰

According to the Annual Public Health Report of Calcutta for 1890, data reveals that from 1867 to 1876, 1107 European soldiers and 1120 local soldiers in the European army stationed in Bengal died of fever-related causes. From 1871 to 1877, there was a noticeable deterioration in the health conditions of the European army camps located in the three presidencies of India, along with an increase in mortality rates (Table No. 4.1).⁹¹ The Bengal Government's annual public health report revealed that fever, dysentery, cholera, and diarrhea were the leading causes of death for Europeans in Bengal, especially in the port area of Calcutta.⁹²

Table No. 4.1: Life Expectancy in India during 1871 – 1921

Decade	Life Expectancy	Death Rate (Per mille)
1871 – 81	24.6	40.7
1881 – 91	25	40
1891 – 1901	23.8	42
1901 – 11	22.9	43.7
1911 – 21	20.1	49.8

Source: Kingsley Davis, *Population of India and Pakistan*, Princeton, 1951, p. 36

Data were gathered for 1876, 1931, and 1946-47 censuses to conduct a regional analysis of urban mortality.⁹³ The outbreak of the plague reached its peak in Calcutta during the 1850s.⁹⁴

The mortality rates among Europeans in Calcutta were comparatively lower than those of Indians. The observed variation in mortality rates based on social and economic status highlights a significant conclusion- the impact of sickness and death in India was influenced not only by factors such as sanitation, epidemic frequency, and overall population density but also by the size, income, and well-being of the lower socio-economic strata (Table no. 4.2).⁹⁵

Table No. 4.2: Death Rates in Calcutta during 1880 -1912

Locale	Composition	1880-89 (per mille)	1890-99 (per mille)	1899-1912 (per mille)
Park Street	European	14	14.5	10.5
Bura Bazaar	Indian Commercial	30	30	29
Jorabagan	Indian traders, residents	31.5	32.5	40.5
Jorasanko	Indian residents, some bustees	34.5	34.5	35.5
Hastings	Lascars, Coolies, Pensioners	44	40	38

Source: Compiled by Ira Klain, "Death in India, 1871-1921", *The Journal of Asian Studies*, Vol. 32, No. 4, Association for Asian Studies, August, 1973, p. 644.

The introduction of modernized works aimed at generating new wants and requirements in a densely populated, conventional society was inevitably poised to provoke disturbances. The railway infrastructure that extended alongside the major rivers, such as the Ganges, Brahmaputra, Yamuna, and others, destroyed the traditional river commerce, such as the handicraft marketplaces of West Bengal.

Epidemic illnesses have a high propensity for spreading rapidly among these villages of poor craftsmen. Transportation enhancements were, moreover, profoundly impacting the natural surroundings.⁹⁶ The construction efforts included the excavation of vast quantities of soil and the creation of extensive embankments spanning thousands of km in a nation where regular monsoon floods necessitated the elevation of embankments to a considerable height. The interference with natural drainage was a common occurrence, often resulting in the

obstruction of water flow. During the 1860s, severe malaria outbreaks occurred in Eastern India's Hooghly and Burdwan regions, which were unprecedented according to British records. A government investigation highlighted that the calamity was attributed to certain factors, such as - "embankments" and constructed structures such as raised roadways and railways.⁹⁷

However, many diseases Europeans suffered in India might have also been acquired in their country. However, the difference was the lack of necessary medical infrastructure in India. There were regular cases of white males suffering, dying in isolation, engaging in verbal communication that remained incomprehensible to others, and experiencing physical distress beyond understanding. Hence, apart from family, the possibility of dying alone in an unknown land would likely have dissuaded English officers from seeking employment in distant locations.⁹⁸

5.2. Measures Taken by the British to Control High Death Rates -

In such circumstances, The British government faced internal and external pressures to provide health protection for European servicemen. The year 1896 saw the establishment of the Indian Medical Service, which came into existence via the amalgamation of the health departments of the three presidencies.⁹⁹ The establishment of the Royal Army Medical Corps (RAMC) aimed to enhance the efficiency and organization of the medical infrastructure in the British Army. Legislative measures and regulatory frameworks were enacted to control and manage mortality rates. The Epidemic Diseases Act was enacted in 1897. Several legislative acts were enacted under the British administration in India to consolidate their governance. These include the Town and District Municipalities Act of 1919, the Government of India Act of 1919, the Government of India Act of 1935, and the Public Health of India Act of 1939. The interconnection between national, state, and local politics was evident.¹⁰⁰

5.3. “A Manual of Family Medicine for India” -

In the latter part of the 19th century, the British government implemented a preventive step by taking the initiative to write manuals for European officers in the latter half of the 19th century. These manuals aimed to address prevalent tropical illnesses, accidents, and other urgent medical conditions, emphasizing the need for prompt and appropriate treatment. Several measures were implemented to ensure that Europeans could get the essential healthcare services required for themselves and their families. The provision of a Manual or a guide book, accompanied with a "Medical Chest," was believed to have the potential to reduce mortality rates in regions lacking adequate medical infrastructure significantly.¹⁰¹ At Berners Street in London, the General Apothecaries Company used to sell Medicine Chests, including the medicines and instruments that were advised for use in this project.

On September 23, 1871, the acting Inspector General of Forests sent a memorandum seeking approval to print and distribute a handbook to forest officers, a manual containing instructions for using commonly prescribed medicines and treating some of the most widespread diseases. It was noted that India had a long-needed, simple, and easily available medical manual that would serve untrained medical personnel and the demands of European officers stationed in remote areas of India without access to Western medical assistance. It was mentioned that this kind of work should not be considered a replacement for expert medical advice, nor is it advisable to rely on it in the presence of accessible professional help. In the absence of such medical assistance, many lives could be saved if a manual that was well suited to the situation and was accompanied by a small medicine chest were placed in the hands of everyone with no other trained guidance. Its directive was to use as minimal a number of remedies as possible without much technical terminology. With these objectives, it was asked to list all the necessary medications first, then their mode of action should be

described, and the recommended dosages for adults and children should be mentioned. It was advised to include the details of the Medicine chest in the first chapter of the book.¹⁰²

In the second point, it was mentioned that the symptoms of the major illnesses and the appropriate course of therapy for each should be discussed in the subsequent chapter. In the third chapter, the diagnosis and treatment of accidents should be discussed. A fourth chapter was recommended, including fundamental principles for maintaining health, particularly in circumstances involving prolonged exposure and habitation in unhygienic environments often linked with the execution of responsibilities. The aforementioned directions were provided in the observation part of the memorandum.¹⁰³

The decision was made by the Excellency Viceroy and Governor-General in Council to give rewards of Rs. 1,000 for the most outstanding handbook of this kind, which must be submitted on or by October 15th, 1872, with particular consideration for simplicity and brevity. According to the resolution, manuscripts should be addressed to the Inspector-General of Hospitals, Indian Medical Department, Calcutta, titled *Manual of Family Medicine for India*. Packaged should be sealed in an envelope with the author's name inside and a subject title on the outside. The book would be published under the author's name at public expense, subject to any modifications or exclusions deemed necessary by the government, and become its property. The writings of A.O. Hume, the then Secretary to the British Government of India, suggest that the resolution was sent to all local government and administrative levels to ensure that the message was conveyed through proper official channels to all individuals associated with the medical system.¹⁰⁴

From the Memorandum No. 623 of the Department of Agriculture, Revenue, and Commerce, it can be stated that the prize announced by the Government of India for writing the 'Manual of Family Medicine of India' on October 31, 1871, in Memorandum No. 431-40, received by

Rajputana Political Agency Sergeant Major W. J. Moore. W. J. Moore's book followed all official directives.¹⁰⁵ The causes and symptoms of the most common diseases and injuries were explained in simple language so that any layman could treat himself and his family without professional assistance. Particular emphasis was placed on the treatment of children, making the text more acceptable to Europeans who lived with their families in India. The book tries to explain the minor surgical treatment of the injured area through diagrams so they can do it themselves.

Using a Medicine Chest becomes essential to meet the deficit of the inadequate medical infrastructure in remote areas. According to Sergeant Major W. J. Moore, a Medical Chest, "Containing the Medicines and instruments recommended for use in this work, which can be obtained from the General Apothecaries Company."¹⁰⁶ A list of 2700 drugs was provided in the British Pharmacopeia compiled by the initiative of 'The General Council of Medical Education and Registration of The United Kingdom' in 1874 AD.¹⁰⁷ From this list, only 67 drug variants were selected for the Indian diseases appropriate for 'Medical Chest,' which would be safe to use by non-medical individuals.¹⁰⁸

The instruments required for preparing and compounding medicine were also kept in this medicine chest. That was – Pestle and Mortar, Scales and Weights, a Slab for mixing pills and powders, two ounces, Measure glasses, Minim, Spatulas or Knives of different sizes, an Enema Syringe, and a small syringe. In addition to all these devices, an accident often requires surgical treatment. For that, surgical instruments were placed in a pocket case containing – a probe, director, abscess lancet, caustic holder, curved knife, spatula or blunt knife, forceps, tenaculum, gum lancet, vaccinating lancet, needles, scissors, ligature, silk, plaster, bandage or rollers, lint, flexible catheters, sponge.¹⁰⁹

The book mentions the names of 70 types of drugs, of which three were available everywhere in India, so those three were not included in the box. The rules for preparing the medicine were given in the manual, which called for extreme caution during the preparation and administration of the medicine. A child and a frail woman would need a lower dose than an adult strong male or female. The amount of medicine according to age and sex was prescribed as a table in the book. The drug dosage was calculated for a strong adult male aged 21 to 45 years, and the amount was increased or decreased accordingly for children and women.¹¹⁰

The manual also gave the measurement calculation to avoid any measurement errors while preparing medicine (Table No.5.1) . Distilled water was said to be used to prepare medicine. Instruments used during surgery or medicine preparation were also instructed to be purified in suitable hot water. The book provides a detailed description of the efficacy and utility of each drug, enabling a layperson to prepare the required medication.¹¹¹

Table No. 5.1: The Doses of Medicines for a Child

Age	Maximum dose one ounce	Maximum dose one drachm	Maximum dose one scruple
1 month	$\frac{1}{2}$ drachm	3 grains	1 grain
6 ,,	2 scruples	6 grains	2 grains
1 year	1 drachm	8 grains	3 grains
3 ,,	$1\frac{1}{2}$ drachms	12 grains	4 grains
4 ,,	2 drachms	15 grains	5 grains
6 ,,	3 drachms	20 grains	7 grains
8 ,,	$\frac{1}{2}$ ounce	$\frac{1}{2}$ drachm	$\frac{1}{2}$ scruple
12 ,,	5 drachms	40 grains	14 grains
15 ,,	6 drachms	45 grains	16 grains
20 ,,	7 drachms	50 grains	18 grains
21 ,,	1 ounce	1 drachm	1 scruple

Source: W. J. Moore, *A Manual for Family Medicine of India*, London: J. & A. Churchill, 1874, p. 6.

The book's second chapter describes the position of the internal organs of the human body with diagrams (PLATE 2.1 and 2.2).

PLATE: 2.1: Diagram of the Human Body, showing the principal internal organs of the Front Side

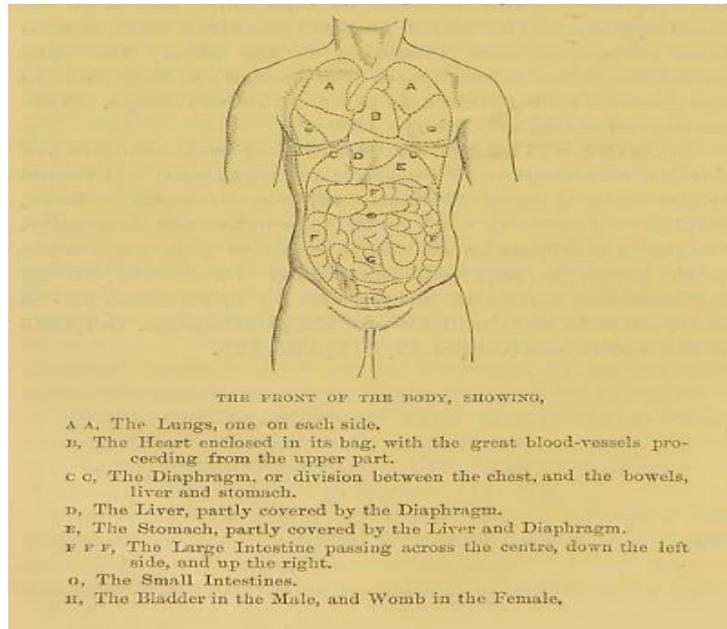
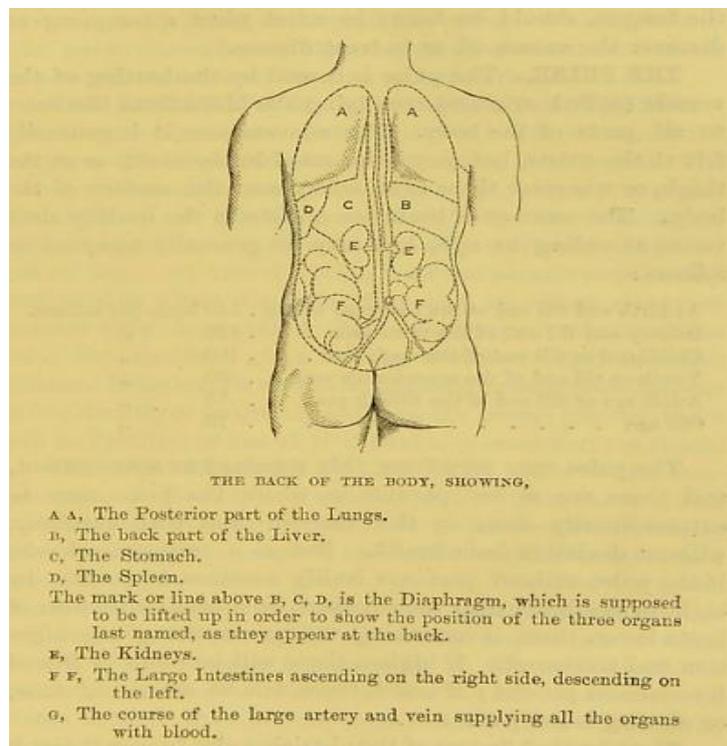


PLATE: 2.2: Diagram of the Human Body, showing the principal internal organs of the Back Side



Source for PLATE 2.1 and 2.2: W. J. Moore, *A Manual for Family Medicine of India*, London: J. & A. Churchill, 1874, pp. 44- 45.

The book also describes how the pulse rate can monitor normal and abnormal conditions. The method of diagnosis through Pulse rate, respiration, and body temperature, along with several symptoms and tests, are mentioned in the book. For example – loss of appetite, cough, Delirium, Giddiness, headache, rapid chest pulse, palpitation of the heart, pain, sore throat, vomiting, and fever were also the symptoms of the disease.¹¹²

The diseases that were selected as the most common diseases were boils, anaemia, indigestion, tumors, shivering fever, hoarseness, heart disease, mouth and throat lesions in children, epilepsy, respiratory diseases, sunstroke, and malnutrition. Degenerative diseases, liver disease, Beri Beri, bladder stones, intestinal inflammation, difficulty in passing stool, prolapse of the anus in children, brain disease, physical problems in women, various types of cancer, bronchitis, syphilis, headache, inflammation of the feet, pregnancy, cracked ankles, mucus, spring disease, cough, cholera, constipation, stomach ache, delirium due to excessive drinking, swelling of throat glands, diarrhea, Honey fever, diphtheria, water retention due to various causes, dysentery, epilepsy, rheumatism, eye disease, fainting, fever, typhoid, malaria, dengue, gallstones, glandular enlargement, gout, skin disease, dental problem, headache, heart disease, rabies, hysteria, pneumonia, jaundice, leprosy, speechlessness, gangrene, nerve disease, nail disease, paralysis, treatment during pregnancy, rickets, scurvy, various skin diseases, etc. diseases, their symptoms, possible causes, and their treatment are described in detail in the book. Moore's comprehensive explanation of the condition covers nearly all known diseases in medicine. This detailed list of diseases and description of possible treatments is appreciable.¹¹³ Chapter three gave a detailed discussion on surgical tool use (PLATE 2.3 and 2.4). The instruments were stored inside a compact leather box, accommodating only a little tint, ligature silk, and plaster. This whole assemblage could be conveniently placed into a small pocket.

PLATE: 2.3: Instruments for Ordinary Surgical Practice

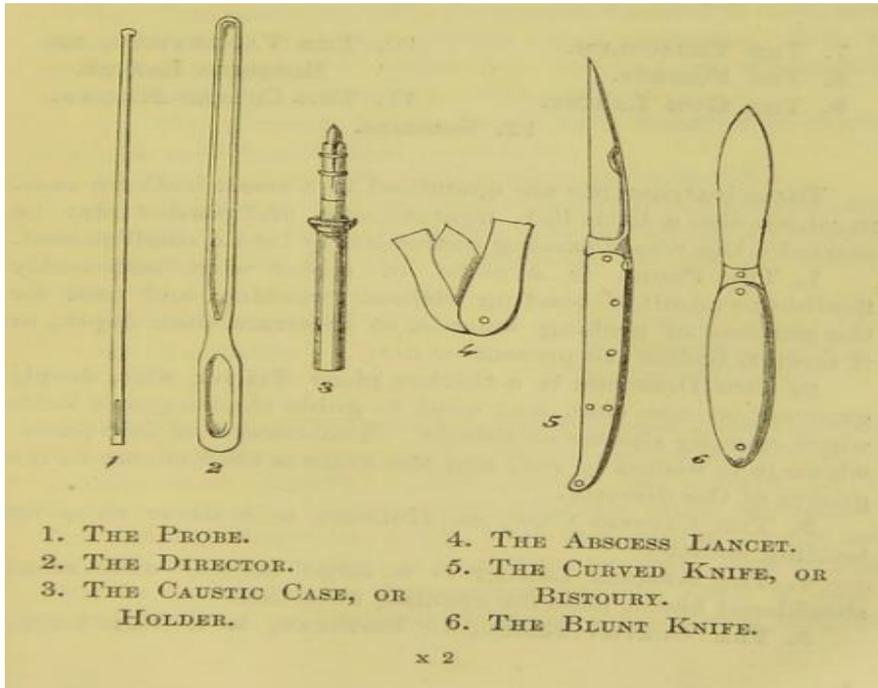
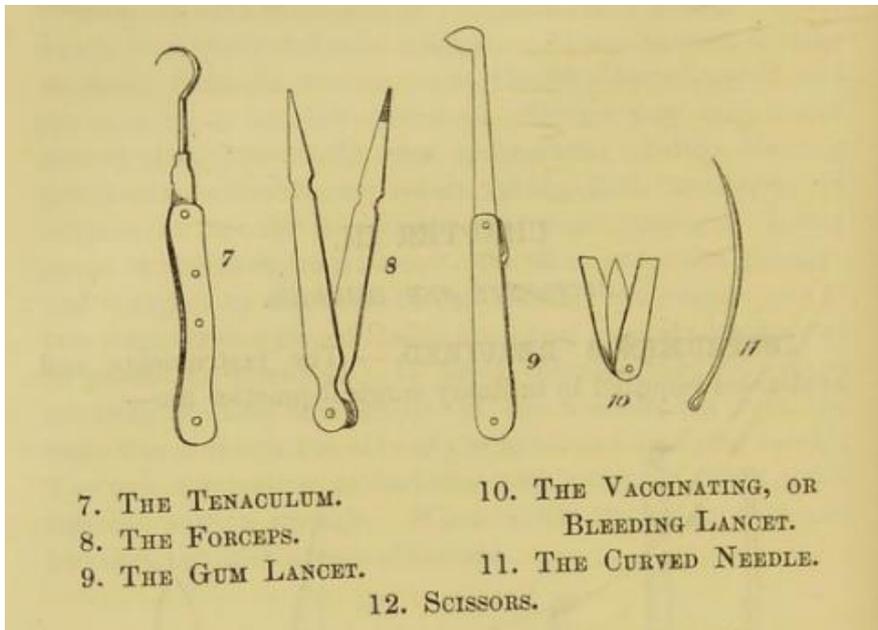


PLATE: 2.4: Instruments for Ordinary Surgical Practice



Source for PLATE: 2.3 and 2.4.: W. J. Moore, *A Manual for Family Medicine of India*, London: J. & A. Churchill, 1874, pp. 307-308.

The book's fourth chapter illustrates the instruments used to treat diseases. Apart from these instruments, the 'Medical Chest' contained a catheter, Bandage, Plaster, Sponge, Bandage to stop bleeding quickly, and special tools, etc.¹¹⁴ The book illustrates the rules of first aid, techniques for bandaging, treatment, and plastering of broken limbs, etc.¹¹⁵ Illustrations are used in each case to provide an understanding of blood transfusion in surgical treatment, even without the experience of an autopsy. How to fasten the cloth to stop bleeding due to an accident, his method is also shown in the diagram.¹¹⁶

The medical system is inextricably related to the idea of cleanliness. British officials in India knew what a suitable patient room should resemble, as reflected in the rules published by the Sanitary Department of India. Indians had a very different idea of hygiene than Europeans did. The British frequently condemned the treatment of Indian patients. To enforce health standards, the Sanitary Commission issued regulations. The book states that patient rooms should be disinfected by burning four ounces of sulfur per 100 cubic feet. Doors, chimneys, and windows must be closed while doing this. In that process, the clothes and carpets in the house can also be disinfected. But no one can live in the house during this work. The room shall be adequately lighted and ventilated during the patient's stay. Giving cologne in the room is also mentioned in the book. Additionally, the reader is asked to take extra care while disposing of waste materials and water in areas where patients suffer from contagious diseases. To guarantee that drains were covered, provisions were made. Moore mentioned that the room should be disinfected by applying carbolic acid. A room can only be utterly sterile once free from bad smells. The patient's clothes and bed sheets should be cleaned appropriately. Everything that is contagious should be burned. In this way, the list of restrictions for the health of the patient and the people around the patient was provided in the book.¹¹⁷

British officials had interests beyond patient care and medicine; they also had an interest in maintaining the health of European Whites in India. A guideline for healthy living was therefore provided in the book for this purpose. The climate of the Himalayan foothills in the north varies from the coastal regions in the south. For the British, this variance in climate and weather was problematic. They discussed two environments to make therapy easier: "good or bad climate."¹¹⁸ Moore, however, believed that Indians were better able to predict the weather than Europeans. They also needed to analyze the geographical location of India, latitude, longitude position, etc., to determine the temperature. Because the climate of India was completely different from theirs. Europeans did not understand the necessity of changing food habits, clothing, and seasonal changes in India.¹¹⁹ Dr. Moore thinks that the nature of climate cannot be determined in medical terms without considering the local peculiarities of a region, cultivation, the presence or absence of trees, the location of houses, the drainage system, and the supply of human labor.

Since climate affects disease and health, understanding meteorology became crucial for medical therapy. Therefore, in his book, Moore listed India's three main seasons: winter, summer, and monsoon. He emphasized that it was impossible for Europeans who had just arrived in India to adapt overnight to this environment. But if they know climate-related measures, general hygiene guidelines, and health, they can prevent climate-related illnesses. According to Moore, Europeans in tropical climates must protect themselves against three main climatic "enemies" – heat, malaria, and cold. While protecting yourself from these three factors, drinking water, adequate sleep, and quantity and quality of food should also be taken care of. Also, attention should be paid to drinking, daily bathing, seasonal clothing, exercise, residence, health awareness of neighbors, etc.¹²⁰

Although the government did not explain the next chapter, Dr. Moore knew of India's high female and infant mortality rates. In this regard, eminent physician Pandit Madhusudan Gupta published essential research findings on female health issues, which enhanced tension among Europeans in India and the doctors in London.¹²¹ So Moore wrote the next chapter on women's and children's health. In this chapter, Moore carefully describes the anatomy of a newborn baby and the rules for keeping it healthy. He felt that a European mother who would give birth to her child in India had to take special precautions. He tried to create awareness of the pregnant mother's physical health for future generations. According to Moore, European mothers living in India may be able to breastfeed after the birth of their first or second child, but their physical condition may not be able to breastfeed the third time. In that case, they would have to resort to an Indian mother to meet their child's breast milk needs. In this case, there left no room to question whether another woman's milk was complementary to the mother's milk. Moore has shown that many do not agree to give their children to native women, and in many places, lactating women were not even available. In that crisis, cow milk is the only option; however, according to Moore, it is unsuitable for the baby's digestive system. He repeatedly advised *Dai* to raise children in exceptional circumstances. However, he had prioritized a few things in selecting the midwife. For example – *dai* should be healthy, should not have a skin disease, should be chosen after a milk quality test, etc. The midwife should preferably be between the twenties and thirties. Since Indian women have children at a very young age, they have to make selections based on their age. The book also documents all the details of preparing the baby's food if they are fit to eat.¹²² Another reason for special attention to children's well-being was colonial India's high white infant mortality rate. The British government was also criticized for this reason. In the book on family medicine, the issues related to the health of mother and child have been discussed by W. J. Moore.¹²³

A detailed discussion of the book shows how cautious the British government was about providing medical facilities to Europeans arriving in India. They announced the award for writing *A Manual of Family Medicine for India*. It is not that hard to understand why W. J. Moore's essay won best in class. The book goes into great depth about each disease Europeans encountered in India, including its description, symptoms, treatments, and dosages. Dr. W. J. Moore made every effort to provide advice that could be useful. There were two aspects to this initiative by the British government in the late 19th century. Firstly, their main objective was to provide medical care to white servants working in India, and secondly, to overcome all obstacles of imperial expansion. One of their objectives was to make British workers live in unknown remote areas of India and expand British rule there. British government's aim was not only to achieve philanthropically but also to fulfill imperialist objectives. To secure these objectives, this Manual became one of the essential imperial tools in the expansionist agenda of the British Empire. It should not be forgotten that the process of establishing British imperialism in India was at its apex when this Manual was proposed (the post-1857 period); at the same time, government initiatives to localize Western medical systems were being pursued with zeal. This initiative was taken so British officials could go without fear to places where Western medical facilities were unavailable. Moore was concerned not only about the male officers of the empire but their families as well.

6. Response of the Indigenous Medical Practitioners towards the Western Medicine -

In discussions of the proliferation of Western medicine in India, the marginalization of indigenous medicine is an issue that arises. The perspectives of India's indigenous physicians regarding the Western medical system must be discussed. It is essential to examine how the policies enacted by the British government affected indigenous medicine and how indigenous physicians responded to this situation.

Ayurveda and Unani are the two primary branches of indigenous medical systems. Ayurveda is originally an ancient medical system of Indian Hindus. Practitioners or *Pandits* of Ayurveda are generally called *Ayurvedagya* or *Kavirajas*. On the other hand, Unani came with the introduction of Islamic rule in medieval India. India's medical system was further enhanced by the opening of the Unani system of medicine, which had a close connection to the Central Asian and European medical systems. Long coexistence has resulted in numerous instances of fusion between Ayurvedic and Unani medical systems. Through acceptance and exclusion, both methods have persisted for an extended period. However, the situation changed when the British arrived with their new sense of modern science and technology. They declared India's long-established indigenous medical system unscientific and outlawed its practitioners. Even before their political conquer (i.e., the fall of Mughal power), they technically conquered the medical market.

As the political prestige of the Muslims diminished due to the arrival of the British, they also became marginalized in the medical profession. In this circumstance, discussing Hakeem's stance on Western medicine is necessary. It is essential to mention that since the nineteenth century, attempts were made to modernize the Unani system of medicine by overcoming the medieval stagnation among practitioners.

With the change in the political cauldron, the sense of solid rejection and loathing for the English was somewhat alleviated among the Muslims. They instituted radical changes in education to regain the lost respect in the political and social spheres. Additionally, efforts were made to modernize the Unani medical system. Hakeem Ajmal Khan was among those who took the initiative about this.

6.1. Hakeem Ajmal Khan (1868 – 1927) -

Hakeem Ajmal Khan (see Appendix I, Plate 3.1) was descended from the Sharifis of Delhi, widely recognized as India's foremost Tibbi family. His political ideology changed from being profoundly influenced by Sir Saiyid Ahmad Khan and his Aligarhian Muslim League style of politics, which sought to protect the Muslim élite through a close relationship with the British, to advocating for integration between Hindus and Muslims and being actively involved with the Indian National Congress in the 1920s in opposition to the colonial power.¹²⁴ In the 1880s, his elder brother was the first to institutionalize Unani education in northern India under the influence of the Aligarh movement. In 1916, Ajmal Khan rebuilt the Madrassa Tibbia (college) as the Ayurvedic and Unani Tibbia College in Delhi and continued to administer it. In addition to Ayurveda or Unani tibb, students were taught biomedical subjects there. The imminent threat that Ajmal Khan noticed in the (bio-) Medical Registration Acts, which had been discussed since the early 1880s and were passed in the 1910s, against Ayurveda and Unani medicine and its practitioners had made him realize the importance of collaboration between the proponents of the two systems- Ayurveda and Unani Tibb.

The All-India Ayurvedic and Unani Tibbi Conference, which served as both a pressure group dealing with the government and an organization aimed at disciplining its members and standardizing their knowledge of Ayurveda and Unani tibb, held its first annual conference at Delhi in 1910 as a result of his efforts. Ajmal Khan organized Ayurveda and Unani tibb in the same medical association and educational institution, but he did not foresee that Ayurveda and Unani tibb would eventually merge. He aimed to develop Ayurveda and Unani tibb by adding biomedical issues and subjects. He successfully obtained the Imperial Legislative Assembly to approve a resolution in 1916¹²⁵ that examined approaches to give the traditional and indigenous institutions a scientific foundation. Still, the inquiry declared against this in

1918, saying that “it is practically impossible to place the indigenous systems of medicine on a scientific basis.”¹²⁶

6.2 The Response of Kavirajas of Bengal -

The conventional Ayurvedic system was slowly replaced by allopathy decades after founding the medical institution in Calcutta. However, renowned Kavirajas of Bengal challenged the superiority of Western Science. One eminent Bengali Kaviraja was Gangadhara Ray (1789-1885), who significantly influenced nineteenth-century Bengal. He was born in the eastern Bengali, Magura (Jessore), in 1789. When he was eighteen, he started specialized Ayurvedic studies after acquiring proficiency in Sanskrit. He pursued his education in the small village of Vaidhya Belghoria, in Kaviraja Ramakanta Sen's Tol. After completing his medical education, he hesitated between starting his practice in Murshidabad and moving to Calcutta. At that time, Calcutta was emerging as the new capital of the British company, while Murshidabad, the seat of the reigning princes, was losing influence. But it appears that his desire to print the ancient medical work *Charaka Samhita*, and he heard that a wealthy Calcutta resident held a flawless copy of that book—ultimately led him to set up his practice there.¹²⁷ Gangadhara Ray had no experience with the English language before relocating to Calcutta in 1819. Therefore, he never tried to learn the language. However, he felt concerned by the spread of Western medical technology and objected to its progress. According to tradition, he departed Calcutta in 1835 after hearing the fifty-gun salute fired to mark the first dissection at Calcutta Medical College. Another story claims that he left Calcutta for Natore due to his illness.¹²⁸

After departing from Calcutta, Gangadhara settled in Shaidabad (Berhampore), where he started a Tol and trained several talented pupils. He was appointed as the Nawab of Murshidabad's court physician and the Maharani Svarnamayee of Kashimbazar's consulting physician. Gangadhara attained legendary acclaim for his prowess in prediction, pulse-

reading diagnosis, and the medicinal use of poisons and mixtures.¹²⁹ In addition to writing 41 volumes, he also produced Sanskrit commentary on 34 other works.¹³⁰ His unique contribution to the field of Ayurvedic studies was his commentary on the well-known treatise of Charaka, known as *Jalpakaalpata*s. At the age of 87, this reputed *Ayurvedagya* passed away in 1885.

6.2.a. Gangaprasad Sen (1824 – 1896) -

Gangaprasad Sen, a second generation of Gangadhara, greatly influenced Ayurveda in Bengal throughout the nineteenth century. In contrast to Gangadhara, who promoted Ayurveda outside of Calcutta and opposed allopathic treatment, Gangaprasad Sen tried to compete with Western medicine. His father, the well-known Kaviraja Nilambara Sen¹³¹, trained him in Ayurveda. When he was nineteen years old, Gangaprasad Sen began to practice Ayurveda in Calcutta. He gave the preparation of medications considerable care and quickly established a solid reputation.

When he was nineteen years old, Gangaprasad Sen began to practice Ayurveda in Calcutta. In the same way as his father, he gave the preparation of medications considerable care and quickly established a solid reputation. He believed that Ayurvedic medicines ought to be produced for sale in other countries due to the growing influx of European medications, and he appears to be the first individual to export Ayurvedic drugs to Europe and America. He made Ayurveda, a market-oriented indigenous product for exportation to other countries.¹³² He set fixed consultation fees, following the manner of European doctors, which were on par with or higher than those charged by British doctors. Similarly, he advertised and issued fixed price lists for the sale of medicines. Using these methods, he brought Ayurvedic medicine up to the level of allopathy and brought it back into the spotlight. To maintain the reputation of the Indigenous medical system, he published *Ayurveda Sanjivani* (see Appendix I, Plate 3.2), the first Ayurvedic journal in the Bengali language.¹³³ He opened a Tol in his home and

treated famous people like the spiritual leader Ramkrishna Paramhansa Deb. He offered students free lodging and meals. He was one of the wealthiest people in Calcutta when he passed away in 1896.

6.2.b. Bengal Renaissance and the Revival of Ayurvedic Medicine -

A distinguished generation of Kavirajas followed Gangadhara Ray (see Appendix I, Plate 3.3) and Gangaprasad Sen during the Bengal Renaissance. The Renaissance is frequently called a nationalistic, philosophical, artistic, and religious movement that flourished in the 1870s in Bengal. A Bengali Ayurvedic revival among the numerous Gangadhara Ray and Gangaprasad Sen's disciples occurred simultaneously. Bijoyratna Sen (1858-1911) (see Appendix I, Plate 3.4), a student of Gangaprasad Sen, became a prominent figure. He translated the *Astangahrdaya* of Vagbhata into Bengali. Bijoyratna published the original Sanskrit text with his Bengali translation, along with introductions and recommendations for the revival of Ayurveda. Numerous Indian kings and Europeans were among his patients, and the Indian government honored him with the honorific title of '*Mahamahopadhyaya*' to recognize his achievements. He had received a conventional Tol education, but because of his curious attitude, he also acquired some knowledge of allopathy and had a firm grasp of English. Bijoyratna was a devotee of Allopathic drugs and used them to formulate his remedies in rare circumstances. His favorite student, Jamini Bhusan Ray (1889-1925) (see Appendix I, Plate 3.5) was motivated by Bijoyratna's proposal for collaboration between allopathy and Ayurveda to build a college where they could study side by side.¹³⁴

While some of the other renowned Kavirajás of this era were not only confined in Bengal, they were also based in far-off towns like Hardwar and Benaras. These academics attracted students from different parts of India; therefore, their impact went well beyond Bengal.

Due to the growing popularity of Ayurveda and the inability of small-scale preparation to meet the demand, large-scale manufacture of drugs became required. Chandrakishore Sen, a Kaviraja of the traditional Srikhanda School, was a critical inventor in this area. He built a dispensary in 1878 in Calcutta, close to the Kalighat temple, to offer prepared medications at a discount. He viewed this as an attempt to spread knowledge and popularity of Ayurveda and prevent the spread of allopathic medicines. Due to his success, the dispensary was moved to Kalutola in 1898, when extensive production was started.¹³⁵

6.2.c. Ayurvedic Companies -

At the time, C. K. Sen & Co. had a significant impact on the advancement of Ayurveda. A comparable pharmaceutical company, N. N. Sen & Co. Private, Limited, Calcutta, was established in 1884 to produce and market Ayurvedic medicines. Mathuramohan Chakraborty also formed *Sakti Ausadhalaya* of Dacca, Jogesh Chandra Ghosh built *Sadhana Aysadhalaya*, and Gananath Sen established *Kalpataru Ayurvedic Works*.¹³⁶ Using contemporary equipment, they prepared Ayurvedic medications with pills, tablets, and powders to mass-produce them for sale at affordable costs. These businesses and many other firms made significant money in the late 19th century. The last decades of the nineteenth century marked the establishment of pharmacies, and the establishment of colleges with accompanying hospitals in the twentieth century institutionalized the educational system. The goal was to educate Ayurvedic doctors using modern educational methods so they could provide care to the enormous rural population. Reviving the Ayurvedic system, it was said, would be a cost-effective means to provide medical healing to the vast majority of suffering human beings. Kaviraj Surendra Nath Goswami, who held a license in allopathic medicine, founded the Calcutta Ayurvedic Institution in 1915, but the institution's archives have subsequently been lost. This is one of the cases where an Indian Western medical practitioner returned to the traditional indigenous medical practice after completing their education in Western medical

schools. On the other hand, Astanga Ayurveda College and Hospital was established by Kaviraja Jaminibhusan Ray (scholar in both allopathic and ayurvedic medicine) in 1916 and still exists today. Jaminibhusan attempted to reformat the Ayurvedic curriculum to match the framework of the Western medical curriculum by adding classes in Western anatomy, physiology, surgery, midwifery, physics, chemistry, and botany to modernize the orthodox indigenous medical practice. An innovative thinker of the time named Kaviraja Jaminibhusan was particularly interested in educating Ayurvedic doctors skilled in surgery and childbirth.

6.2.d. Remodelling of Ayurvedic Education -

The Ayurvedic disciplines that started practicing dissection, like Western medicine, with the rise of Neo-Hinduism, were almost eliminated over time, with only internal medicine learning remaining in general practice out of the eight areas of Ayurvedic specialization. The philosophical foundation of Ayurveda informed practitioners that a person was more than just bones, flesh, and blood; instead, he was a microcosm of the cosmos in which the five subtle components (humor) were arranged according to an evolutionary process. As a result, practitioners gradually started ignoring human anatomy. Jaminibhushan intended to uphold the status quo of traditional Ayurveda while also accepting the scientific results of contemporary medicine, but in reality, institutionalizing Ayurvedic education brought with it new issues. Because allopathy attracted more students than Ayurveda, these Ayurvedic institutions failed to develop researchers and educators who could decipher Ayurveda from its ancient scriptures. These institutions could not raise the standards for Ayurvedic practice; they reduced the Kaviraj to a non-specialist physician with little expertise in allopathy or Ayurveda.

6.2.e. Indian Nationalists on Ayurvedic Revivalism -

Indian nationalists had a close connection with the revivalism of Ayurveda. As part of the Non-cooperation Movement, the *Gaudiya Sarvavidyayatana*, a national university of Bengal, was founded in 1921, and the *Vaidya Sastra Pitha* was created as the university's Ayurvedic medical division. Kaviraja Shyamadas Vachaspati (1876-1934) (see Appendix I, Plate 3.6) was the institution's first principal. The Tilak Swaraj Fund donated 6,000 rupees to start this college. Kaviraja Shyamadas also contributed to the college's monthly expenses. Later, in 1934, his son Bimalananda Tarkatirtha assisted in constructing a structure for the college, which was then given the new name *Syamadasa Vaidya Sastra Pitha*. This school, founded by an Ayurvedic scholar in the Gangadhara Ray tradition and built in the style of the *Astanga Ayurveda Vidyalaya*, was an action against the Western medical education of the time. With the support of Sir Manindra Chandra Nandy, Maharaja of Cossimbazar, Kaviraj Ramchandra Mallick, he founded the *Gobinda Sundari Ayurvedic College* in 1922. Even though a program of study included Ayurvedic and allopathic medicine, the hospital was given a dedicated Vaisnava Ward with a completely separate kitchen and servants to accommodate the needs of orthodox Hindu patients.¹³⁷ Kaviraja Gananath Sen ((1877-1944) (see Appendix I, Plate 3.7) built the 1932 *Viswanatha Ayurveda Mahavidyalaya*, where Ayurveda and allopathy were taught simultaneously.

6.2.f. Criticism of the New Change in Ayurvedic Education System -

The followers of the Siddha tradition criticized the new style of Ayurvedic school for losing its traditional authenticity and its unsuccessful, futile imitation of Western medicine. Later on, the Siddha method was preferred by the students at the *Vaidya Sastra Pitha* and *Gaudiya Sarvavidyayatana University*, which national leaders created as a part of the Non-Cooperation Movement. According to a statement from this school, Chittaranjan Das stated that Mahatma

Gandhi "desires that the little that remains of the glory of Ayurveda should not be completely lost by admixture with allopathic or any other systems."¹³⁸ This suggests that Mahatma Gandhi also preferred traditional Ayurveda. However, according to Suddha tradition, a student must study all other medical specialties, including Allopathy, Homoeopathy, Naturopathy, Hydropathy, Unani, Biochemistry, etc., after completing the first four years of graduation.¹³⁹

The Western Medical system conquered the market and unknowingly the minds of the Ayurvedic practitioners. The limitations of Ayurvedic revivalism failed to attract more Indians to the Ayurvedic treatment. They were using the Western medical system's educational structure as a weapon against it. They sought to emulate the Western medical approach to take over the exclusive market of Western medicine. They were trying to westernize the Ayurvedic teaching system, which made it lose its authenticity. They wanted to reach the high standards set by Western medical practitioners. Consequently, despite having such a prestigious heritage, Ayurvedic treatment has lost much of its appeal. Westernization of the Ayurvedic medical system made Indian students more interested in adopting Western medical methods instead of Ayurveda. Because firstly, government patronage of Western medicine, and secondly, financial success, social fame, and respect due to the extensive market demand. Thirdly, caste-based and family-based education systems of Ayurveda eliminated many Indian students from getting admission into Ayurvedic schools or colleges. Modern-aged Indian Students are naturally inclined more toward the Western medical system than the age-old traditional indigenous system. Interestingly, the battle between Western medicine and the traditional Ayurvedic system remains inconclusive.

6.3 Homeopathy in Bengal as an Alternative Branch -

The Western medical system and Indigenous medicine were both in use in early colonial India. However, the government placed more emphasis on Western medicine. The broad category of medical practice, sometimes known as contemporary medicine or Allopathic medicine, is referred to as the Western medical school. The British marginalized traditional Ayurveda and Unani-Tibb medical practices, and Western medicine became the only medical practice the British government patronized. Homeopathy, another branch of Western medicine, came into India then. However, the orthodox Western medical system, which Samuel Hahnemann termed 'Allopathy,' didn't welcome homeopathy as their other branch. It was marginalized, suppressed, and questioned for its authentication. In Colonial India, homeopathy was generally considered a rival cult and a 'rebel child' of the orthodox medical system. In certain countries, the phrases "complementary medicine" and "alternative medicine" are interchangeable with "traditional medicine." "Complementary" and "alternative" are occasionally used to refer to health treatment as an alternative to allopathic medicine. This, however, can be deceiving. Many practitioners are qualified in allopathic and complementary/alternative medicine, and many patients consider a complementary or alternative practitioner their primary care provider. In certain countries, complementary and alternative medicine has the same legal status as allopathic medicine.¹⁴⁰ This part of the thesis will study the rise and development of Homeopathy in Bengal, detailing its gradual growth as an alternative branch of medical practice.

6.3.a. In search of Potent Market: Advent of Homeopathy in India -

The London Homoeopathic Hospital was established in 1850, and dispensaries sprouted wherever converts (who chose Homeopathy over Allopathy) set up their practice. India was a British colony then; therefore, it is evident that homeopathy practitioners came to India for a potent market. Before discussing the advent of Homeopathy in India, we should discuss the

situation of the Indian healthcare system in the nineteenth century. Western medicine was growing in two directions in India then: competency-based growth, similar to other professional occupations, and university-based growth, based on scientific knowledge and research. Almost all nations, however, have medical councils that monitor medical education and practice rights. It wasn't always like this. The earliest doctors who arrived in India on ships from the East India Company (EIC) had no formal medical training or education. On the other hand, professional codification was fast growing in the West and had firmly established itself by the second part of the eighteenth century.¹⁴¹

Knowledge sets, training, and education often overlapped. There were many different academic requirements for these courses. At the center of the issue was the debate on who has the right to use the title "doctor." The academic, professional, and social requirements that went into the Vernacular Medical Education courses were sufficiently discussed by the IMG. The method of teaching was what set the course unique. To establish a new class of Indian people working as hospital sub-assistants, the British offered vernacular medical education. The Indigenous medical professionals were supposed to be replaced by Native physicians. The 'Native Doctors' of the Medical College were mainly appointed at the dispensaries of the rural areas of Bengal. The villagers appreciated the service of Native Doctors. They preferred to visit them instead of *Kavirajas*, *Hakimas*, and even White doctors.¹⁴² In the article "English Training for Native Doctors,"¹⁴³ the *IMG* advocated for English classes for native doctors in medical schools and colleges, which will allow them to enter government employment. They wanted to make native doctors "useful employees of the state", which shows a shift in British thinking. They started criticizing the vernacular classes of medical courses by denoting it as "parrot-like" rote learning without any practical knowledge. However, they were optimistic that graduates of vernacular medicine would replace "*kobirajes* and quacks" in the rural and urban areas of Bengal.¹⁴⁴

6.3.b. Medical Acts of Colonial India -

Medical practice in British India remained uncontrolled for a long time, and provincial councils were founded far later than the British Medical Act of 1858. Western medical practitioners had to register under the Province Medical Acts, which the Governor-General allowed the province governments to enact. Registration was handled by medical councils, which included members who were both elected and nominated. Anyone possessing a medical degree or certification from one of the recognized universities, medical institutions, or schools may do medical practice under the Provincial Medical Acts, which were based on the British Medical Act of 1858, sections 21 and 22. General regulation of "Western medical science" throughout India started when the Indian Medical Degrees Act VII of 1916 was passed. Other medical systems weren't considered, except the Western medical system. Notably, there seems to be an agreement on limiting the regulatory scope to contemporary Western medicine. Except for a few unexpected instances that received approval from both the practitioners' councils and IMG authorities, other practices, including Ayurveda (kibiraja), Unani, and homeopathy, were not included under the terms of the acts. An article titled "Medical Registration" that appeared in IMG in May 1897 emphasized the significance of the Medical Registration Act. The government's motivations for enacting the Medical Acts, which the administration vehemently rejected, were disputed by the Bengal Medical Association. It is surprising and maybe even commendable that there isn't much overt animosity between Western medical professionals and their counterparts in traditional medicine.

The forms of medical practice that might be taught or performed in Bengal were not explicitly defined by subsequent colonial governments during the nineteenth century. British authorities avoided recognizing any one medical tradition or system as part of their planned disseminating strategy. In early nineteenth-century medical writings or formal governmental

correspondence, the phrase "allopathy" was rarely used. Numerous homeopathic tracts, manuals, monographs, and *Materia Medica* were produced after the late 1860s.¹⁴⁵ The majority of these writers focused on presenting homeopathy as a sophisticated and scientific practice. Several manuals were serially created (1870–1866), including Rajendra Lal Datta's Homoeopathic Series (1875-8) and T. Berigny¹⁴⁶ and Company's Bengali Homoeopathic Series. Popular medical publications committed to health and medicine, in general, provided a forum for discussing various medical ideas and traditions.

6.3.c. Early Homeopathy Practitioners in India -

Dr. Johann Martin Honigberger, Dr. C. J. Tonnere, Dr. T. Berigny, and others brought Homeopathy to India in the fourth decade of the nineteenth century. Dr. Honigberger was named a "Cholera Doctor". He claims that in Paris, Hahnemann personally taught him Homeopathy. In 1839, Dr. Honigberger returned to India and was chosen to treat Maharaja Ranjit Singh as he was in critical condition then. He treated Maharaja using Homeopathy, and the Maharaja was healed. Like Allopathy, Homeopathy also started its journey by treating the royal family.¹⁴⁷

This was the first case of Homoeopathic treatment in India. From his book, we learned before 1852, there were three homeopathic hospitals in India. Surgeon Samuel Brooking established a Homeopathic Hospital at Tanjore in 1846, and another one was in Puducutta in South India, under respective Rajas. In November 1851, a 'Native Homeopathic Hospital and Free dispensary' was founded in Calcutta under the patronage of the Hon'ble Sir John Hunter Littler, Deputy Governor of Bengal and President of the Council of India. Dr. Tonnere, a French Allopath converted to Homeopathy by conviction and practice, was appointed as a physician in charge of the Hospital. But it failed to secure a firm footing in Calcutta. At that time, some armature homeopaths worked in India's civil and military services. Mr. Ed. D'Latour was one of the Judges of Sadder Dewani Adalat. He converted his immediate

Junior, a deputy magistrate Maulavie Ziauddin Hosein, to Homeopathy. Two doctors, Mr. Cooper and Dr. J. R. Russel, appointed in Fort William, were known homeopaths and practitioners of that period. A military pensioner of the subordinate service, Mr. Ryper, used to distribute Homeopathic medicines free of cost at Cooley Bazar, Kidderpore, where he lived.¹⁴⁸

6.3.d. Babu Rajendra Lal Dutta (1818 – 1889) -

Babu Rajendra Lal Dutta (see Appendix I, Plate 3.8) was the first Indian to embrace homeopathy. He contributed to the establish The Native Homeopathic Hospital and Free Dispensary. Before converting to homeopathy and emerging to prominence as a homeopath, Rajendra Lal Dutta started his career as a traditional medical student. In Calcutta, he assisted Dr. Tonnerre in his homeopathic practice. But the Hospital was short-lived, and Dr. Tonnerre could not prove his credentials. However, Rajendra Lal Dutta never gave up and continued to practice homeopathy. Iswar Chandra Vidyasagar's conversion to homeopathy was one of his notable accomplishments. Rajendra Lal treated Iswar Chandra's chronic illness. Rajendra Lal Dutta's ability to use homeopathic medication to treat the Gangrene of Raja Sir Radhakanta Deb's (Bahadur of Sovabazar Rajbati) feet represents another impressive accomplishment.¹⁴⁹ That cure made a great sensation in the town and paved the way for the establishment and propagation of Homeopathy in Calcutta. But its exposure was highest in Bengal with the conversion of Dr. Mahendralal Sircar.

6.3.e. Mahendra Lal Sircar: a Disciple of Rajendra Lal Dutta -

In 1863, Mahendra Lal Sircar received his M.D. degree from Calcutta University and started his career with high prestige and golden future possibilities.¹⁵⁰ Sircar had a deep distrust of homeopathy. At the *First Meeting of Subscribers to the Projected Science Association*, Rajendra Lal Dutta read Sircar's speech, which he had delivered at the preliminary meeting for the formation of a medical organization as a section of the British

Medical Association, and was filled with hope that he had finally found a man to convert to Homeopathy.¹⁵¹ However, he was unconvinced and did not want to waste his time. Eventually, Mahendralal was convinced by the article of Morgan's *Philosophy of Homeopathy*, which was given to him for writing a book review. He agreed to assist Rajndralal Dutta and got the chance to examine the homeopathy treatment procedure closely.¹⁵² He was amazed by the philosophy of the Homeopathy treatment process and dared to choose Homeopathy by leaving allopathy treatment.¹⁵³ He found it legitimate to switch to another branch of Western medicine, closely connected with indigenous medical systems like Ayurveda and Unani Tibb. He was moved by the healing procedure of Homeopathic treatment, where the treatment depended on the mental condition or willingness of the patient to be cured. His dramatic change from allopathy to Homeopathy attracted the attention of his fellow colleagues.¹⁵⁴ His colleagues harshly criticized him for his conviction. However, his firm, ardent, confident attitude to his belief about homeopathy convinced many Indians to accept homeopathy as an alternative branch of Western medicine. The history of homeopathy in India throughout its formative years cannot be written without the life story of Mahendralal Sircar. Mahendra Lal is further thoroughly discussed in the fourth chapter of my thesis.¹⁵⁵

6.3.f. The Clash between Homeopathy and Allopathy in Colonial India -

The orthodox Western medical school did not accept the method of treatment from homeopathy. They thought it lacked a sufficient scientific basis to qualify as a medical treatment. Practitioners of allopathy wanted to keep their medicine market secure from any other branch of medicine. Subsequently, supporters of homeopathy also criticized allopathy for its aggressive, harsh therapeutic approach and surgery-based treatment. Homeopathy had practically little support from the state. It was evident because no other medical school attempted to question the fundamental principles of the famous traditional "Allopathic" school. The word "allopath" was initially used by Samuel Hahnemann. Hahnemann intended

to portray allopathy as a stern medical school. Do allopaths ever condemn homeopathy for attacking their ideology? The answer will be often. The criticism of the homeopathic school didn't concern them. According to them, Homeopathy had lesser acceptance in the hierarchy of the health care system.

6.3.g. The Acceptance of Homeopathy Medicine: “Calcutta Homoeopathic Medical College and Hospital” -

However, Homeopathy managed to secure a market in Bengal. Indigenous medicine was used in addition to Western medicine in 20th-century Bengal. One of the reasons was that the cost of therapy was minimal, and it appealed to those who lived in persistent poverty. The frequently reported and exaggerated claims of patients being healed by a single dosage of homeopathic medicine enticed the imaginative and magical effect of treatment. People were attracted to its simple but small doses and easy medication process. There was also a belief that homeopathic drugs are not poisonous and might be appropriately used without adverse reactions, even if they weren't carefully consumed.¹⁵⁶ These factors boosted homeopathy's recognition and inspired more individuals to try it.

Establishing a Homeopathic hospital was one of the hardest achievements of colonial Calcutta's Homeopathy practitioners. The oldest homeopathic institution in the world is the *Calcutta Homoeopathic Medical College and Hospital*, which is still functioning. It was established in 1881 by Dr. Mohini Mohan Basu and Dr. Pratap Chandra Mazumdar. Through their healing touch, Dr. D. N. Roy, Dr. B. K. Bose, Dr. R. G. Ghoshal, Dr. P. C. Paul, and other notable members of this Institution helped the people of Bengal adopt homeopathy unreservedly for centuries. Dr. Lahiri, Dr. B. K. Sarkar, and several others exerted personal endeavors in establishing and recognizing Homoeopathy as a legitimate profession. These early Homeopaths have gained significant recognition for their notable contributions to advancing Homoeopathy, extending beyond the boundaries of West Bengal and reaching the

whole nation. The present state of acknowledgment and growth of Homoeopathy has been achieved through significant efforts, many of which were not even known.¹⁵⁷

Mahendra Lal Sircar mentioned that “...homeopathy had made considerable progress in the metropolis of India before 1852 and that no less a personage than Sir John Littler Deputy Governor of Bengal and president of Council of India did not think it a dishonor to be the patron, not only in name but substantially of a homeopathic hospital.”¹⁵⁸

Samuel Hahnemann became a cult among Indian homeopaths. Homeopathy practitioners of India commemorate Hahnemann's birthday as a God. It's fascinating to know that Indians regarded Hahnemann as an avatar of Lord Vishnu, a god from Hindu mythology.¹⁵⁹ This proves the acceptance of the Homeopathy treatment among Indians. The blind faith in Hahnemann's philosophy is one of the factors contributing to the delayed development of homeopathy in India. A group of homeopathic practitioners claimed to be genuine "Hahnemannians," obstructing the development of fresh ideas. The eighteenth century was characterized by many ideas and hypotheses concerning the nature, etiology, and treatment of illnesses; as a result, techniques and therapeutic practices were as diverse as the theories put forward. However, those ideas suffered from two critical weaknesses: thorough and incomplete observations and hurried and inaccurate generalizations. While the state engaged in promoting colonial medicine, David Arnold and Sumit Sarkar noted that homeopathy's purported German origin contributed to the cultural nationalist ambitions of Bengalis. Dr. Shinjini Das has demonstrated that a combined homeopathic treatment and printing market developed alongside allopathy in Bengal in the late nineteenth century.¹⁶⁰ One must read the publications produced by Bengali homeopathy practitioners and other magazines, books, manuals, and home guidelines on homeopathy written in vernacular languages to comprehend the controversy between the alternative fields of medicine in India.

6.3.h. Fake Homeopathy Practitioners -

Homeopathic practitioners have often been branded as quacks by Western medical professionals. And it wasn't entirely inaccurate or questionable because of fraudulent use to make money by selling homeopathy M.D. degrees for 20 to 100 rupees. 'Servant of Homoeopathy' claims in an article that certain allegedly homeopathic institutes in India sell the degrees in the name of a fake institution, Hahnemann Medical College and Hospital in Philadelphia. However, the head of the institution clarified that they had no branch or affiliation with hospitals or colleges in India. The editor of *Servant of Homeopathy* tried to make everyone aware of this deception.¹⁶¹ An article '*Homoeopathic Upadhi Samasya*' or 'Problems of Homoeopathic Degrees' noted, "Nowadays the station masters become practicing homeopaths while in service. From police officers, gurus in *pathsalas* to grocers in local shops all claim equal expertise in homeopathy."¹⁶²

The writers of several homeopathic publications strongly disapproved of these practitioners, using terms such as '*bhando*' or 'frauds', '*hature*' or 'quacks', '*bhuiphor*', 'amateurs', and even 'dacoits'.¹⁶³ These occurrences posed challenges for legitimate Homeopaths since the people became suspicious about the authenticity of the treatment. Those advocating for the agenda of purification concurrently deliberated on the significance of engaging in discussions with the administration. The north Calcutta-based homeopathic firms expressed optimism in garnering the endorsement of a possible future nationalist administration by advocating for change. The paper titled "*Samasya o Pratikar*" or "Problem and Solution," published in 1924, advocated for the need to garner acceptance from esteemed nationalist personalities.¹⁶⁴ Rabindra Nath Tagore, a notable practitioner, and P. C. Roy supported the homeopathic cause. Frequently, these endeavors were conveyed as manifestations of regionalist nationalist urges.

6.3.i. The Nationalist Politics and Homeopathy –

The discussion around the purification of homeopathy was intricately linked to nationalist ideas. It was often emphasized that the reformist goal was motivated by a desire to adapt Homeopathy to the needs of the developing nation-state. Following the implementation of legislation in the 1920s, there was a concerted effort to purify the field of homeopathy by eliminating individuals lacking qualifications, therefore aligning with the overarching goal of nation-building. The concept of the nation had been seen as a disciplinary mechanism with the potential to purify the field of homeopathy. Simultaneously, homeopathy was portrayed as an excellent solution for treating illnesses, operating as a model healthcare system that promoted the country's well-being by becoming an integral part of Bengali families.

At the first *All Bengal and Assam Homoeopathic Conference* held in May 1931, Sarat Chandra Ghosh, serving as the conference president, expressed that the primary aim of the event was to foster solidarity among homeopaths and enhance the popularity and reputation of homeopathy.¹⁶⁵ The 1930s saw substantial changes in the political landscape of Bengal. The nationalists, particularly the Indian National Congress, engaged in extensive dialogue with the colonial authorities to a greater extent than in previous periods. The Gandhian initiatives during the Civil Disobedience demonstrations in the early 1930s represented a notable transition towards prioritizing rural regions and separation from the organizational activities of the Congress party. The discourse around population, rural development, mass communication, and the well-being of rural areas emerged as prominent subjects in the prevailing Bengali nationalist ideologies throughout the 1930s.

During the 1930s, as the possibility for the formation of a nationalist administration became more evident, there were observable shifts in the portrayal and presentation of homeopathy. There was a discernible attempt to promote homeopathy as the optimal instrument in governmental administration for public health management. The editorials published in

magazines like *The Hahnemannian Gleanings* during the early 1930s started to emphasize the potential efficacy of homeopathy in addressing a range of public health concerns faced by the government, including the prevention of epidemics. Ongoing deliberations were placed in the central legislature throughout the mid-1930s on the scientific validity and future prospects of homeopathy. During the month of April in the year 1937, a resolution was proposed in the central Legislative Assembly with the objective of asking the government to acknowledge the implementation of homeopathic medical care within government hospitals, as well as the recognition of homeopathic institutes located in India. The resolution was promptly adopted and sent to the provinces for their deliberation. The homeopathic periodicals in Calcutta commended the legislative judgment as a pivotal measure in recognizing the indispensability of homeopathy in state health management. The *Bengal Homoeopathic Pharmacists Association* expressed their unwavering support for the homeopathic faculty bill, presented in the Bengal legislative assembly in 1937 by P. Banerji, a representative of the Congress party. However, after a thorough debate within the legislature in 1938, H.S. Suhrawardy, the health minister of the *Krishak Praja Party*, ultimately rejected the draft.¹⁶⁶

In addition to their efforts for modifications, the prominent homeopathic practitioner families of Bengal formed groups and tended to expand their homeopathic business operations. They asserted their intention to construct educational institutions that would teach homeopathy following the state government's expectations, emphasizing its authenticity. In 1935, Sarat Chandra Ghosh noted three notable institutions recognized as authentic Homeopathy institutions. These included the Calcutta Homoeopathic College, established by P.C. Majumdar, and the Bengal Allen Homoeopathic College, directed by N.M. Choudhury, son-in-law of P. C. Majumdar, and the Pratap Chandra Memorial College and Hospital were founded by J.N. Majumdar, the son of Pratap Chandra Majumdar.¹⁶⁷ These “model institutions” were regarded as the foremost establishments providing reputable education in

homeopathy. These institutions were recognized as exemplary establishments for promoting and spreading knowledge about homeopathy and combating the fraudulent activity of fake organizations.

There was a noticeable shift in the official viewpoint throughout the mid-1930s. However, the nationalist viewpoints reflected the colonial dependence and conviction in the dominance and excellence of Western allopathic medicine. Thus, the Bengal legislature frequently proposed the inclusion of 'traditional' methods as an alternative to Western 'scientific' treatment. Both the British administrative politics and the internal politics of nationalist parties posed challenges for homeopaths. For the purpose of resolving the legal struggle for homeopathy, they had to convince the British and nationalist parties.

Conclusion -

In conclusion of this chapter, it should be mentioned that the movement to establish indigenous medicine only had limited success despite such efforts. Because Unani, Ayurveda had likely reached a point where there was no more possibility for progress, it could not attract those who had gradually started leaning more towards Western treatment. However, Ayurveda and Homeopathy found their prominence once again in the 20th century in Bengal, which cannot be ignored.

Bengal's intellectual development was relatively unrestricted by tradition, especially in Calcutta. English-educated middle-class Bengali intelligentsia accepted the Western medical system for better job opportunities and a bright future. Significantly, no differentiation was based on caste or creed. However, Indians were not offered a higher position in the profession. They were appointed as sub-assistants or subordinate posts. It cannot be denied that with the introduction of the Western medical system in India, all other alternative medical approaches raced to enhance their treatment procedures to meet the standard

established by allopathy. Similarly, the British government was under internal and external pressure to offer health protection for European forces in similar situations.

After the 1857 uprising, the political scenario in India changed, and the British government became more constructive in strengthening the imperial power on the soil of India. Europeans needed to be physically superior to "weak" Indians to justify their racial dominance. As a result, the *Manual of Family Medicine for India*, written by W. J. Moore, served as an important resource for the British Empire as it expanded into India's uncharted territories, dense forests, and mountainous regions, where access to Western medicine was nil. The writing of medical manuals and the provision of Medicine chests were closely related to British imperial politics. This chest not only encouraged Europeans to explore the undiscovered region, but the introduction of Western medicine to the ordinary people also occurred with this.

A class of Indian physicians emerged who, after participating in formal Western medical education, disseminated Western medicine in various regions of India, thereby increasing its popularity. They were known as "*Daktar babu*" by the Bengali common folk. With the rising popularity of *Daktari* medicine, individuals came into touch with physicians who did not operate in isolation but worked within institutional organizations, including hospitals, medical personnel, etc. While sufficient evidence demonstrates that medical exploitation and corruption had long existed and that there was no golden period when *Kavirajas* and *Hakeems* were the only physicians above exploitation, the new institutional structures made medical corruption more rampant. Even the over-dominance of Western medicine and the conflict for survival in the market -corrupted indigenous medicine. The increase in the number of unscrupulous or corrupt physicians was slowly eroding the long-standing trust of the commoner in indigenous medicine.

Notes and References:

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- ¹ B. A. Chandra and B. De Tripathi, *Freedom Struggle*, Delhi: National Book Trust, 1972, p. 39.
- ² Peter Smith, 'B.T. McCully, English Education and the Origins of Indian Nationalism', Gloucester, 1966, p. 254.
- ³ Brahmananda Gupta, 'Indigenous Medicine in Nineteenth – and Twentieth – Century Bengal', in C. Leslie (ed.) *Asian Medical Systems: A Comparative Study*, California: California University Press, 1976, p. 376.
- ⁴ Poonam Bala, "Medical Revivalism and the National Movement in British India", *Ancient Science of Life*, vol. X, no. 1, July 1990, pp. 1-5.
- ⁵ Shamsad Khan, 'Systems of Medicine and Nationalist Discourse in India: Towards "new horizons" in Medical Anthropology and History', *Social Science & Medicine*, vol. 62, 2006, pp. 2786–2797.
- ⁶ M. K. Gandhi, (1938). *Hind swaraj or Indian home rule* Reprint 1989. Ahmadabad: Navjivan Publishing House, 1938, pp. 53-54.
- ⁷ The Collected Works of Mahatma Gandhi, (1920–21), New Delhi: Publications Division, Ministry of Information and Broadcasting, Govt. of India. vols. 19, p. 357.
- ⁸ S. Cant and U. Sharma, *A New Medical Pluralism?*, London: UCL Press, 1999.
- ⁹ R. Porter (ed.). *The Popularisation of Medicine, 1650–1850*. London: Routledge. 1992
- ¹⁰ Cant, S., Medical Pluralism, Mainstream Marginality or Subaltern Therapeutics? Globalisation and the Integration of 'Asian' Medicines and Biomedicine in the UK. *Society and Culture in South Asia*, 6(1), 2020, pp. 31–51. Web Link - <https://doi.org/10.1177/2393861719883064>
- ¹¹ Ibid.
- ¹² Rai, Saurav Kumar. "In Search of Indigenous Medicine: Medical Pluralism and the Ayurvedic Movement in Colonial India." NMML Occasional Paper, *History and Society*, Nehru Memorial Museum and Library, Teen Murti House, 2020.
- ¹³ P. Brass, 'The Politics of Ayurvedic Education: A Case Study of Revivalism and Modernization in India' in S.H. Rudolph and L.I. Rudolph (eds.) *Education and Politics in India*, Oxford University Press, Oxford, 1972, p. 344.
- ¹⁴ Brahmananda Gupta, op. cit., pp. 368-69.
- ¹⁵ General Department, General Branch, OC Proceedings 8 and 9, 14 April 1841, Institution Rules and Orders Relative to Native Hospital and Department Dispensaries, WBSA.
- ¹⁶ The Memorandum was signed by Dr. Gillman, Dr. Meik, Dr. Russell and Dr. James Jameson, Secretary to the Medical Board, and forwarded by the Secretary to Lieut. Colonel Casement, Secretary to Government in the Military Department under letter dated May 9, 1822, *PMB*, National Archives, New Delhi,

-
- ¹⁷ Srilata Chatterjee, *Western Medicine and Colonial Society: Hospitals of Calcutta, c.1757-1860*, New Delhi: Primus Books, 2017, pp. 196-229.
- ¹⁸ Letter dated 30th May, 1822, *PMB*, National Archives, New Delhi.
- ¹⁹ Appendix to the Report of the Selection Committee, London, 1833, vol. 1, p. 270.
- ²⁰ J. Long, 'Vernacular education in Bengal', *Calcutta Review*, 1854, vol. 22, p. 329.
- ²¹ S. N. Sen, *Science and Technical Education in India, 1700 – 1900*, New Delhi: Indian National Science Academy, 1991, p. 136.
- ²² Purnachandra Dey, 'Kaliakta Medical College', See *Bangashree*, Bengali Year 1342, Year 3, vol.1, no. 5, pp. 568-569.
- ²³ *Ibid.*, p. 570.
- ²⁴ Letter dated April 20, 1826 from P. Breton to Dr. Adam, Secretary of the Medical Board, giving an account of the work of the School for Native Doctors, *PMB*, National Archives, New Delhi.
- ²⁵ *Ibid.*
- ²⁶ Purnachandra Dey, *op. cit.*, pp. 571-572.
- ²⁷ *Ibid.*
- ²⁸ S. N. Sen, *op. cit.*, pp. 135-136.
- ²⁹ Binoy Bhushan Roy, *Chikitsa Vijnaner Itihas: Unish Shatake Banglay Paschatya Shikkhar Prabhab*, Kolkata: Sahityalok, 2005, pp. 28 – 29.
- ³⁰ Purnachandra Dey, 'Kaliakta Medical College', See *Bangashree*, Bengali year 1382, vol. 1, no. 5, Jaisthya, pp. 571-572.
- ³¹ Binoy Bhushan Roy, *op. cit.*, pp. 29-31.
- ³² Purnachandra Dey, *Bangashree*, vol. 1, no. 6, Ashar, pp. 768-771.
- ³³ Letter dated October 14, 1824 from Peter Breton to George Proctor, *PMB*, National Archives, New Delhi.
- ³⁴ Compiled by S. N. Sen, in *Scientific and Technical Education in India 1781 – 1900*, New Delhi: Indian National Science Academy, 1991, pp. 137-138.
- ³⁵ Letter dated April 11, 1832 from Tytler to James Hutchison, *PMB*, National Archives, New Delhi.
- ³⁶ S. N. Sen, *op. cit.*, p. 142.
- ³⁷ *Ibid.*, pp. 142-143.
- ³⁸ *Ibid.*, p. 143.
- ³⁹ Purnachandra Dey, *op. cit.*, pp. 771-773.
- ⁴⁰ S.N. Sen, *op. cit.*, p. 145.
- ⁴¹ W.C.B. Eatwell, *On the rise and progress of rational medical education in Bengal*, Calcutta, 1860.
- ⁴² S.N. Sen, *op. cit.*, p. 146.
- ⁴³ Purnachandra Dey, *op. cit.*, vol. 1, no. V, pp. 774-775. English translation by Sulagna Som.
- ⁴⁴ Binoy Bhushan Roy, *op. cit.*, pp. 65-66.

-
- ⁴⁵ J. Long, 'Vernacular Education in Bengal', *Calcutta Review*, 1854, vol. 22, p. 329.
- ⁴⁶ Letter dated January 1833, from J. Grant, Superintendent to Major Troyer, Secretary to the Sanskrit College, giving an account of the hospital attached to the College, *Minute Book of the Sanskrit College*.
- ⁴⁷ *Return of the Hospital attached to the Sanskrit College for the year ended December 31, 1832*, Appended to J. Grant's letter dated January 1, 1833.
- ⁴⁸ Binoy Bhushan Roy, op. cit., pp. 68-69.
- ⁴⁹ 'Sanskrit College o Medical College', *Prabartak*, 1833, pp. 355-363.
- ⁵⁰ Binoy Bhushan Roy, op. cit., p. 70.
- ⁵¹ Report dated May 20, 1828, of W. Price, Annual Examination for the year, submitted to the sub-committee of the Hindu College, *Minute Book of the Sanskrit College*.
- ⁵² G. C. P. I.: Copy Book of Letters received and issued by the Committee, 1st January, 28th December, 1830.
- ⁵³ Report dated May 20, 1828, of W. Price, op. cit.
- ⁵⁴ S. N. Sen, op. cit., pp. 149-150.
- ⁵⁵ Letter dated January 25, 1827, from P. Breton to Captain Ruddell, *PGCPI*, WBSA.
- ⁵⁶ S. N. Sen, op. cit., pp. 150-151.
- ⁵⁷ *General Committee of Public Instruction*, 1st January to 27th December, 1831.
- ⁵⁸ *Ibid.*
- ⁵⁹ J. Kerr, *A Review of Public Instruction in the Bengal Presidency from 1835-1851*, 2 vols., Calcutta, I, 1852, II, 1853.
- ⁶⁰ W.C.B. Eatwell, op. cit., p. 17.
- ⁶¹ Binoy Bhushan Roy, op. cit., pp. 60-62.
- ⁶² *General Committee of Public Instruction*, 1st January to 27th December, 1831.
- ⁶³ *General Committee of Public Instruction*, May 1838 to December 1841, pp. 505-506.
- ⁶⁴ Brahmananda Gupta, op. cit., p. 370.
- ⁶⁵ Minutes on Indian Education, by the Hon'ble Lord T. B. Macaulay, dated the 2nd February 1835, Archive.org, Web Link - https://archive.org/details/Minutes_201311/page/n11/mode/2up
- ⁶⁶ *Ibid.*
- ⁶⁷ *Ibid.*
- ⁶⁸ Prabhakar Chatterjee, "Contents of Ayurvedic Encyclopaedia – IV", *Nagarjun*, May 1960, p. 817.
- ⁶⁹ Girindranath Mukhopadhyay, *History of Indian Medicine*, vol. 2, Calcutta: University of Calcutta Press 1926, p. 15.
- ⁷⁰ Gopaul Chunder Roy, "On the Past and Present State of Medicine in India," paper read at *The Medico Chirurgical Society*, Seventh Meeting, 1870-71 Session, 3rd February 1871, *Glasgow Medical Journal*, vol. 3, 1871, p. 540.

-
- ⁷¹ Ibid., p. 541.
- ⁷² Ibid., p.542.
- ⁷³ L.S.S. O'Malley, "The Hindu Social System," in L.S.S. O'Malley (ed.), *Modern India and the West* London: Oxford University Press, 1941, pp. 366-6.
- ⁷⁴ Gopaul Chunder Roy, "On the Past and Present State of Medicine in India," paper read at The Medico Chirurgical Society, 3rd February 1871, *Glasgow Medical Journal*, vol. 3, 1871, p. 544.
- ⁷⁵ *The Calcutta Monthly Journal*, vol. 3, 1837, p.4
- ⁷⁶ K. Macleod, "Medical Education in India," *Caledonian Medical Journal*, January 1908, p. 184.
- ⁷⁷ India Public Consultations, IOLR, P/186/75, 1 February 1837, no. 1
- ⁷⁸ Mel Gorman, *Western Science in India*, p. 288.
- ⁷⁹ P. C. Sen Gupta, "Soorjo Coomar Goodeve Chuckerbutty: The First Indian Contributor to Medical Science," *Medical History*, vol. 14, 1970, pp. 183-91.
- ⁸⁰ India and Bengal Despatches, IOLR, E/4/766, 2 July 1841, p. 1035
- ⁸¹ Mel Gorman, op. cit., p. 289.
- ⁸² Ibid., p. 290.
- ⁸³ IOR/V/24/4478, Annual Report of the Medical College, Calcutta, 1835-54, cited in Srilata Chatterjee, *Western Medicine and Colonial Society: Hospitals of Calcutta, c.1757-1860*, New Delhi: Primus Books, 2017, p.167.
- ⁸⁴ Home Medical Board, 1858-59, 9 September to 2 May, Letter from the Principal of the Medical College Calcutta to secretary Director General Medical Department, WBSA.
- ⁸⁵ Ibid.
- ⁸⁶ Srilata Chatterjee, op. cit., pp. 173-74.
- ⁸⁷ James Johnson, *The Influence of Tropical Climates, more especially of the Climate of India on European constitution and the Principal Effects and Disease thereby Induced their Prevention, Removal and Means of Preserving Health in Hot Climates Rendered Obvious to Europeans of Every Capacity*, London: J. Callow, 1815.
- ⁸⁸ Long, Rev. James *Calcutta in the Olden Times: Its Locality and its People*, Calcutta: Sanskrit Pustak Bhandar, 1974.
- ⁸⁹ Surgeon –Major Albert M. Verchere, "Report on the Epidemic of Dengue of 1872, as It Appeared in Fort William, Calcutta", *Indian Medical Gazette: A Monthly Record of Medicine, Surgery, Obstetrics, Hygiene, Jurisprudence, and the Collateral Sciences*, vol. 14(4); April 1, 1879, pp. 91-95.
- ⁹⁰ Savitri Das Sinha, op. cit., pp. 259-331.
- ⁹¹ C. MacNamara and K. McLeod (ed.), 'The Health of the European Army in India-1877', vol.14, Calcutta: Thacker, 1879, pp. 145-146.
- ⁹² "The Health of European Army in India- 1871", *Indian Medical Gazette*; C. MacNamara and K. McLeod (ed.) vol. 14, Calcutta: Thacker, 1879, pp. 143-145.

-
- ⁹³ Kaberi Nandy, 'Sanitation, Disease and Death in Colonial Cities: A Case Study of Calcutta (1860-1947)', Ph.D. Thesis, New Delhi: Centre for the Study of Regional Development, School of Social Sciences, Jawaharlal Nehru University, 2004, pp. 67-110.
- ⁹⁴ Sujata Mukherjee, 'Disciplining the Body? Health Care for Women and Children in Early Twentieth Century Bengal', Deepak Kumar (ed.), *Disease and Medicine in India: A Historical Overview*, New Delhi: Tulika, Indian History Congress, 2012, pp. 201-204.
- ⁹⁵ Annual "Report on Public Health" and appendices to the reports in the *Calcutta Municipal Reports*.
- ⁹⁶ "Report of the Committee on Sanitary Conditions of Railway Stations," Feb. 7, 1865, *Railway Letters*.
- ⁹⁷ *Indian Medical Proceedings, 1873-75*, pp. 507-08, and 521-30, India Office Library.
- ⁹⁸ David Gilmour, op. cit., p. 489.
- ⁹⁹ *A letter to the Secretary of State for India on the past, present, and future of the Indian Medical Service*, by a "Surgeon-Major," Madras: Lawrence Asylum Press, 1879.
- ¹⁰⁰ Muhammad Umair Mushtaq, 'Public Health in British India: A Brief Account of the History of Medical Services and Disease Prevention in Colonial India', *Indian Journal of Community Medicine*, vol 34, Issue 1, Gujrat: Med know Publications, Indian Association of Preventive and Social Medicine, January 2009, pp. 6-14.
- ¹⁰¹ *A Proceedings of the Government of India in the Department of Agriculture, Revenue and Commerce*, Simla, 31st October, 1871, Memo. No. 440.
- ¹⁰² *Ibid*, p. vi.
- ¹⁰³ *Ibid*.
- ¹⁰⁴ *Ibid*, pp. iv-vi.
- ¹⁰⁵ A.O. Hume, Secretary to the Government of India, Memorandum No. 623, Department of Agriculture, Revenue and Commerce, 1st August, 1873.
- ¹⁰⁶ W. J. Moore, *A Manual for Family Medicine of India*, London: J. & A. Churchill, 1874, p. XVII.
- ¹⁰⁷ Stuart Anderson, 'Pharmacy and Empire: The "British Pharmacopoeia" as an Instrument of Imperialism 1864 to 1932', *Pharmacy in History*, vol. 52, no. 3/ 4, 2010, Madison: The University of Wisconsin Press, Journals Division, pp. 112-121, Web Link. <https://www.jstor.org/stable/41112471>
- ¹⁰⁸ W. J. Moore, op. cit., p. 4.
- ¹⁰⁹ *Ibid.*, p. 5.
- ¹¹⁰ *Ibid.*, pp. 5-8.
- ¹¹¹ *Ibid.*, pp. 8-43.
- ¹¹² *Ibid.*, pp. 44-48.
- ¹¹³ *Ibid.*, pp. 50-306.
- ¹¹⁴ *Ibid.*, p. 309.
- ¹¹⁵ *Ibid.*, pp. 310-315.

-
- ¹¹⁶ Ibid., pp. 315-324.
- ¹¹⁷ Ibid., pp. 442-444.
- ¹¹⁸ Ibid., p. 443.
- ¹¹⁹ Ibid., pp.445-446.
- ¹²⁰ Ibid., pp. 447-484.
- ¹²¹ Shankar Kr. Nath, *Unish Shataker Kayekjon Bangali Gobeshok-Chikitsok*, (Some Bengali researchers-physicians of the 19th century), Kolkata: Bangiya Biggyan Parishad, 2019, pp. 24-30.
- ¹²² W. J. Moore, op. cit., pp. 484-504.
- ¹²³ Cuthbert Finch, “Vital Statistics of Calcutta”, *Journal of the Statistical Society of London*, London: Wiley for the Royal Statistical Society, May 1850, Vol. 13, No.2, pp. 168-182.
- ¹²⁴ B.D. Metcalf, “Nationalist Muslims in British India: The Case of Hakim Ajmal Khan”, *Modern Asian Studies*, vol 19, no. 1, 1985, pp. 1–28.
- ¹²⁵ Home/Medical proceedings, July 1916, A, 38–50, progs 41, p 127, National Archives of India.
- ¹²⁶ Home/Medical proceedings, July 1919, A, 26–51, NAI.
- ¹²⁷ Vijoykali Bhattacharya, *Ayurveder Itihas* (in Bengali), Calcutta: Bangkim Press, Bengali year. 1361, pp. 57-58. Translated by S.C. Mitra, *History of Ayurveda*, Calcutta: Bangkim Press, 1960.
- ¹²⁸ Ibid., p. 58.
- ¹²⁹ Jogendranath Gupta, “Ayurveda Prasanga”, Calcutta: *Ayurveda*, vol. 1, Bengali Year 1361, p. 5.
- ¹³⁰ See Gangadhar Kaviraja, *Vaidya Sanjibani Patrika*, vol. 5 and 6. B. S. 1322–23, Calcutta, pp. 89-91, and 101–111.
- ¹³¹ Girijaprasanna Sen and Jyotirprasanna Sen, *Swargiya Kaviraja Gangaprasad Sen Mahasayer Chikitsalaya, Ausadhalaya o Vidyalaya: Catalogue of the Dispensary*, Calcutta, p. 134.
- ¹³² Ibid., p. 6.
- ¹³³ Brahmananda Gupta, op. cit., p. 373.
- ¹³⁴ Prabhakar Chatterjee, “Mahamahopadhyay Kaviraja Bijoy Ratna Sen: His Life and Technique of Treatment”, *Nagarjun*, vol. 15, February 1967, p. 296.
- ¹³⁵ Prabhakar Chatterjee, “Kaviraj Gangadhar Roy Kaviratna”, *Nagarjun*, vol. 7, June 1959, p. 813.
- ¹³⁶ Brahmananda Gupta, op. cit., p. 374.
- ¹³⁷ Ibid., p. 376.
- ¹³⁸ *Bulletin of Shyamadas Vaidya Sastra Pith*, “An Old Appeal”, March 1959.
- ¹³⁹ Prabhakar Chatterjee, 1967, p. 296.
- ¹⁴⁰ Ibid., p. 1.
- ¹⁴¹ Anil Kumar, *Medicine and the Raj: British Medical Policy in India, 1835-1911*, New Delhi: Sage Publications, 1998.
- ¹⁴² ‘Subordinate Medical Education,’ *IMG*, March 1869, p. 59.

¹⁴³ Savitri Das Sinha, 'Medical Thought and Practice in Colonial India: A Study of the *Indian Medical Gazette* (1866-1947)', Ph.D. Thesis, Chapter IV, Zakir Husain Centre for Educational Studies, School of Social Sciences, New Delhi: Jawaharlal Nehru University, 2011. pp. 119-124.

¹⁴⁴ Ibid., pp. 97-149.

¹⁴⁵ D. Arnold and Sumit Sarkar, 'In search of rational remedies: homeopathy in nineteenth-century Bengal', in W. Ernst (ed.), *Plural Medicine, Tradition and Modernity, 1800–2000*, London and New York: Routledge, 2002.

¹⁴⁶ S. C. Ghosh, 'Dr T. Berigny', *Hahnemann*, vol.22, no.4, 1939, p. 198.

¹⁴⁷ B. K. Sarkar, *Essay on Homeopathy*, Calcutta: Hahnemann Publishing Co. Private Ltd., 1968, pp. 1013-1043.

¹⁴⁸ Ibid.

¹⁴⁹ S. C. Ghose, 'Homoeopathy and Its First Missionary in India', *The Hahnemannian Gleanings*, vol. 3:7, August 1932.

¹⁵⁰ Pratik Chakrabarty, 'Science, Morality and Nationalism: The Multifaceted project of Mahendra Lal Sircar', *Studies in History*, Volume 17, Issue 2, Delhi: Sage Publication, Last edit 17. 2. 2001, pp. 245-274, Web Link. <https://doi.org/10.1177/025764300101700204>

¹⁵¹ Ajoy Kumar Ghosh, 'History of Development of Homeopathy in India', in *Indian Journal of History of Science*, vol. 53.1, 2018, pp. 76-83.

¹⁵² Arun Kumar Biswas (ed.), *Gleanings of the Past and the Science Movement: In the Diaries of Drs. Mahendralal and Amritalal Sircar*, Kolkata: Asiatic Society, 2000.

¹⁵³ Mahendralal Sircar, *On the Supposed Uncertainty in Medical Science and on the Relation between Diseases and their Remedial Agents*, Calcutta: Anglo Sanskrit Press, pp.62- 67. 1903.

¹⁵⁴ "A Paper submitted by Dr. Mahendra Lal Sircar, M.D., Calcutta to Quinquennial Homeopathic Congress held in London, 1885," in Dr. B. K. Sarkar, *Essay on Homeopathy*, Calcutta: Hahnemann Publishing Co. Private Ltd., 1968, pp. 1013-1043.

¹⁵⁵ Arun Kumar Biswas (2003), op. cit., pp. 231-247

¹⁵⁶ *The Homeopathic Bulletin*, Ed. Dr. D. N. Chatterjee, vol. 9, No. 3, Calcutta, August, 1936.

¹⁵⁷ Biswo Das History of Inception and Development of Homoeopathy in India, National Institute of Indian Medical Heritage, Hyderabad under CCRAS, Ministry of Ayush, Govt. of India, 2022,

¹⁵⁸ Chittabrata Palit, "Mahendra Lal Sircar, 1833-1904: The Quest for National Science." in *Science and Empire: Essays in Indian Context, 1700-1947*, ed. Deepak Kumar, Delhi: Anamika Prakashan, 1991.

¹⁵⁹ *The Servant of Homeopathy*, op. cit., Year 3, No. 1, 10th April, 1929, pp. 1-2.

-
- ¹⁶⁰ Shinjini Das, 'Debating Scientific Medicine: Homoeopathy and Allopathy in Late Nineteenth-century Medical Print in Bengal,' in *Medical History*, vol. 56(4), Sanjoy Bhattacharya (Ed), Cambridge: Cambridge University Press, 2012, pp. 463–480, web link. doi:10.1017/mdh.2012.28,
- ¹⁶¹ Dr. K. K. Roy, and Dr. A. S. Dey (Eds), *The Servant of Homeopathy*, Calcutta: The Homeopathy Serving Society (India), Year 3, No.4, July 1929, pp. 150-155.
- ¹⁶² K.N. Basu, 'Homoeopathic Upadhi Samasya' ('Problems of Homoeopathic Degree'), Hahnemann, 9, 10, 1926, p. 546
- ¹⁶³ Manmatha Nath Gangopadhyay, 'Bisadrisa Chikitsay Sadrisa ba homoeo shabder Obantor proyog' ('Irrelevant Use of the Word Homoeo in Treatment of Dissimilars'), *Homoeopathy Paricharak*, vol. 1, 1, April 1927, p. 60-62.
- ¹⁶⁴ Kalikumar Bhattacharya, 'Samasya o Pratikar' ('Problem and Its Solution'), Hahnemann, vol. 7,7, 1924, p. 43.
- ¹⁶⁵ Sarat Chandra Ghosh, *Life of Dr. Mahendralal Sircar*, Calcutta: Hahnemann Publishing Company, Second edition, 1935, p. 93.
- ¹⁶⁶ Shinjini Das, *Homeopathic Families, Hindu Nation and the Legislating State: Making a Vernacular Science, Bengal 1866 – 1941*, Dissertation submitted for the Degree of Doctor of Philosophy, at University College London, 2011.
- ¹⁶⁷ Sarat Chandra Ghosh, op. cit., pp. 97-98.

Chapter 3

Gender, Race and Colonial Medicine: Women at Medical Profession

The narratives of the expansion of medical education in colonial India tend to concentrate on how it was generated by British administrators, missionaries, benefactors, and Indian reformers keen to provide Indians with access to Western education and healthcare. Such narratives pay little attention to the broader colonial contexts of institutionalizing Western science and medicine and the rise of curative medicine, altering education and health service patterns for Indians, the broader social impact of women's medical education, etc. In this chapter, We will discuss the government policies regarding medical education, the role of European officers, missionaries, and philanthropists, and in what setting indigenous reformers respond by attempting to improve the condition of women through education and health reforms. What social effects did the growth of women's medical education have? These topics have been investigated in this chapter.

1. Western Medical Education in Colonial Bengal -

In the history of medical education in the Bengal Presidency, the second half of the nineteenth century was filled with discoveries and experiments. The period between 1800 and 1857–1858 saw the systematization of medical education both in England and India. The India Act of 1784 was notable for its prohibition of annexation and the institution of a parliamentary Board of Control with authority to overturn Court of Directors orders. The East India Company's charter was modified due to bi-annual legislative reviews. An official policy declaration from 1813 that acknowledged the company's obligation to support Indians' educational needs is a reform that bears special significance in this case. The Calcutta Madrasa was established in 1781 when Governor Warren Hastings (1732–1818) donated a structure at his own expense. Its goal was to encourage the study of Arabic, Persian, and Islamic law to produce judges. The

Company supplied land and financial subsidies, but due to poor administration and inefficiency, the institution did not reach a reasonable level of performance until after 1813.

In 1823, a General Committee of Public Instruction was established; through it, the Company occasionally provided further financial aid through stipends, scholarships, salaries, and building costs to universities and institutions. Calcutta eventually had two government-sponsored colleges and a school for teaching native health practitioners, where European science was offered for learning. Meanwhile, the ideologies of liberalism, evangelicalism, and utilitarianism had been encouraging intellectual instability in England since around 1800. After years of discussion in the public sector, Parliament, and Company circles, the 1830s gave rise to the well-known Orientalist-Anglicist argument. All participants agreed that introducing European science and literature would raise the populace's moral, intellectual, and cultural standards. In a nutshell, the Orientalists argued that the native culture was admirable and should be preserved, with European ideas being gradually adopted by the populace. According to the Anglicists, India's history was not necessary, and if it wanted to advance into the contemporary era, its decaying civilization would have needed to be substituted by Western culture spread through the English language.¹

Attitudes toward medical education for Indians highlighted the utilitarian and dominant nature of Western approaches to Indian medicine in the early nineteenth century. The necessity to recruit and educate native doctors for the subservient medical service was one of the driving forces prompting government involvement with indigenous traditional medicine. They were needed as qualified medical assistants - compounders, apothecaries, dressers, etc. to assist European physicians and surgeons and reduce the Company's expense of hiring additional European medical men. These native assistants were referred to in a variety of ways, including "native dressers" in Madras, "country doctors," "black doctors" in Bengal, "black assistants," and "apothecaries" in Bombay.² Gradually, medical education facilities grew in response to a

growing indigenous interest in and desire for Western medicine and an increasing imperative to serve British citizens and soldiers.

In addition to the other measures, the Charter Act of 1813 was the primary cause of the initiation of medical training for the Indians.³ When a "Subordinate Military Medical Service" was established in June 1812, the native physicians were referred to as third-class servants. This aspect sparked the desire for a standard and proper institutional medical education for those Indians who wanted to become native doctors with the passing of the Charter Act of 1813. This would accomplish two things. In addition to assisting European physicians who cared for the health of European civilians and military personnel, these subordinate helpers would also lessen the financial obligations placed on the corporation by employing European physicians. By a proposal from the province Medical Board, a medical recruit training program of twenty Indians for the army and civilian cadre was sanctioned by Bengal's government in May 1822. Order no. 41 of the Governor General dated June 21, 1822; in Calcutta, the *Native Medical Institution* was established to educate Indians with Western knowledge and the traditional medical system.⁴ The Calcutta Madrasa also began offering lectures in Yunani medicine in 1827, as did the Sanskrit College, which included the most famous treatise on Ayurveda.⁵ Ayurvedic books like *Charak Samhita* and *Sushruta Samhita* were taught at the former school. At the same time, Calcutta Madrasa students studied the Muslim Unani-Tibb style of medicine, which was based, among other things, on the works of Arab doctors. As a result, the colonial state's medical education at this time included instruction in both Western and indigenous medical systems. In reality, towards the end of the 18th century, ancient Indian medical literature became the focus of critical and methodical study, mainly because of the work of orientalist researchers like William Jones and others.

In 1828–1833 and again in 1833–1835, Lord William Bentinck served as the governor-general of India.⁶ His Court of Directors' primary directive was to cut costs; he did not prioritize

health or education. But, his observations in Calcutta and when visiting other areas of the Company's territory persuaded him that something needed to be done to improve the poor quality of healthcare services offered to the general public. He determined that upgrading medical education would be the best course of action, so he created a commission in 1833 to investigate his suggestion.

When Lord William Bentinck was appointed Governor-General in 1828, a separate imperial governing ideology molded by liberal values came to dominate. James Mill expressed the liberal vision of Indian society in his *History of British India*, which was more or less eloquently backed by evangelists, free traders, law reformers, educational reformers, and utilitarian theorists (first published in 1818). William Jones held the opposite opinion to Mill, who noted that the Hindus never attained a "high state of civilization" and were a "rude" race.⁷ The Anglicists overturned many Orientalist educational ideas in the 1830s. A receptive orientalist policy of embracing and fostering indigenous medicine is said to have unexpectedly changed in 1835 when an exclusionary policy of the same replaced it. This transformation had devastating implications for the indigenous medical systems and ended the amicable cohabitation of both medical systems. The main objective of the Europeans was to convince the medical students of the supremacy of Western medicine.⁸

However, by the 1830s, growing European resentment against government support for Indian education and in favor of a much more overt policy of teaching Western science exclusively through the English language and literature had turned the Native Medical Institution into a target. An inquiry committee chaired by Dr. John Grant was formed in 1833 by Lord William Bentinck to investigate the status of medical education in Bengal and the teaching of indigenous medical systems of medicine. The absence of a practical anatomy class in Native Medical Institution was criticized in the report. "Education of natives" was one of the recommendations in the report. Two consecutive results of such a report were the abolition of

the Native Medical Institution (NMI), and the medical classes at the madrasa and the Sanskrit College ceased to operate in 1835.⁹

After 1835, Western medicine was seen as a symbol of a superior civilization and a confirmation of the morality and validity of colonial rule in India. In contrast, indigenous medical theories and practices were often disparaged as ignorant and barbaric. In this latter vein, T. B. Macaulay unleashed his Anglicist wrath against Indian civilization and learning during his renowned Minute on Education.¹⁰

Calcutta Medical College was established in 1835 and marked a fresh start for medical education in India. This was a perfect blend of Macauley and Bentinck's design of Western education. After passing the exam, successful applicants received certificates authorizing their participation in surgery or medicine. Due to the high expectations of upper-class Bengali students, they refused to participate in primary hospitals on military sites or civil stations. As a result, the demand for Native Doctors as dressers and helpers became urgent. Hence, there was an instant need for specialized training, often known as 'partial medical education.' Madhusudan Gupta, Nabakrishna Gupta, and Shibchundar Kumar were hired as lecturers in this new medical school. 'Calcutta' became the first city in Bengal to include students in the medical study who were not from Bengal's upper class.¹¹

2. The Position of Indians in Western Medical Hospitals –

Medical classes in Calcutta Medical College were rescheduled to begin in the Bengali language in the 1852–53 academic year. This shows India's quiet but persistent blending of traditional and Western thinking to reinvigorate native civilization. Mahendra Lal Sircar's Indian Association for the Cultivation of Science was the first to institutionalize Indian interest in Western science (1876). Another important institution was Calcutta Medical School (1889), which Radhagobindo Kar founded.¹²

In 1873, the Bengali class was moved from CMC to Campbell Medical School in Sealdah, where it was given the title "The Vernacular Licentiate Class." As part of the investigation, a committee was formed to develop an all-encompassing curriculum for the vernacular classes. The committee made a plan in 1878, which Bengal's government approved. Practical knowledge, clinical surgery, medicine, and midwifery were prioritized. Campbell Medical School opened its doors in November 1873. First, Bengali and Hindustani courses were taught separately in this school. An increasing interest in vernacular medical education forced the government to consider even more alternatives later.

India's quest for swaraj, or home rule, required that India be portrayed as a progressive, modern, and scientific society. Several attempts were made to revive Ayurveda during the patriotic wave. However, allopathic practitioners disdainfully viewed their indigenous colleagues because of their "inferior knowledge." Local knowledge was branded as unscientific or illogical by critics of the system, while Western medicine was elevated to official treatment. The expanding waves of imperialism precluded a healthy interchange of medical knowledge.¹³ In contrast, Nationalistic ideology inspired some Indian doctors to combine Western medication with Indigenous remedies.

2.1. Medical Registration Act -

The issue of medical registration was also a source of friction among Indian medical practitioners. The Madras Medical Registration Act of 1914, which denied registration to practitioners of indigenous systems of medicine, was viewed as a form of discrimination. During this time, when indigenous medical traditions were sidelined, local doctors sought a place inside the newly formed professional system to achieve a privileged social position. In India, practitioners of Indian systems of medicine were regarded as "second-class doctors."¹⁴ This shows how the British authority marginalized the indigenous medical system by creating new laws and making it illegal.

2.2. Response of an Indian Medical Practitioner on Medical Education in Colonial

Bengal: Gopaul Chunder Roy -

The faculty developed a reputation as an elite faculty over time. "Is not the staff of professors drawn from the elite of the Indian Medical Corps?"¹⁵ said Gopaul Chunder Roy (M.D. and FR.C.S.). A fixed tuition fee was set up, and a hospital with 400 beds was established along with the college, which was built with the donations of Indian and European philanthropists. Licentiates in medicine and surgery and bachelor's and doctoral degrees in medicine were now being awarded. Only four applicants completed the M.D. exam, and 12 to 15 candidates received their licentiate and bachelor's degrees each year. Some choose to work for the government in the medical department's subordinate position, while others prefer to establish themselves as independent practitioners. Gopaul Chunder was saddened to discover that British universities did not extend the same open spirit of sisterhood to the colonial Universities of India.

In the first three years, there were two courses of lectures on anatomy, chemistry, physiology, Materia Medica, botany, and comparative anatomy, and in the fourth and fifth years, there were courses on medicine, surgery, pathology, midwifery, medical law, ophthalmic surgery, hygiene, and dentistry. This course was adequate to qualify one for registration in English. Gopaul Chundar took the liberty of challenging any student attending a British university to pass the exams with confidence because the exams were administered with such strictness, and the questions given by the examiners were so tricky. One thing remained certain - even though most medical men who applied to the Calcutta Medical College for English diplomas did not take any special courses in England to prepare for the exam, not one instance could be cited in which they failed to conduct themselves honorably.

2.2.a. Racial Discrimination in the Medical Field -

Gopaul Chundar raised his voice against the racial discrimination in the medical field that Indian students faced under colonial rule. “Is not India a British settlement, and are not the Indians British subjects? Then why should they be deprived of the privilege to which a portion is entitled? There was a time when such questions could not have been entertained. But as year after year throws new light, disclosing the rapid stride of advancement which the people of India are making on the way to civilization, injustice ought no longer to be sustained.”¹⁶

He further said, “It is ridiculous to enforce the ignoring of our University degrees and preferring licenses granted by some examining bodies in Great Britain that hold by 110 means a position superior to the Indian Universities in status and standard.”¹⁷ He vehemently expressed the injustice meted out to Indians by the Western medical establishment. He criticized the Western medical system that despised Indian science and medical knowledge and the creditability of the Indian students and researchers who learned Western Medical science in Indian medical institutions.

The Covenanted and the Uncovenanted were two groups of English doctors. The former was in charge of civil stations, and they might have native doctors, Sub-assistant surgeons, or lower-standard subordinates working under their supervision. The Uncovenanted were chosen partly from the group of men who, after earning their degrees in England, took a chance in the East in search of lucrative opportunities and part from a class called Apothecaries.¹⁸

In India, apothecaries represent anything except a competent in medicine. Without having any medical education, Apothecaries could climb from the post of compounder or steward to that of medical officer in command of a station, occupying social positions higher than local university graduates with better prospects and pay.¹⁹ Gopaul Chunder stated that while gradual concessions were being made to enlarge the possibility of medical officers in Europe, no

similar initiative was taken for the medical profession in India. According to him, it was a narrow political economy that was in strong contrast with the spirit of the age to bring forward the law of supply and demand to bear on the question of improvement of the status of a profession. Gopaul Chunder Roy dreamt of a new world where racial discrimination would not hinder the growth of Indian men. The issue of racial discrimination in the colonial medical system has been addressed elaborately in the next chapter.

3. Medical Needs of the Colonial Indian Women -

High-caste Hindu women had already become some of the most contentious personalities in colonial India by the second half of the nineteenth century, both in Indian and British colonial discourses. Stressing the inferior status of women in Indian society made it simple to show the British power's dominance. The Indian indigenous medical system was considered stagnant and ineffective by early colonial officials and Western medical professionals. Trading firms typically had onboard ship physicians to care for the requirements of their traders, officials, sailors, and troops. Political developments later had a crucial role in formulating a formal medical policy. Thus, introducing indigenous women into the medical profession resulted from several sociological and social processes the colonial authorities' educational and medical reform programs had set in motion. It should be recalled that missionary work, private patronage, and state support—albeit scattered and uneven—were all factors that led to the very use of women's education. The first thing to consider is what drove missionaries, Indian social reformers, and the Indian government to encourage women's education.²⁰

The late nineteenth and early twentieth century goals of women's education were discussed in the framework of the social reform movement. According to reformers, women's education would help maintain the family's stability and have a wider impact. It was believed that because women played such an essential role in childrearing and household duties, they would

indirectly but significantly affect the field of male activity.²¹ Specifically, they would support males with their views and beliefs. Due to this, they simultaneously promoted traditional role refining through school curricula while advancing the cause of women's education.

3.1. Women's Medical Education in India -

As a companion to men, as "scientific" nurturers, and as members of civic society, a new picture of the ideal woman that differed from the lower-class women was created.²² The word "freedom" has been examined by Dipesh Chakraborty in discussions surrounding women's education in nineteenth-century India. He contends that while freedom in the West was viewed as the right to individuals, it was considered the willingness to serve and obey in India.²³ Therefore, the "modern" Indian woman was classified as educated enough to contribute to the greater body politic and "modest" sufficient to be unaggressive and unselfish, in contrast to the ultra-free Western or Westernized women who were greedy and shameless.

As a result, there was a heated discussion on the women's education curriculum from the beginning. Along with the goals of female education, the curriculum for women was a topic of discussion. The first curriculum for both boys and girls was the same. However, as girls' educational goals differed from those of boys, various viewpoints were immediately expressed regarding the curriculum that girls should pursue. The Education Commission of 1882 agreed with the views developed by 1882 in favor of a distinct curriculum for females.²⁴ Thus, topics like cleanliness, domestic science, needlework, music, and home science were designated for girls. Conversely, physics, chemistry, and mathematics became more popular among men. Since girls will be married off, it was believed that primary and secondary school should prepare them to be better spouses and mothers. The education of females should be practical in light of their role in social life, according to a resolution issued by the Governor General in Council on February 21, 1913. Parents willing to send their daughters to medical school were

discouraged by I. G. N. Chiplunkar. In Chiplunkar's opinion, many were unsuitable for the profession, and most were not likely to make a respectable living.²⁵

When it comes to girls' education, hygiene should be a priority. The government developed this mindset in response to the unusual challenges women faced in receiving an education in India due to social mores.²⁶ The AIWC also promoted that obtaining an education was crucial for women who wanted to start families. The home was overemphasized as a nationalist symbol in the second and third decades of the twentieth century. The Indianization of education became linked to the change in curriculum. As a result, Delhi's Lady Irwin College for Women, the first postsecondary institution dedicated to home sciences, was established in 1932. The AIWC declared in 1927 that girls' education should be equal to boys' education and that girls' education should prepare them for home and married life because most females would marry. In 1948–1949, the University Education Commission upheld the idea that, in general, men provided income, and wives looked after the households.²⁷ The AIWC did not consider the possibility of girls pursuing their careers or other professions. The field of medicine, however, developed in this socially restrictive environment.²⁸

This part of the chapter discusses the need to introduce medical education for Indian women. Who had made the early efforts to stimulate Indian women in medical education? The reaction of Bengali intelligentsia and the Indian society as a whole: What was the real purpose of the British Government in allowing Indian women into the medical profession? Furthermore, the detailed course of historical events introduced medical education for women.

The early colonial state in India did not strongly emphasize female education. The low levels of female literacy at the start of the nineteenth century reflected the social backwardness in this area. The educational grant 1813 did not include a single penny for women's education. In actuality, female education was not acknowledged as a part of the Indian state education system before the arrival of the Despatch of 1854 from the Court of Directors.²⁹ In vast areas of Uttar

Pradesh, Bihar, Orissa, or West Bengal, the per capita expenditure was Rs.4 or 6 per thousand women. Annual investment from all sources in female education has never exceeded Rs.22 per thousand female population. Only three and a half to six and a half percent of the budget for the 1881–1882 fiscal year went for female education, and that was in the three most significant provinces of Bengal, Madras, and Bombay.³⁰

The British authorities believed that the people would view any attempt to promote female education in India without pushing for it as interfering with their social customs. They preferred to follow a strict neutrality and non-interference attitude regarding the religion and education of the people. The British administration proposed several societal causes as deterrents in the Report of the Public Instruction in Bengal for 1905-06, including early marriage and *pardah*, the gloomy shadow of widowhood.³¹

However, historians like Sabyasachi Bhattacharya have recently refuted the official emphasis on social factors, arguing that the "biggest single factor impeding women's education"³² is low investments in women's education. Girls' education was undoubtedly more expensive than boys. The cost was higher primarily because fewer students were enrolled than at boy's schools. Secondly, it was challenging to find female teachers.³³

3.1.a. The Role of Missionaries in the Women's Education in Bengal -

The first leaders in female education were the private efforts of Indians and Christian missionaries. A group of European women arrived in India in the second part of the nineteenth century with various goals, and helping their "Indian sisters" through medical approaches was their primary concern. They aimed to lift Indian women from their deplorable socio-economic situation by providing them access to health care and medical education.³⁴ The motivations for women's education initiating this effort were a characteristic mixture of the evangelical and the humanitarian, of which the former was given more stress to begin with, as M. A. Laird demonstrated in his work.

The missionaries were highly disturbed by the state of women in India and believed that if the women continued in this state of ignorance and depravity, the essential responsibilities of mother and wife would be neglected, impeding the advancement of civilization and morality. Christianity would advance if it could catch this wind.³⁵

The Protestant missionary women practically monopolized the promotion of formal education in the first half of the nineteenth century. Samuel Wilberforce, a philanthropist, was a vigorous propagandist and supporter of the freedom of missionaries after the Charter Act of 1813 gave the missionaries a free hand and led to a rise in the number of schools. Since the British government had little interest in women's education, he wanted missionaries and schoolmasters to be sent out from England.³⁶

After Bengal was declared an open field for missionaries by the British Parliament in 1813, three missionary societies—the Baptist Missionary Society, the London Missionary Society, and the Church Missionary Society—began operating there. The Baptists were the first to engage in missionary work, and they ran out of Serampore, a Danish settlement. The plight of Indian women was improved by the spouses of the missionaries and many other committed missionary workers. This was primarily accomplished in three ways: (a) by building day schools for Indian girls, (b) by creating orphanages, and (c) by providing domestic or zenana education for the middle and higher classes.³⁷

The Serampore Missionaries first moved to enroll the girls in one of their schools in 1816–1817.³⁸ The Calcutta Female Juvenile Society was founded in 1819 by several English women and Baptist Mission missionaries to advance female education.³⁹ The organization was the Calcutta Female Juvenile Society for establishing and supporting Bengalee Female Schools. The wives of the Baptist missionaries ran it. In the Hooghly district by 1827, there were 12 girls' schools run by missionaries. By 1828, schools operated by Miss Cook were established by the *Ladies Society for Native Female Education* in Calcutta and the surrounding area. The

native gentry's attitude was discussed in *The Missionary Intelligence* of December 16, 1824.⁴⁰ Although they have not yet learned how to let go of their ingrained prejudices and suspicions that prevent their females from appearing in public after a certain age, they are starting to feel the need for female education.

The Ladies Society established schools in several locations by 1831, including Mirzapore, Howrah, Burdwan, Khulna, Patna, Benares, and Allahabad. However, spreading Christianity was the main focus. As the higher elite of Hindu culture felt uncomfortable with this notion, this served as a deterrent to spreading education. Neither was the government eager to assist the missionaries. There were only 300 girls attending missionary schools in the 1850s.⁴¹

However, Indian social reformers and the government had doubts about the working of Christian missionaries on women's education because of their religious interest in social work. This inspired Christian missionaries to consider more strategies for educating indigenous women, resulting in the Zenana teaching movement, which gave Indian women new opportunities. The missionaries also benefited from the gradual social changes in Bengal's conservative Hindu society. By visiting their houses, the missionary ladies took it upon themselves to educate their Indian counterparts. It was concerned with female children only. Even though Christianity was a significant component of their curriculum, other subjects were also taught. The most successful missionary teaching endeavor from 1840 to 1882 was Zenana's teaching. There was hardly a zenana in the urban districts that were not absorbing the lamps of wisdom, according to an article in the famous journal "Friend of India" on 16 March 1871,⁴²

The number of residents and English and American teachers in the 1870s was estimated to be around sixty. According to the missionaries, in 1874, the previous year, they had visited 100 houses and taught 188 students; however, there were 121 houses and 223 students in that specific year.⁴³ It is clear from the context that the locals view missionary women favorably.

The first people to welcome these Western missionaries into their homes were members of the burgeoning educated middle class, particularly the intellectual aristocrats of the government offices or anglicized indigenous. The missionaries had an impact on Bengali widows. Several became teachers after completing their education at the Normal Schools founded by the well-known Brahma leader Keshab Chandra Sen. Additionally, widows or unmarried women with a foundational understanding of reading, writing, and math were eager to enroll in medical schools. For the ladies, the missionaries served as role models.⁴⁴ Interestingly, these widows were not educated for any materialistic causes. They were not pushed to be ideal wives; they were interested in their own.

Of all their efforts, Zenana education was the most effective at promoting female education. However, the government did not offer them complete backing in this case.⁴⁵ The principles of missionary education collided with the government's stance of religious neutrality. The government understood that maintaining its authority over India would require maintaining religious neutrality, which would be detrimental to the missionaries. The missionaries disagreed with the state grants distribution process, which was based on yearly checks and audits by the government. There were religious connotations present in every aspect of the missionary work. Even the most ardent supporter of missionary efforts, the Brahma Samaj, started their schools to break the link between female education and Christianity from missionary preaching. Even if the missionary efforts may not have achieved the desired result, their pioneering work undoubtedly had tremendous historical significance.

3.1.b. The Role of Social Reformers in Women's Education -

Lord Bethune took the next significant step in teaching women in Bengal. He enjoyed the backing of his friend Lord Dalhousie and the unwavering support of native Bengalis like Ram Gopal Ghosh, Dakshinaranjan Mukherjee, and Pandit Madan Mohan Tarkalankar in his endeavors. In addition to his library, which is worth 5,000 rupees, Dakshinaranjan offered him

the use of his Baitakkhana home without charging him any fee. In addition, he gave a financial donation of Rs. 1000 and five and a half bighas of land for a permanent school. Ishwar Chandra Vidyasagar, a leading female education advocate, was chosen as the school's secretary 1850. Maharshi Debendra Nath Tagore enrolled his daughter in this school, and Raja Kali Krishna Bahadur—a prominent member of Calcutta's Hindu community—became its headmaster. Sir William Hunter noted that the humanitarian and philanthropic aspect comes into play in funding girls' schools in India in the Education Commission Report 1884.⁴⁶

The cause of women's education captured the attention of the Brahmo Samaj. Raja Ram Mohan Roy was a pioneer in this area. Several progressive Brahmos, including Debendranath Tagore, Keshab Chandra Sen, Sasipada Banerjee, Dwarkanath Ganguly, Ananda Mohan Bose, Sibnath Sastri, and others, made commendable contributions and attempts to promote and encourage female education.⁴⁷ To improve women's status, the youthful Brahmos established the Sangat Sabha faction within the Brahmo Samaj in 1860. Members of this group are committed to supporting and promoting women's education in their own families. Renowned Brahmo leader Keshab Chandra Sen saw that opening numerous Normal Schools in each Presidency town was essential, as it would offer a source of work for Bengali Women. The list of those who contributed to women's education in contemporary Bengal is never-ending. One of the few people in Bengal, prominent educationist and philanthropist Ishwar Chandra Vidyasagar dedicated his life to promoting female education and women's independence.⁴⁸ The number of non-missionary schools for females significantly rose in the 1860s and 1870s. According to the Hunter Commission Report, approximately 1,000 girls were enrolled in formal education in Bengal in 1854, but by 1881–1882, that number had increased to roughly 41,349. However, it was difficult for local Bengalis to develop and promote female education in the face of vehement social hostility. The plan also had some contradictions.⁴⁹

3.1.c. Charles Wood's Despatch: Indian Women in Professional Education -

The evolution of women's education took another turn in the second part of the nineteenth century. The basis of Charles Wood's renowned Despatch from 1854 set the direction for future educational advancement in India. Under the grant-in-aid system, female education in Bengal developed gradually from 1870 to 1871.⁵⁰ The Bethune School and the Eden School in Dacca were under government maintenance.⁵¹ R.L. Martin, the South East Division Inspector of Schools for the Lower Provinces of the Bengal Presidency, was acutely aware of the importance of hiring female instructors for these institutions. The lack of qualified mistresses posed a significant barrier to creating female schools. Thus, he received government approval on March 27 and established the school on May 11, 1863, with the intention of training mistresses for a year as an experiment. The total number of students in the institution was 25.⁵² The admission of women into higher education was a significant accomplishment between 1882 and 1902. The Register of the University of Bombay contacted the University of Calcutta on April 30, 1875, regarding the admission of women to Indian universities. The Syndicate reported the letter's acceptance but did not comment. Chandramukhi Basu, a student at the Native Christian School in Dehradun, quickly sought admission to the university's entrance exam. Undoubtedly, the administration was in a precarious position, but it made a good decision. The Syndicate decided to welcome female applicants for the university examinations in the arts. At a meeting on May 12, 1877, the Faculty of Arts resolved that while both men and women would take the same entrance exam, only women would be housed in a separate location under the supervision of women. The law was authorized by the Governor General in Council in 1878. Two women, Chandramukhi Basu and Kadambini Basu, graduated from the university in 1882 and participated in the Convocation of 1883, commemorating the university's silver jubilee year.⁵³

4. Women's Medical Education in India: The Role of Missionaries -

There were several debates on the issue of Women's education in society in nineteenth-century India. Even in liberal circles, women could only choose between teaching and medicine as a profession. A particularly unique group of European women began arriving in India in the second half of the nineteenth century, and the trend persisted into the first half of the twentieth. Their top priority was using medicine to aid their "Indian sisters."⁵⁴ Their objective was to improve the social position of Indian women by providing them with necessary health care and medical education. These ladies are frequently alluded to as 'medical women.' They realized that female doctors were the only ones who could offer medical treatment to the aristocratic women of India since they were not used to visiting male doctors. It was believed there would never be enough European lady physicians to provide medical care for India's sizeable female population. To offer medical care for themselves, Indian women would need to be trained in Western medical science. This facilitated the arrival of Indian women into the field of medicine.

4.1. "Sisterhood": An Idea of Feminism or a tool of "Cultural Imperialism" -

Missionaries, medical feminists, philanthropists, suffragists, and middle-class Victorian women believed in a worldwide 'sisterhood,' yet this idea was considered dubious. It is believed that the Victorian feminists' flag of 'sisterhood' represented 'imperial' feminism, with all its hegemonic constraints and limits. However, we cannot trivialize the idea or objective of these European ladies who attempted to pave the way for women's medical education in India through their sincere efforts. We cannot simplify the issue by tagging it 'cultural colonization' or not devaluing or ignoring their empathy towards Indian women. It raises various concerns and shows a propensity to separate historical events from the social and political environment and judge them, as Romila Thapar has remarked, from the 'ideological concerns of their own time.' From a different perspective, the British government denied the request of European

medical women to join the Indian Medical Service and acquire a position according to their qualifications. As a result, they attempted to prove their worth to achieve their goal by serving the government outside the official structure. Indian women had two types of medical education: first, a pragmatic, secular approach to hygiene, sanitation, and health care was developed in them; second, they were trained to become medical professionals, such as doctors, nurses, midwives, hospital assistants, and apothecaries. Missionary and secular British and American medical women made substantial contributions in these fields.⁵⁵

4.2. Medical Facilities for Indian Women -

As in much of nineteenth-century India, it was socially unacceptable for respectable Hindu and Muslim women to get medical care from a male doctor that required any level of intimate physical examination, whether they were European or native medical professionals.⁵⁶ Insofar as it did not necessitate a close physical examination, the respectable women sought medical counsel and treatment from the neighborhood Hakims and Kavirajas through the intermediary of their male guardians. Older ladies served as "Kitchen physicians" and treated minor ailments that affected family members.⁵⁷ Only native medical facilities were available to women of low social standing who lived in rural areas, and even then, only if they could afford it. Villagers did not have proper medical care facilities and frequently traveled long distances to medical facilities or hospitals. Most civil hospitals in urban areas had a lying-in ward designed to cater to European women. Some had native wards primarily used by women of lower social classes. Because the visiting physicians and surgeons in these hospitals would almost always be men, European or Indian, the respectable ladies would not use them. A native ward for Indian men and women was present in the General Medical Hospital in Madras when it was founded in 1842. A ward designated for women and children operated as a lying-in hospital after the Calcutta Medical College Hospital was completed in 1853; this ward adopted the name Eden Hospital in 1881–1882.⁵⁸ The East India Company and the Parsi businessman Jamsetjee

Jejeebhoy collaborated to build the Jamsetjee Jejeebhoy Hospital in Bombay, which contained a women's ward where Indian women could receive care. But, these institutions' lack of female doctors discouraged respectable Zenana women from going there.

The notion that Indian women needed medical care wasn't always a product of missionaries' propaganda; in nineteenth-century India, there was an actual demand for competent female doctors and adequate facilities for treating female patients. The colonial mindset remained one of ambivalence concerning the teaching and care of women's health. They were hesitant to get engaged, much like they were with women's education. Since the uprising in 1857, the colonial authority had found it difficult to tamper with Indian customs, and the idea of zenana women and their seclusion from strangers fell under this tradition. It was seen as the final stronghold of Indian culture that colonialism had failed to conquer, a notion that nationalists heavily drew upon afterward. Because of this, neither women's medical education nor their health care was ever given top priority in the colonial government's medical agenda. The idea of teaching Indian women to become doctors did not come into being until 1870. At the official level, it was supported more by specific colonial officials than by the combined medical and colonial administration.⁵⁹

4.2.a. “White” Medical Women in India -

The medical women were a small, marginal group with a distinct function, yet they were part of a more significant presence of an alien culture in India. This small group consisted of various individuals, making it difficult to regard them as a single entity. Secularism and religion represented the most significant rift within them. In this context, the term “secular” refers to medical professionals who did not utilize their profession to further a religious conversion. Although they might be pretty devout—and some of them undoubtedly were—they believed medicine was good in and of itself and did not require any religious motivation to be administered.⁶⁰ The treatment and education of indigenous women in medicine began when the

secular group of medical women arrived in the mid-1880s.⁶¹ The secular group had quite different views on administering medication than the missionary ladies since they preferred to do so without any overt religious connotations. Medical feminists in Britain who took an interest in the Zenana women's health were the ones who first encouraged their entrance. It should be mentioned that the IMS did not hire female doctors during the relevant period and remained hesitant to do so even in the early 20th century.

Therefore, the majority of them obtained jobs in their native states. In contrast, others took posts with private or semi-private organizations in India, such as the 'Dufferin Fund' or the 'Medical Women for India Fund' in Bombay. These Indian women, licensed doctors, lived in large cities and towns. The benefit they provided went to middle-class Indian females who, by the 1880s, had begun to step forward to pursue medical careers. They also educated women from the lower classes to work as midwives and hospital aides. In addition to offering medical assistance and educational opportunities, the secular group battled for the rights of Indian medical women and attempted to secure a salary and job structure for them.

To voice their complaints, they created the 'Association of Medical Women in India' (AMWI) and published a journal to raise awareness of their cause.⁶² This society was joined by many female medical missionaries and freshly qualified Indian women doctors. The 'Women's Medical Service of India' (WMSI) was eventually established due to its efforts in 1914. They were also the main force behind establishing Delhi's Lady Hardinge Medical College and Hospital for Women in 1916 as a separate institution of higher learning for women.⁶³

The arrival of European medical women at the end of the nineteenth century was a relatively insignificant event in the long history of colonial dominance in India. Still, it was of enormous significance to Indian women. The emergence of feminism in the West, the missionary enterprise in India, the development of biomedicine in Europe, and its subsequent spread in the colonized countries, and most importantly, the women-focused social reform movement in

India during the nineteenth century occurred during the same time. In the context of these events, the yearning for reforms in gender relations and the feminist movement for equal opportunities that evolved in the West during the 1850s, particularly in Britain and America, were significant factors in the decision of medical women to travel to India. This early Anglo-American feminist movement looked beyond geographical limitations. It concentrated not only on women's status at home but also on women's situation elsewhere in other patriarchal civilizations was one distinguishing feature of this movement. Improved surgical techniques, the development of biomedicine and its subsequent introduction in India, as well as significant scientific breakthroughs about the causes of diseases, the demise of the miasma theory and the rise of the germ theory of contagion, and improved surgical practices, all had an impact on changing indigenous traditions and social practices and paving the way for western medical treatments. In a similar vein, it was made possible for such an event to happen in India due to the increasing easing of middle-class male attitudes about women's education and social standing, as well as awareness of their health needs and medical training.⁶⁴

Understandably, the efforts of Western medical women were influenced not just by their aspirations, class, and cultural allegiances but also by the social environment and the imperial framework they had to operate in. They attempted to provide modern medical care and education to Indian women at a time when social prejudice and India's unequal gender stratification made such a task extremely difficult. Additionally, they had to constantly negotiate with two patriarchies—one colonial and one Indian—to accomplish their goals. They also had to consider mission patriarchy because some were missionaries. The difficulties the medical women encountered made their work in India incredibly difficult. They frequently experienced the anguish and challenges of being in a strange place while working for and with indigenous women with no shared cultural, religious, or social ties. Mainly, the missionaries frequently had to operate in difficult conditions without access to transportation, appropriate

equipment, medicine, or medical care, and they had to spend years in India subsisting on limited means. They occasionally dealt with hostility, ignorance, and disinterest from different sectors, including British administrators and locals. Additionally, racial views were a major barrier that affected both directions. Indians and Europeans both harbored a mutual mistrust for one another.⁶⁵

It is an arresting fact that a small group of medical women, a very small portion of colonial presence in India, could wield hegemonic dominance when the colonial masters themselves neither did it nor had any intention of doing so. Not everyone agreed to receive the training and healthcare that the medical women offered. They compromised on every level to get it to where it was. They constantly bargained with their Indian patients over their required treatment. They met the demands of the patients, built a hospital that took into account the sensitivity of the zenana women, hired high caste cooks, and provided powdered or liquid medication as requested. Their patients freely set the terms and circumstances for receiving treatment from European doctors. When the patient requested their assistance in the hospital or was asked to see a patient at home, the European doctors had little influence over the circumstance. The Indian women also had a variety of options for their profession. Their decision was undoubtedly frequently influenced by factors like family status, money, prestige, conventions, or by the family head.

The Indian women were unwilling to visit European doctors; instead of going to a European woman doctor, they would first see the Hakims or the Kavirajas or even take home-brewed herbal medication. Dr. Frances E. Hoggan and Elizabeth Beilby urged British medical professionals to be fully prepared with credentials and clinical experience before traveling to India. European doctors in India only encountered severe and challenging cases requiring skill and experience. The restrictions placed on medical women's efforts prevented the development of any hegemonic control. These restrictions resulted from various patriarchal systems they

had to contend with, including colonial, Indian, and missionary patriarchy, in addition to the patient's social circumstances.

5. Fund for Medical Women in India -

According to Meredith Borthwick, 1860 was when socioeconomic conditions were more conducive to adopting social reforms. Various initiatives were undertaken to assist women in childbirth, including educating the Dais in contemporary birth procedures. The notion of training Indian women as physicians did not develop until 1870. Some European women took the initiative to overthrow the prevailing ostracism in the male-dominated Indian society that schooling might transform their ladies into '*memsahibs*.'⁶⁶

Dr. Frances E. Hoggan began a conversation on Indian women's health difficulties and the viability of sending British medical women to India in a series of lengthy essays in the *Journal of National Indian Association and The Contemporary Review* in 1882–1883.⁶⁷ When women's health care was lacking in India, female medical missionaries criticized Indian religious faiths and patriarchy. Hoggan continued, accusing the colonial government and British medical professionals of being incompetent and content with how things were. Hoggan designed an innovative plan to provide Indian women with medical care. From her article, we came to know that the *Maharani* of Punna (a native state of colonial central India) wrote to the Queen of England via Miss Beilby, posing as a royal lady distressed by the plight of Indian ladies without access to physicians to treat them when they are ill. She requested the government not to ignore India's appeal to the people of England that she, as Empress of India, would send out skilled and trained medical women to her suffering subjects and dependents, just as she had already sent out medical men.⁶⁸ It was a demand on the government for a new public service, expressed in Western and constitutional language. It also calls for respecting Indian women's rights to their so-called prejudices, or as we might put it, their natural, modest shrinking from male doctors, which both religion and tradition agree on. The

reason, propriety, and the government's long practice of accommodating indigenous customs in all interactions with the Indians point to medical women instead of medical men in all facilities funded by the government to treat native women.

5.1. The Medical Relief System -

The medical relief system in India has developed gradually, and it differs from anything accustomed to in Europe in some significant ways. When a doctor was needed, he was assigned to an area by the military authority under the agreement that a portion of his salary and the costs associated with the dispensary he visited would be covered by local resources. He was always subject to the summons for regimental duty and replacement with a less qualified person. Retaining the best physicians for regimental service was the norm. The Indian Medical Service began as a military-only organization but later developed into a civil medical service. From 1880 onwards, the military and civil functions of the Indian Medical Department were handled under separate administrative heads by a Government of India General Order, and a subsequent Government of India notification, and the Civil Medical Service was separated from the Military Medical Service.⁶⁹

Native Indians in India were initially given nothing more than the occasional medical attention by a regimental physician, whose primary responsibility was to take care of the troops. Then, in 1849 Bengal, hospitals and dispensaries were established. That year, the Zamindars of Uttarpara Baboos Joykissen and Rajkissen Mookerje requested assistance from the Governor of Bengal to set up a hospital and dispensary there. It was suggested that the government cover half the cost of constructing the requisite structures and provide 100 rupees monthly for institution maintenance, along with Western medications and equipment. When examining this proposal by letter, the Indian government stated that, on the whole, it is categorically opposed to such grants because it is beyond a government's acknowledged purview to offer medical assistance to the vast majority of its constituents.⁷⁰

The letter continued by noting that although the British Government had, for particular reasons, provided aid of this kind to the populace, up to that point, assistance had only been available in towns where a government medical officer was stationed or in their immediate vicinity. The funding was made, but not because it was acknowledged that it was generally appropriate for the state to support such endeavors.

According to Indian medical data from all Mofussil dispensaries during the 1880s, it seems surprising that so few native men sought care at government hospitals and dispensaries relative to the male population. In the Presidency of Bengal, 1,184,687 patients, including Europeans and Eurasians, were reportedly treated in 1880; the total population was estimated at 60,484,831; 62 percent of the population consisted of men, with the remaining people being women and children. Due to unique circumstances, the proportion of native male patients was higher in Calcutta. Still, it appears that the native population of Bengal seeking care at hospitals and clinics was between 2 to 29 percent, with around three-fourths of those being males and boys. When they turned to the statistics of women and children, it was shocking to find that women received almost no Medical Services in India. Despite being low, the proportion of women obtaining treatment was not one-third that of men. The lack of qualified medical women was the simple and obvious cause. There is parallel testimony from numerous sources about this.⁷¹

5.2. The Need for Women in Hospitals -

Sir Joseph Fayrer, the late President of the Medical Faculty of the University of Calcutta and president of the Medical Board, India Office, vehemently opposed the need for women doctors in India and argued that local women would seek medical men instead. He says, "women doctors are not needed in India, and that native woman will consult medical men." Any person who truly understood India could not have devised such a strategy, as India's poverty, prejudice, and caste system stood in the way, Major Temple Wright wrote from Nagpur. Wright advised

female doctors to affiliate themselves with missionary groups to ensure favorable assistance, housing, a dispensary, practice, and the opportunity to learn the language. In a similar spirit, Dr. Robert Harvey of the Calcutta Medical College's Midwifery Department argued that the time was not yet suitable for India to have a female medical service. The missionaries had raised their voice for a long time but had been little heard or heeded by those in authority at home. Sir Salar Jung believed that having English medical women who had received their complete education in England settled in the major cities would be of great benefit to India, a gift that could not be overstated.⁷² He places the initial number at 1,025 but notes that this figure "would probably prove wholly insufficient."⁷³ Dr. Robert Harvey of the Calcutta Medical College's Midwifery Department recommended getting well-trained female medical assistants rather than doctors because the government couldn't afford the additional expense of sending women doctors from England, nor could it reduce the number of medical men in India, as Hoggan had suggested. Dr. Goodeve, a seasoned Anglo-Indian physician and former professor at Bengal Medical College, worried that the cost of running such a project would be prohibitive for the government. An alternative would be the prospect of broadening native women's medical education.⁷⁴

Although many IMS doctors disagreed with Hoggan's plan, there was also much support. Several eminent English men, including George Campbell, Henry Fawcett, Monier Williams, and Dr. Edward Balfour, who were retired, offered their open support. Several reputable Indian publications and social reformers in India supported the notion, but many people doubted its likelihood of success. Both parties understood that foreign medical professionals could only serve as a temporary solution in India. Making an indigenous female medical force was the genuine solution. The ultimate responsibility for medical care for the Zenana would fall to Indian women.

Surgeon-General Balfour, who spent 42 years in India, was one of the top administrators to acknowledge the need for women to be trained for medical practice in the Zenana. He claimed that the issue was of the utmost importance to Indian women, who avoided public appearances and required expert medical advice that only medical women could provide. He also claimed he had successfully gotten the government's approval to train female medical students at the Medical College of Madras. In his Government Report for 1880, Surgeon-General Cornish discusses midwifery in the following manner: "It is gratifying and encouraging to note that the practice of training midwives, and sending them out to work in towns under Municipal or Local Fund Boards, is sensibly adding to the yearly number of women who avail themselves of skilled aid in labor."⁷⁵

The number of medical cases women attended in their own houses between 1879 to 1880 rose from 992 to 2,120. This was only due to using midwives in connection with the Mofussil dispensaries expansion. The following chart illustrates the number of labor cases attended in hospitals and small dispensaries of the Bengal presidency between 1877 and 1880 (Table No. 6.1).⁷⁶

Table No. 6.1: Labour Cases Attended in Different Medical Institutions at Bengal Presidency (1877 – 1880)

Year	Cases	Deaths
1877	2,664	93
1878	2,504	69
1879	3,160	83
1880	4,321	119

Source: Frances Elizabeth Hoggan, 'Women in Medicines', *Journal of the National Indian Association*, October 1882, Bristol: J. W. Arrowsmith Printer, Quay Street, 1882, p. 7.

In comparison to the annual births in the Presidency, these statistics were a drop in the ocean, but it is obvious that they were slowly rising year after year. The mortality rate for childbirth shows a consistent decline from year to year when the numbers above are compared, indicating

that female physicians took on more labor and delivery responsibilities. This finding was pleasing and wholly aligned with European statistics on female midwives. Also noteworthy is that the Madras Presidency treated more women than any other region of India.

The Lieutenant Governor of Calcutta decided to establish a set number of stipends to allow women to study midwifery in the wards on the advice of Dr. Charles, who oversaw the obstetric hospital for many years with remarkable success. This decision was made due to the acute shortage of trained nurses in the country's interior. According to the Punjab report for 1879, three women graduated from the midwifery school in Amritsar during the year, bringing the total number of graduates who had acquired certificates as qualified midwives since the school's establishment to 39.⁷⁷ The report from the Central Provinces for 1880 also emphasized the successful outcomes of educating women to be midwives, and it was evident from unofficial sources that midwives trained in Calcutta were also providing good care and succeeding in the rural regions. Frances Elizabeth Hoggan found an interesting fact that the few medical women trained in Madras discovered that there was no sudden rush to hire them, even though qualified midwives were welcomed everywhere and found rewarding employment or assistance from dispensary funds. She said, "This was exactly what the poverty of India could lead Europeans to expect."⁷⁸ According to her, the government provided free medical education to women who wanted to become qualified. Still, after they received their education, they were left to the precarious prospects of private practice in a society that was either miserably poor or, when it wasn't, paid little attention to the health or lives of women. Men were guaranteed jobs as dispensary officers after graduation and could help with waiting for practice. Women were left to forge their paths to success unaided or to fail due to a lack of income sufficient to cover their position's requirements. This forced them to rise above the sordid care that would force them to put fees before their professional usefulness and suppress feelings of compassion and tenderness for their patients.

5.2.a Setting Objectives of the Women in Medical Profession -

The medical professional who best accomplishes her mission in India won't be the one who earns the most money from her patients; rather, it will be the one who realizes the widespread ill-health, suffering, and death that result from ignorance and improper customs, commits herself with genuine humanitarian zeal to improving the general health and vitality of the women she serves as well as curing them of their various illnesses. According to Hoggan, It would be extremely strange if the weakest, poorest, and least independent members of society—Indian women could be trusted to voice their demands and take action to ensure an adequate supply of female doctors for their use in the one area of medicine where the conditions in India were so unfavorable for implementing political economists' theories of supply and demand.⁷⁹ Hoggan was a feminist who had reservations about allowing men to operate the service. Because many of these medical men were hostile to the cause of medical women, placing them under the leadership of any existing body of medical men would be unfair. In 1943, she advocated for establishing a dispensary that would gradually expand to provide treatment and a course of instruction in basic hygiene and nursing for indigenous women, highlighting the importance of providing medical care and training for Indian women. She was aware that there weren't many Indian women available at the time who could handle the job.

Hoggan and other medical feminists of the era harshly criticized the missionary practice of sending female medical missionaries to India who were only partially qualified. When the LSMW was started in 1874, the authorities mandated that the students make a declaration pledging that they would finish the program, pass the test, and become licensed physicians. This was done to deter female medical missionaries from briefly studying medicine and working as qualified medical professionals abroad.⁸⁰

5.2.b. The Role of F. E. Hoggan (1843-1927) and Medical Women for India Fund -

F. E. Hoggan (see Appendix I, Plate 4.1) Suggested that indirectly transferring all expired and lapsing Government funds to hospitals and dispensaries might be provided right away to a fund for the service of medical women in India. Elizabeth Garrett Anderson offered Hoggan assistance in this. Hoggan's costly idea of establishing women's health care and sending secular women doctors to India was challenging.⁸¹ There also needed to be more concern about its viability. Hoggan and Garrett Anderson were still determining where the money would come from when they attempted to send medical ladies to India at a tremendous cost. Being involved in private businesses did not appeal to the Indian government, and it was even more unlikely that private funding could be raised in Britain or India. They weren't optimistic about the financial component of their proposal until the Medical Women for India Fund was established. Garrett Anderson stressed from the beginning that anyone willing to travel should receive some assurance. She said a medical woman might easily make approximately £350 a year in Britain.⁸² They couldn't move to India and establish themselves there without money or connections. Additionally, the incentive had to equal the sum for which male doctors would leave their country and spend the finest years of their lives in India. Less would not be acceptable for female doctors.

Government funding provided to hospitals in the Presidency and larger towns specifically for the care of women would be another source that might be used. In 1880, Surgeon General Beatty stated in his Administration and Progress Report that the attendance of females would have significantly increased if specific arrangements had been made at the various institutions to provide separate waiting rooms for the different sexes. This leads us to believe that, in some regions of India, female patients were treated in front of male patients. They waited to see the doctor against their will. There was a great need for medical women in India, not just for treating female patients but also in responsible positions for direction and organization.

The main concerns were whether the idea was financially feasible and whether single British women should travel to a far-off country like India with all its attractions and flaws to practice medicine. A debate began in the pages of the Journal of the National Association of India on equal contributions from the British and Indians abroad. Did India require female doctors, or would a few qualified nurses and midwives be enough? Most acting and retired IMS medical personnel opposed Hoggan's proposal.⁸³

It had been claimed that medical women's lives and reputations wouldn't be safe in rural areas. However, such factors were not considered while sending nurses and midwives into the Mofussil, where their lives and honor equally needed protection. Administrators were inclined to think of this issue as just one more of the numerous irrational arguments made at various points and in different nations against women studying and practicing medicine. A woman doctor must naturally get reasonable protection wherever the government places her in rural dispensaries. Being obligated to offer her proper protection, together with its other subjects, perhaps even in some exposed districts, only married medical women accompanied by their husbands might be accepted, possibly even in vulnerable communities.

5.2.c. Contribution of Edward Green Balfour in Women's Medical Education -

E.F. Hoggan pointed out that it was necessary to create a new medical department that would be a component of the Indian public service, run by women, answerable only to a high-ranking state official, and function in harmony with the country's current civil medical assistance rather than as its subordinate. Only highly skilled, influential women with the keen sensibilities of their sex could properly launch and carry out such a beneficial reform and find the right ways to remove the obstacles that would keep millions of sick Indian women from the doctors and surgeons who were willing and able to use all the tools of the healing art on them. According to Sir Salar Jung, having two classes of medical women might be advantageous: one class would be regular practitioners for the countryside. At the same time, the other would be more

accomplished and of higher qualification, capable of serving as both teachers (likely of native subordinates) and practitioners for the towns. The split was logical and practical, and it roughly matched the two groups of medical women growing up in England—those with university degrees and those with licenses from the Irish College of Physicians, the only licensing institution currently accepting female applicants. Hoggan considered them as belonging to the third category on that list—superintendents or directors of medical dioceses, the lay people.⁸⁴

The article “The Contemporary Review” of Dr. Elizabeth Frances Hoggan attracted the attention of George A. Kittredge, chairman of ‘The Medical Women for India Fund,’ inaugurated in 1882.⁸⁵ According to him, no women had medical degrees at that time in the Bombay Presidency. Still, a few were associated with Bengal and the North West missionary societies. The same was true in Madras, but much more had been done there for the benefit of women. Surgeon-General Edward Green Balfour had won government approval for women to study medicine at the Medical College of Madras, and despite not completing the entire program and earning a full degree, they promised to be of excellent service to other women.⁸⁶

He was confident that the government would not adopt Dr. Elizabeth Hoggans' suggestion for a new female medical department, and he was further convinced that it would be a mistake to follow Madras' lead and persuade the Bombay government to grant the young women of this presidency a limited education and a lesser degree. It would prevent medical women in this country from having the position that would be necessary for them to perform genuinely excellent and practical work. For him, bringing thoroughly capable and experienced women from Europe or America—women whose skills, education, and experience would enable them to take their places by the side of the other medical officers in this country—would be the only way to put female medical instruction and relief on the proper basis. He was sure that for women to succeed in this nation, they needed to be treated equally to men regarding sex-related medical issues. Those with a medical education from an Indian university would never be able

to achieve this level of reputation. He intended to organize a subscription in Bombay to raise money to hire two or three competent European women at fair salaries for a limited period, with the hope that by the end of that time, they would have affirmed their position enough to be assured of it going forward, or else that the government would have recognized their value enough to hire them into the local hospitals. In light of this, he sought the advice of a few of his Indian friends, namely Mr. Sorabjee Shapoorjee, the late Mr. Cumimoo Sulleman, Mr. Javerilal Umashankar Yajnik, and Mr. Mahomed Ali Rogan.⁸⁷ He was pleased to learn that all of them warmly approved his plan, and Mr. Sorabjee graciously agreed to join and assist him in putting it into action. Most of the larger amounts from our subscribers were obtained through personal requests made to Mr. Sorabjee. However, some were given to me personally and others during visits with the late Mr. Cummoo Sulleman, Mr. Hurkissondass Narotamdass, and Mr. Mooljibhoy Jevraj, whose helpfulness made him happy.

Meanwhile, Mr. Sorabjee got a letter from Mr. Pestonji Hormusji Cama in Poona expressing his desire to donate substantial money to a public charity and requesting permission to do so through this plan. On March 1st, 1883, he formally made the offer. The idea was that funding would be available for a hospital that medical women could run. They were given the go-ahead to offer the government one lac rupees to be used for establishing a hospital for women and children, the location for which would be provided by the government, and the government would cover the cost of maintenance after some conversation with Mr. Cama. The proposal was taken up. It took several months of correspondence before the issue was eventually resolved, during which Mr. Cama's donation was increased to Rs. 1,20,000 and then again to Rs. 1,64,300 in 1883.⁸⁸

5.2.d. Medical Women for India Fund -

The first meeting of the 'Medical Women for India Fund's subscribers was held on March 29, 1883 (see Appendix IV), with Sir Jamsetjee Jeejeebhoy presiding. The Fund was founded as a

secular organization with participants from Bombay's Parsi, Hindu, Muslim, and Christian populations. Most supporters were members of the thriving business community, and some had significant political influence.⁸⁹ One of the prominent members was Sorabjee Shapurji Bangalee, a former Bombay sheriff renowned for his humanitarian activities for social change and women's education. He actively contributed to the project's development and was its primary fund-raiser. The initial plan by the organizers was to generate enough money to open a humanitarian dispensary for women and children run by female doctors. In the first meeting, resolutions were approved, establishing Trustees for the Fund and establishing a Committee with Mr. Sorabjee S. Bengallee serving as Honorary Secretary and Treasurer and Mr. George A. Kittredge serving as Chairman. H.R.H., the Duke of Connaught, laid the foundation stone for the new Women's College for Medicine hospital.

The fundraisers had several specific goals in mind, including bringing at least two female doctors from England, providing healthcare for women in purdah, opening a hospital and children's clinic in Bombay under the sole administrative control of female doctors, and—most importantly—giving Indian women the same access to medical training as men. Since they only had an LMS certificate, Kittredge was not interested in hiring female doctors who had graduated from Madras. The local Bombay newspapers had a mixed reaction to establishing the 'Medical Women for India Fund'.⁹⁰ The project received the full backing of the *Bombay Samachar*, *Kaiser-i-Hind*, and *Rast Gofar*. Still, the *Native Opinion* criticized eliminating the health problem in the Zenana by bringing in only two lady doctors from overseas. They proposed to help the Grant Medical College instead to develop midwives' skills.⁹¹ *Subodh Patrika*, *Mahratta*, and *Indu Prakash* criticized the endeavor as pointless in a similar spirit. They said that Indian women do not know English well enough to gain profit from it. A female medical class for native women at Grant Medical College would better use funds⁹².

In London, a fund was established in cooperation with the LSMW and the National Indian Association thanks to a philanthropic woman's donation. The latter assumed responsibility for securing more funding and set up a committee to oversee the overall effort of assisting and encouraging female medical students to get ready for employment in India. Florence Nightingale was one illustrious person who spent many years actively contributing to India's public health and sanitation. Thus, all was ready for the appointment and departure of "Doctor Miss Sahibas" for India.⁹³

Dr. Edith Pechey (1845-1908) (see Appendix I, Plate 4.2), a feminist activist for female medical education, was the first to react when the Medical Women for India Fund was established. She had already held several jobs in Britain before traveling to India, so it seems unlikely that she was drawn there by the promise of a better job opportunity. People who followed Pechey likewise went to work for meager compensation, frequently went without pay for months, and worked under constrained circumstances. It was also noteworthy that the activities of medical women in India extended beyond just female training and care. Like their forebears, the Zenana medical missionaries, they also got involved in gender problems, including education, marriage rights, and the freedom to choose a profession. They supported the establishment of the Women's Medical Service of India and fought for the rights of medical women in India. Many of them became active in the suffragist movement, the women's cause, and the ongoing initiatives to better the position of female doctors in India after they left India and returned to their home countries.

6. Contribution of “White” Women -

A strong nationalistic consciousness focused on political concerns also emerged during this time in India's history. The viceroy of India from 1880 until 1884, Lord Ripon, had a tolerant attitude toward Indians. He eagerly accepted numerous reform initiatives to calm the nation's political turbulence. Pandita Ramabai, a well-known social reformer and advocate for the rights

of high-caste Hindu widows, was one of several prominent Indians who spoke before the Hunter Education Commission, which he created in 1881 to analyze the nation's requirements. She agreed with the government's desire for Indian women to receive medical education and training and the notion of bringing in foreign medical professionals to help.⁹⁴

6.1. The Case of Rukhmabai (1885) -

Not only medical help, these lady doctors frequently got involved with the lives of Indian women. The trial of Rukhmabai in 1885, in which Edith Pechey played a significant role, was one of the period's most widely reported events. The Rukhmabai case was unprecedented in the history of gender in India, and it occurred as Indian women stepped forward to demand their rights. Additionally, it was a situation where several political, legal, and cultural issues were at odds. The central conflict involved the debate over a woman's right to privacy and patriarchal Indian tradition aroused by nationalistic and religious fervor.

At 11, Rukhmabai was married to a boy, but by tradition, she remained at home with her parents. She was raised in a progressive family with liberal views on women and was educated. However, her husband was uneducated and had with problematic character. She refused to live with her spouse to end their marriage. Her husband filed a case against her in 1884 to recover their marital rights. When the trial was ongoing, several forward-thinking, influential individuals—both British and Indian—came forward to support Rukhmabai. One of them was Edith Pechey. Pechey and other medical professionals from India banded together with Bombay's Jewish, Christian, and Hindu women to build a support network for Rukhmabai. To cover the costs of Rukhmabai's trial, they founded The Hindu Lady Fund, solicited money in India and England, and publicized the case in India and Britain. The *Indian Magazine*, the official publication of the *National Indian Association* in London, also played a significant role in this episode. It did an excellent job of covering the events as they happened.⁹⁵ The British diplomats shuddered at the commotion that the orthodox patriarchs and the conservative press

had caused. Rukhmabai lost the case after a retrial on appeal. She was given the choice of spending six months in jail or moving in with her spouse. Rukhmabai appealed to the Judicial Committee of the Privy Council because she was willing to go to jail rather than face her husband. Finally, an out-of-court settlement freeing Rukhmabai from her marital obligations was reached in 1888 because of a covert intervention from the Lt. Governor of Bombay and the husband's concern that he could lose the case in the privy council.⁹⁶

After the lawsuit was closed, Pechey arranged for Rukhmabai to attend the LSMW in England and study medicine. Rukhmabai earned triple degrees from Scottish Universities after graduating from the LSMW and an MD from Brussels. She joined the Cama Hospital after her return in 1894, then moved on to work in Surat and Rajkot for 35 years as a significant medical officer. "when my trials began in 1884, Dr. Pechey took up my cause in real earnest, and worked very hard in interesting other people to form a committee in my defense...." the woman later recounted. "she was my mainstay for sympathy and supported all through the four long weary years of my trials and she constantly urged me to proceed to England and study medicine."⁹⁷

Pechey wasn't simply connected with India's gender issues in the case of Rukhmabai. She also participated in the Age of Consent Bill of 1890–1891, which sought to raise the consent age for girls to twelve, particularly for child weddings. B.M. Malabari, a well-known Parsi social reformer from Bombay, was the one who started the Bill. Pechey and Pandita Ramabai led the movement of Marathi women who supported the Bill. A group of fifty European Lady Doctors, missionary and secular, signed a petition urging the colonial government to act for the implementation of the bill at the initiative of Dr. Nancy Monelle Mansel, who was working in India with the American Methodist Episcopal Church at the time. The event also mobilized female medical missionaries. They provided medical information in the petition that approximately 2000 Marathi women signed. Later, a petition requesting the Queen's assistance

was delivered to her. Here, missionary and secular women working in medicine teamed with native women to defend women's right to refuse inappropriate marriages and do away with outdated societal customs.⁹⁸

In 1888, the *Medical Women for India Fund* was a groundbreaking collaboration between Indian men and British medical feminists in many respects. The Indians were not forced to participate in this collaborative effort. The administration decided to bring in medical professionals from overseas while medical feminists were working to aid Indian women. A void in society needed to be filled; that was true. At that point in history, Indian women could not perform that task without proper training. Thus, medical professionals from other countries had to be brought in. Indian women undoubtedly benefited from the health care, modern medicine, and medical expertise that Pechey, Ellaby, Benson, and other medical women brought to the country.⁹⁹ As Kittredge had stated, more Indian women and children would have perished without the assistance of the medical women.

The doors of *Grant Medical College* were opened to female medical students due to their presence. Soon after, women were also permitted to enroll in the medical schools at Calcutta, Punjab, and Cuttack to study medicine and surgery. Later, Lady Dufferin was inspired by what George Kittredge and Sorabji Shapurji Bengali had accomplished in a private capacity to bring female medical treatment and education to India on a much broader scale. In the process, foreign medical professionals played a crucial role in advancing female medical education in India, much as the Zenana medical missionaries did.

7. The Response of *Purdanashins* to the Western Medicine -

Anandibai Joshi, Kadombini Ganguly, and Rukhmabai are examples of early Indian medical women who stayed Indian in perspective, clothing, and dietary habits and valued Indian culture. Their careers and activities prove this beyond question.

Bengal also gave the female Christian missionaries a variety of career-building and profession-selecting options. Building schools and hospitals, training nurses, teachers, and other institutional and charitable projects was something they actively participated in. They developed credibility among the native people. As a result of what they accomplished in India, according to Krishna Lahiri, female missionaries became real-life role models who might be imitated and respected at home. These female missionaries contributed more to the mission than males by engaging in such a charitable endeavor. The English females could exercise their authority in this field, which was not just a good and respectful career choice. Female missionaries are almost the only people who can reach heathen females in India. Therefore, their employment was necessary for the situation, according to Dr. Emma J. Cummings, a female doctor who practiced medicine in South India.

There was much discussion about women's formal education and their learning. That issue was somehow entwined in with the issue of women's right to education. Female medical education was strongly supported by Brahmo reformers like Durga Mohun Das, Dwarkanath Ganguly, etc. As a result of the pressing need for female doctors to provide health care to women who were isolated due to social conservatism, a moral agreement on establishing women's medical school was relatively easy to reach. Admitting Indian women into medical college was motivated by believing that they would operate in their domain, not interfering with existing male-dominated sectors. The reformers like Sorabji Shapoorji Bengali, George Kittredge, B. M. Malabari, and Pandita Ramabai promoted medical education for Indian women. The nationalists believed that improving the lives of Indian women was vital to the country's progress and development. When women began to make a living by leaving their secured *Andar Mahal* (inner space of their home) and stepping out into the *Bahir Jagat* to obtain medical education, it was akin to Indians entering the British workspace, one of the nationalists' aims. Women played a crucial role in achieving this agenda.¹⁰⁰

7.1. Nursing Training for Indian Women -

Calcutta's General Hospital and Medical College Hospital started employing European female nurses since 1856. Florence Nightingale developed the first comprehensive nursing training program in India in 1864 at the request of Viceroy John Lawrence, who sought to hire female nurses in army hospitals. Corbyn opened a nursing school in Bareilly in 1867. Surgeon General Edward Balfour of the Madras Presidency proposed a plan for nursing training in about 1870, which was officially sanctioned. Supervisor and teaching personnel were imported from England for its successful implementation. Two hundred and fifty-nine female students enrolled in nursing school or probationary status in the hospital between 1874 and 1894. Balfour further suggested to Lord Napier to give training in medicine to Indian Women in 1871 and 1874; after various arguments, on 12 October 1874, the Government of Madras accepted Balfour's scheme of allowing women into medical college. Women were first allowed to enroll in Madras Medical College in 1874, Grant Medical College in Bombay in 1883, and Calcutta Medical College in 1884.¹⁰¹

Women were offered an L.M.S. certificate course to test their capability in Madras. Besides being welcomed, female students were treated very well there. They were provided with literature, a study area, a restroom, a latrine, and an attendee. From 1881, female students were offered the Medical Practitioner Course, L.M.S., MB course, and midwifery course. Female students in Madras peaked in 1882-83 with a total of 20, as more and more Indian women migrated to the city. Ellen D'Abreu and Abala Das, both from Bengal, traveled to Madras to study medicine because there was no facility for women to do so in their provinces. After earning their F.A. degree in 1882, Ellen D'Abreu enrolled in the M.B. program, while Abala Das (see Appendix II, Plate 4.3) enrolled in the L.M.S. program. Both were given Bethune scholarships from Calcutta. There was no longer a ban on qualified women enrolling in MB courses after the first period in Madras.¹⁰²

8. Response of the British Government toward Women's Medical Education -

Different possible theories can be discussed in understanding the British governmental response toward women's medical education. From the late nineteenth century, the British approach towards Indian women's medical education was influenced by the European modern societal zeal, where women had a right to earn their living. Edward Balfour, the Surgeon General of Madras Presidency, let the Indian women free from their male dominance by giving them a chance in Madras Medical College. Other British administrators, including W.S. Atkinson and A.W. Croft, both Directors of Public Instruction (D.P.I.) in Bengal, and Sir Rivers Thompson, the Lt. Governor of Bengal, supported female medical education and made it easier for women to enter the profession by pacifying the Medical Faculty in Calcutta. From a political point of view, the British Government wanted to lessen the male domination of Indian society by influencing Indian women through Western Science and medicine. They tried to break the stereotype '*Andar Mahal*' and '*Bahir Mahal*' concepts of Indian culture by giving Indian women a chance to enter into the professional world with their male counterparts. The domination comes from the inter-relation of economic freedom and dependence. So, by letting Indian women be economically self-dependent, the British wanted to break the male dominance and egotism of their women. The inner space of an Indian house was believed to be the custodian of Indian culture and tradition. It was considered the final stronghold of Indian life, where colonization had failed to infiltrate. So, the British Government's interest in women's medical education was not only the missionary zeal to provide healthcare facilities to Indian women but also had a political agenda to enter into the most reserved zone of Indian culture and society.¹⁰³

A growing moral pressure also forced the colonial administration to act on women's medical education policy. A high infant mortality rate and a dearth of medical treatment for Purdah mothers seemed to worry the colonial authorities and the nationalists. Nevertheless, the medical

councils of all three presidencies frequently hindered and delayed the stated aims and objectives of the Government. Women's physical unfitness for medical education was used to argue against women's entry into medicine in India. The Lt. Governors' higher administrative powers pressured them to subside their resistance. Indian women did not remain completely silent during this discussion over women's education. The letters and articles published in the contemporary Bengali print media and the autobiographies of Bengali women around this period demonstrate how women became increasingly concerned and vocal about their right to education.

9. Dufferin Fund and the Medical Care of the Indian Women -

In December 1884, when Lord Dufferin (1807-1867) (see Appendix I, Plate 4.4) arrived in India as Viceroy, he and Lady Dufferin visited the Women's College for Medicine. The Victorian Lady, with Queen Victoria as its patron, spearheaded the establishment of the National Association for Supplying Medical Aid to the Women of India, often known as the Lady Dufferin Fund. The Lady Dufferin Fund was established in August 1885 and, with its numerous branches, helped spread the benefits of medical aid and education throughout India. Act XXI of 1860's registration gave it legal standing.¹⁰⁴ There were a few medical missionaries affiliated with Zenana missions in Bengal and the North-West. But at that time, it didn't seem likely that the women of this nation would ever receive medical advice from a member of their sex who had completed an entire course of study, except sporadically from the zenana missions. The government was expected to lead any progressive movement. Still, it lacked the resources to do so and had the lowest level of confidence in the skills and potential of medical women. The Indian purdahnashin (reclusive women of high caste or upper class) ladies who refused male medical treatment even if it meant the risk of death were to be the recipients of the Dufferin Fund. Thus, from its inception, as Maneesha Lai has observed, "The Dufferin Fund institutionalized a widespread colonial view of Indian society, one that emphasized the upper-

caste and upper-class sections of society.”¹⁰⁵ To further their social projections or to support the imperial mission of the government, Western women emphasized and frequently demonized the spatialized domestic practices of their colonized "sisters."¹⁰⁶ This was particularly evident in the conception, goals, and implementation of the Dufferin Fund. The deplorable state of Indian women and their depiction in colonial discourse supplied the material foundation for the Dufferin Fund's setting. Indian women were treated with special consideration and contempt, and it was the colonial state's job to redeem them. The *pardahnashin* could hardly be expected to frequent hospitals and dispensaries run entirely by male physicians, while poor women did. The male doctors who run hospitals and pharmacies frequently lamented that no high-class women would enter these hospitals.¹⁰⁷

The situation led to the perception that native women doctors could help reduce pain during childbirth or address issues after delivery. The ladies were propelled into gynecology and obstetrics by this unanimity. Employees of the Dufferin Fund were not permitted to engage in preaching or to meddle in the religious beliefs and sentiments of any group of individuals, and in a letter dated September 28, 1885, sent to The Right Honourable the Lord Mayor of London, MP, Lady Harriet Dufferin said unequivocally that she intended to help the native women not only by providing medical relief but also by advancing their education and giving them a vocation.

The legitimacy of the Dufferin Fund was furthered by a letter from the high priest of the Baidyanath temple in Bengal.¹⁰⁸ In addition to sending Rs. 100 to Lady Dufferin's project on behalf of the Hindu community, he also sent his blessing to the effort in his capacity as the high priest of the Hindus. The high priest had also extended an invitation for two scholarships.¹⁰⁹

Specific legal provisions were created to enhance the stability of the organization. According to the Constitution, a Central Committee in New Delhi will manage the Dufferin Fund's business. The Constitution included provisions for establishing branches that would

independently work executive and financial authority. The Dufferin Fund's guiding principles and the need for each branch to give a small portion of its receipts to the Central Fund were outlined. A system had developed whereby individuals may sign up as Life Councilors, Life Members, or Ordinary Members depending on the amount of their donation. The first group included contributors who gave Rs. 5000 or more; the second category included those who gave between Rs. 500 and 5000. The third category included contributors who could pay a minimum annual subscription of Rs. 5 and an Rs. 10 entrance fee. This minimum subscription gave subscribers access to the Dufferin Fund's public meetings and copies of its publications and reports. Small financial contributions were accepted and necessary for the Dufferin Fund to continue operating permanently.¹¹⁰

There were attempts to give the various Dufferin Fund branches separate financial charges. For the provinces to which it belonged, each branch association would be named "Branches of the Countess of Dufferin Fund" and would have separate funds independent of the jurisdiction of the Central Committee. According to their financial resources, every branch Committee was in charge of setting up a hospital for women or providing female medical assistants or midwives. The Dufferin Fund aimed to reach nearly all of India to provide medical aid to the women who had hitherto been unreachable by Western medical assistance. The Dufferin Fund's goals were to provide trained female nurses and midwives for women and children in clinics and private homes and medical tuition, relief, and other related services. The Dufferin Fund's overall goal was to teach and train as many women as possible to become nurses, midwives, hospital aides, and doctors in India. The provision of female medical officers and attendants for existing female wards, the opening of female wards in hospitals and dispensaries under female supervision, the opening of female communities in existing female wards, and finally, the establishment of hospitals for women with special funds and donations were all examples of medical relief.¹¹¹

In the context of the Dufferin Fund, medical practice was viewed as a storehouse of Western cultural ideals that would strengthen the bonds between Indians and their colonial overlords.¹¹² British lady doctors who practiced Western medicine in a colonial setting were involved in the project of medical imperialism, as defined by MacLeod as the spreading of Western cultural ideals to the non-Western world. In the eyes of the administration, educating Indian medical professionals in Western medicine enhanced their perception as kind, paternal rulers who desired to have direct contact with the zenana.¹¹³

9.1. Scholarships for Indian Women -

Bengal's image as a pioneer in educational advancement in British India was at risk, and the lieutenant governor believed that Madras and Bombay had already begun to accept women to medical schools while Bengal was trailing behind. Medical education for women should not be neglected in a progressive province like Bengal. As a result, the lieutenant governor of Calcutta determined in 1883 that women would be allowed to classes at the medical college on the same terms as male students. Kadambini Basu, one of India's first female graduates, was the first to benefit from the new regulation. The Bengali aristocratic segment approved of the Dufferin Fund's efforts to break through the zenana's protective barrier and provide medical assistance to Bengal's purdahnashin ladies. Given a chance to advance in status and power and potential advantages in politics and business, members of the Indian elite decided to contribute to initiatives like the Dufferin Fund. According to Arnold, this "medical philanthropy" was a way to buy political favor with the colonial government.¹¹⁴ On Thursday, December 10, 1885, a public meeting was convened in Calcutta's Town Hall to endorse a Bengal branch of the Dufferin Fund. The meeting's chairman was the Lt. Governor of Bengal, Sir Augustus River Thompson.

The Lt. Governor mentioned in his speech that a women's meeting had already been held in Darjeeling to support this association. It was decided that "...those efforts should be made, and

measures are taken to bring about an organization in Bengal in support of, or affiliation with, the central organization which Lady Dufferin had constituted in Simla.”¹¹⁵ As a result, an Honorary Secretary was chosen. They put forth much effort, and as a result, Bengal received 76 subscribers. Thirty thousand rupees were paid in subscription fees overall. To achieve the ambitious goals of such an organization, the Lt. Governor offered to establish a Bengal Branch of the Dufferin Fund in Calcutta. Notable Bengali individuals were asked to serve as the Vice-Patrons and Vice-Patroness of the institution.¹¹⁶

9.2. Contribution of Indians in Duffrin Fund -

Local aristocrats praised the Dufferin Fund. Swarnomoyee Devi of Cossimbazar contributed significantly to women's education in medicine by kindly offering Rs. 50,000 to build a women's hostel at Calcutta Medical College for female students. In Bengal, Rani Swarnomoyee Devi had always fiercely advocated women's rights. Swamomoyee Devi expressed her gratitude to Lady Dufferin for her sincere concern for the women of India in her letter to the Lt. Governor as well as for her selfless work in establishing the Dufferin Fund and setting up a fund for the purposes outlined in the prospectus. She was overjoyed to learn that the Dufferin Fund, which has offices throughout India, including Bengal, has such ambitious goals for the medical care, comfort, and longevity of Indian women. She donated another Rs. 8000 to the Dufferin Fund.¹¹⁷

Sir Jotendra Mohun Tagore, the renowned Tagore family's son, seconded the Lt Governor's proposal to build a branch in Bengal, which had a crucial part in Bengal's social reform movement. He offered Lady Dufferin his sincere gratitude for her kind gesture to fill such a significant need in the local population. He also complimented the Lt. Governor for his fervor and excitement in implementing such a plan. He believed that such a plan unquestionably required native support. The idea was approved without a vote. Nawab Abdool Latif Khan Bahadur, a prominent figure in Bengal, predicted that the Countess of Dufferin's efforts would

be remembered with eternal gratitude by the purdahnashin women of India and their male relations.¹¹⁸ But the wealthy zamindar Peary Mohan Mukherjee, a significant government ally and backer of the Dufferin Fund, argued that the absence of organized female medical assistance in native culture was not the result of a lack of male compassion for women. He believed that the primary reason Indian women were uninterested in using Western medicine was their continued reliance on traditional domestic medication and medical assistance from other members of their sex. He noted that Indian women preferred not to bother the males in their families with their illnesses, and their modesty or shyness kept them from getting treatment for conditions specific to their sex. He added that a committee needed to gradually offer Western medical care for women under rigorous supervision.

Peary Mohan Mukherjee enhanced the idealized traits of selflessness and modesty in Indian women by responding to British criticism. This incident highlights the symbolic role that the Zenana realm played during the conflict between imperial rule and nationalist (male) defense. The zenana was an unidentified object that the British authorities associated with mystery. On the other hand, the Zenana became a preferred site of nationalist resistance because Indian nationalists thought the Zenana was the only surviving pure territory unsullied by the encroachment of British rule. Women were portrayed as tradition bearers and nationalist heroes who willingly chose the path of hardship in nationalist art and literature.¹¹⁹

9.3. First Inaugural Meeting of the Dufferin Fund -

The Dufferin Fund's inaugural general meeting occurred in Calcutta on January 27, 1886. The meeting was presided over by His Excellency the Viceroy Lord Dufferin, who commenced by saying: "...Our ambition is eventually to furnish every district, no matter how remote, if not with a supply of highly trained female doctors, at all events with nurses, midwives and female assistants who shall have such an acquaintance with their business to be a great improvement upon those who are now employed."¹²⁰ The government clarified that it had no objections to

overseeing the work of the women chosen as doctors and nurses in dispensaries, hospitals, and medical schools and reporting on its efficiency. The Dufferin Fund requested the assistance of the Government of India's Surgeon General in choosing qualified medical professionals. Additionally, it asked the Chief Medical Officer of each Province to oversee and direct the Dufferin Fund staff. The Dufferin Fund's acceptance among the general people was undoubtedly boosted by the government's indirect official recognition of the organization. However, this unofficial affiliation between the Dufferin Fund and the government was also significant criticism of the Dufferin Fund.¹²¹ The government's Home Department approved the Dufferin Fund's goals. To create female hospitals and clinics, the municipalities were asked to use a share of the money at their disposal for medical purposes. It was envisaged that numerous local governments and boards would work with the Dufferin Fund and support its operations nationwide.

A significant issue that needed to be resolved was establishing the gradation and compensation structure for female doctors applying for jobs at the Dufferin Fund. The Central Committee established a straightforward system of grades and decided on the minimum and maximum pay associated with each grade. This prevented ambiguities and irregularities in the new Female Medical Service. Three grades were used to classify the medical women. Lady Doctors registered under the Medical Acts of the United Kingdom of Great Britain and Ireland or who held specific certificates of qualification that would have qualified them for such registration were included in the first group. The female assistant surgeons and female hospital assistants made up the second and third groups.¹²²

The titles granted to the female doctors in the Medical Service who obtained comparable degrees were the same as those given to the male doctors. It was determined to pay women more wages and benefits than men. Women had no pension to look forward to and no provision for regular salary revisions, which was the impetus for this statute. A contract adequately

drafted and signed by the candidate and a member of the Central Committee was required for the appointment of the Registered Medical Women. The agreement's key provisions required the lady to provide a certificate attesting to her good health and suitability for duty in India, officially signed by an India Office Medical Board representative, and commit to working for the Dufferin Fund for five years. She was required to consent to the proper medical authorities' supervision by the provisions of the agreement. It was intended that native Indian women and inhabitants of India would eventually qualify for this role and be eligible to sign such an agreement. In the early years, registered medical women came from Europe or America. For Indian women, studying medicine was undoubtedly rewarding, given the range of employment opportunities.¹²³ Theoretically, the women doctors in the first category who held corresponding degrees were equal to the males in the medical field, but nothing occurred in practice. The male fraternity opposed any idea of offering incentives to British women doctors. Lady Dufferin was extremely upset at the behavior of the British male physicians. Once more, European and indigenous women doctors who had graduated from medical schools were not treated equally. It made racial prejudice institutionalized¹²⁴.

Therefore, recruiting was done among those indigenous women who had pursued Western medical education in India for Assistant Surgeons and Hospital Assistants—a minimum monthly wage of Rs. 100 for an assistant surgeon and Rs. 20 for a hospital assistant were proposed. Still, these figures were adjustable because both classes had to consider local and individual conditions, service duration, and professional expertise level.¹²⁵ Lady Dufferin supported increasing female types and providing better facilities for female students at India's five significant medical schools (Calcutta, Madras, Lahore, Agra, and Bombay). As a result, the Dufferin Fund played an important role in employing indigenous women in medicine.

Giving scholarships was arguably the Dufferin Fund's most significant contribution to advancing female medical education. The Hospital Assistants class was primarily made up of

students from low-income families. The scholarship served as a support and a motivator for them to complete their education. Only ten scholarships were given out for four years by the Central Committee, which also urged wealthy local gentlemen to fund other scholarships.¹²⁶ In this context, it may be mentioned that the illustrious professor of Calcutta Medical College, Dr. R. C. Chanda, established the "Mrs. Mary Chandra's Scholarship," which was given to female medical students and was given out at the end of the first year's medical examination. The monthly scholarship payment was set at Rs. 20. Regardless of whether students choose to study in Europe or India, the scholarships might be kept for two people. Such scholarships were to be given out annually.¹²⁷

9.4. Result of Awarding Scholarship to Indian Women -

Donations from various Indian sources and European funds removed a significant obstacle for female medical students in Calcutta. Sir Walter Scott D'Souza deserves to be mentioned because, in 1888, he gave scholarships to 11 of the 24 students enrolled in Calcutta Medical College. A shining example of indigenous support for expanding Western medical education among Indians was the Swamomoyee Hostel, established by Rani Swamomoyee Devi of Cozzimbazar. Finally, in 1888, the Campbell Medical School in Sealdah allowed female students to enroll. Campbell's teachers were Indians who had acquired their medical training in India. The administrative choice to allow admission to the Campbell Medical School in Sealdah, Calcutta, in 1888 promoted achieving the Dufferin Fund's goal.¹²⁸ This was undoubtedly a significant step in fostering female medical education. The Campbell Medical College Principal praised the students' impressive talent and noted their passion and focus. Long-term utilization of this class of pupils significantly contributed to providing low-cost medical assistance to the nation and Bengali districts. Gradually, more students were enrolled. There were 139 students studying medicine in the case study of all of India in 1887 and 243 in 1894. The issue was that there weren't many scholarships available, which meant

the number of students was less than expected. As mentioned, financial aid was crucial for indigenous women to pursue their medical training. Without financial assistance from the Dufferin Fund or the government, the students who wanted to study medicine could not afford to do so. The majority of the 224 students in 1893 who were enrolled got scholarships, with awards ranging from Rs. 30 for assistant surgeons to Rs. 5 for hospital assistants. The trustees of the Gilchrist Fund had also given 300 pounds for the same purpose in addition to the scholarships that the Central Committee had offered. The value of individual scholarships had been raised across India, hoping that high-value scholarships would draw superior-class candidates. The annual Central Committee prizes increased from Rs. 150 to Rs. 180 in 1890, then to Rs. 360 and Rs. 240 in 1893.¹²⁹

9.5. Dufferin Hospital in Calcutta-

The Central Committee of the Dufferin Fund was concerned about the workings of the Dufferin Fund in achieving its goal of improving the status and prospects of medical women in India. It would seem that the Central Committee was dissatisfied with the standard of the indigenous students based on the necessity of evaluating the merit of female students, particularly those graduating from medical schools. Due to their weak intellectual backgrounds, they needed help understanding the medical curriculum. In the instance of Bengal, we note that caste Hindus' access to medical education was limited due to these infrastructure issues and age-old prejudices. Two and three Hindu women were enrolled in Madras Medical College and Grant Medical College in Bombay, respectively 1912, while none were enrolled in Calcutta Medical College. Eight Hindu women attended the medical school in Agra, compared to one Baidya and one Kayastha in the medical schools in Dacca and Campbell, respectively. Even though the situation was so severe, it is interesting to note that in 1901, the Kayasthas had an 8.0 percent literacy rate, and the Baidyas had a 25.9 percent literacy rate. The majority came from the Brahmos, whose literacy rate was 55.6 percent.¹³⁰

It was either Bengali or English-translated texts used as textbooks at the time. However, in 1890, a specific elementary English examination became compulsory for all applicants. After 1896, it became a four-year curriculum, with more rigorous tests and a requirement for a better level of English proficiency to graduate, drastically lessening the number of Indian women in medical colleges. However, between 1935 and 1940, the percentage of Anglo-Indian students began to drop while the number of Hindu and Muslim students grew.

The Dufferin Fund acknowledged in 1894 that "purdah ladies" had not yet started using existing structures in the same numbers as those advancing the Fund's objectives. However, efforts were made to adapt the Dufferin Hospital in Calcutta (see Appendix I, Plate 4.5) to the needs of the upper-class *purdahnashin* ladies.¹³¹ Converts to Christianity were prohibited from the Dufferin Fund wards out of regard for their feelings and sentiments. When it became apparent that higher caste women were unwilling to join the hospital because they did not want to meet with other caste women, the superintendent of the Dufferin Hospital in Calcutta took the matter seriously. In 1896, it was decided to exclude European and Eurasian women from the Dufferin Hospital to advance the interests of the *Purdahnashin* women of Bengal. The Dufferin Hospital had no maternity cases in 1897. But the number of zenanas increased by 1903 as well. We must consider that Dufferin Hospital in Calcutta had the advantage of having top medical professionals and a substantial funding source. Women traveled to the Dufferin Hospital to take advantage of the services offered as a consequence, and they came from diverse parts of Bengal.¹³²

The Dufferin Fund's Annual Reports show growth in female patients; in Bengal, this increase was more significant, from 180,072 to 517,858 in 1899.¹³³ In 1907, the Dufferin Committee financed organizations that provided care to more than 2 million women annually. The Joint Secretary of the Dufferin Fund even claimed that the Dufferin doctors deserve "all credit" for popularising Western medical knowledge among the female population of this region. The

Dufferin Fund operated forty-eight hospitals in India by 1892 with the help of 120 local and district helpers and ten provincial branches. In charge of these was a Central Committee.¹³⁴

9.6. Criticism of the Dufferin Fund -

Despite the self-professed aims of the Dufferin Fund, a review of the organization shows a general skepticism among the Indian subjects. The press also criticized the way the funds were collected. Some publications, such as *Samachar*, *Surabhi*, *Pataka*, or *Bharat Mihir*, argued that while they were not opposed to obtaining significant sums of money for the Dufferin Fund, the government should refrain from oppressing the populace for political advantage. *Samachar* cited and harshly criticized a suggestion made by Sir Lepel Griffith at a meeting in Simla that subscriptions for the Dufferin Fund be solicited from the middle and lower classes by sending letters from the district officials. Official involvement in fund collection was likely to have adverse effects. Additionally, it said that letters of invitation from Magistrates meant letters of command. The press media denounced the Dufferin Fund's racial prejudice. A Calcutta newspaper reported in 1923 that Indian women, especially middle-class women, were treated in the Dufferin hospital worse than dogs, while Europeans and Eurasians were given proper care.¹³⁵ Bengal Exchange Gazette expressed a similar worry, expressing concern that despite the majority of Indian investors in the fund, the Dufferin Fund would serve the interests of European women and be governed by them.¹³⁶ Native women would not benefit from this situation; hospitals would treat them disdainfully. Bringing female doctors from outside would take up most of the fund's use.

10. Women's Medical Service -

The Dufferin Fund's working terms and circumstances had caused some dissatisfaction, which led to the formation of the Women's Medical Service (WMS). The growth of the WMS in India demonstrates the interest white women doctors showed in issues about the healthcare of indigenous women. In a letter to the government dated December 22, 1887, Miss Edith Pechey,

M.D., proposed that women employed as government physicians in India should have equal status with men in the Indian Medical Services (IMS) and be subject to the same rules regarding service, pay, leave, and pension, with a few minor modifications. She expressed her concern that only medical professionals with extensive expertise were responsible for running civil hospitals. Therefore, the possibility of female practitioners holding the position was ruled out because no American or European practitioner would consider traveling to India under the government's terms.¹³⁷

10.1. Contribution of Miss Edith Pechey in Establishing Women's Medical Service -

Miss Pechey's request for a female medical service to be established by the government along the lines of a Commissioned Medical Service was identified as unworkable by Surgeon General B. Simpson. According to him, IMS was primarily a military service that the government maintained for internal use. Only those in excess during times of peace were assigned to various departments like prisons, medical schools, etc., and might be called back at any time. It was unequivocally stated by the Secretary of State and the Indian government that it was not feasible for the government to assume responsibility for making appointments for medical professionals to suit the demands of the general public.¹³⁸

The Surgeon General was willing to provide formal recognition and protection while rejecting Miss Pechey's proposal to appoint women to the IMS on the same terms as males. The Surgeon General deliberated between hiring them on favorable terms or admitting them to the unconstrained service. The Surgeon General's objective was to develop a workable plan to benefit three distinct kinds of doctors practicing in India. The first group comprised female doctors hired as government employees at institutions, followed by those who worked in secured public institutions and those employed outside. The Secretary of the Government of India's Home Department, A.P. Mc Donnell, agreed that women doctors had no place in the IMS. They were most qualified to assist the women and children in need. Women and children

were always considered the exclusive realm of female doctors. In the best-case scenario, they could be hired under unique circumstances when special requirements are imposed or accepted by the unconfined Medical or Sub-Medical.¹³⁹

10.1.a. Association of Medical Women in India -

Dr. Pechey's plea to the government, however, was successful. The government hired Dr. Edith Pechey and Dr. Emma Slater (Dr. Littlewood), who joined Dr. Pechey a few years later, and paid them a raise and a pension. The "Association of Medical Women in India" was founded in India in 1907. It was established under the direction of Dr. Annette Benson, the founding physician of the Cama Hospital in Bombay. She became the institution's first President. Dr. Catherine Wickham, the first Secretary, Dr. Kathleen Vaughan, and others provided her with competent assistance. The organization's primary goal was to advance the rights of Indian medical women. It announced that it would issue a quarterly journal where female doctors who were dissatisfied with the operation of the Dufferin Fund may share their opinions. Dr. Annette Benson, Dr. Mildred Staley, and Dr. Kathleen Vaughan made up the deputation. In 1909, they made their way to Simla. There, they met the Central Committee delegates, including Colonel Lukis and the Countess of Minto, head of the Dufferin Fund. They claimed that the Countess of Dufferin Fund secretary needed to be a certified medical woman. Second, at least one qualified woman doctor should be a member of the Central Committee, and third, the Government of India needs to establish and carry out a successful service for medical women in India.

However, the Central Committee members vowed to give the recommendations sympathetic attention even though they did not unanimously accept them. The conference had some success because Dr. Vaughan was immediately invited to join the Central Committee. In addition, she arranged to explore and examine the Dufferin Hospital with an IMS officer. Mrs. Mary Scharlieb, M.D., and Miss Mary Thome, M.D., presented a draught proposal for the "Scheme

of Women's Indian Medical Service" to the Secretary of State for India in 1910. First physician Miss Annette Benson of the Cama Civil Hospital in Bombay, and honorary secretary Mrs. Emma Slater of the UK branch of the Association of Medical Women in India. These women, who had a deep interest in the medical studies being done in India and the UK, recommended the creation of a WMS based on the principles of the civil Indian Medical Department.¹⁴⁰

On August 25, 1912, Dr. Vaughan delivered a detailed memo to the Government of India regarding the proposed Medical Service for Women. Here, she compiled a list of the four most pressing needs for Indian female doctors. First and foremost, medical women should no longer be appointed by medical men; second, they shouldn't be under the men's authority; third, the Dufferin Fund's working procedures needed to be revised; and fourth, there should be a separate medical school for women.¹⁴¹ The Marquis of Crewe, the Secretary of State for India, was presented with a delegation on the issue of the intended establishment of WMS in India on July 22, 1912. One of the members, Mr. H.W. Forster, M.P., made an emotional appeal, claiming that only 400 female doctors were now in practice and that custom prevented millions of Indian women from attending male doctors. The disparity between supply and demand was vast. Mr. Forster asked the government to create a fully equipped service for women doctors to serve women in India better.

At her turn, Mrs. Mary Scharlieb suggested implementing the registration system, a regularly graded service with appropriate rules for pension and leave, the introduction of female medical inspectors in place of male inspectors, and adequate representation of medical women in boards, councils, and other governing bodies where women are appointed. In her speech, Mrs. Emma Slater stated that they were not anticipating a service along the same lines as IMS. They wanted a central organization in Calcutta or Delhi with a council to oversee women's hospitals throughout India. If the government adopted such a plan, Mrs. Slater responded to the Marquis of Crewe's question about what would happen to the Dufferin Fund by saying there would be

no disruption of services or disappearance. Dufferin Fund was mainly used for fundraising. She claimed that the persons in charge of these funds needed more medical understanding and didn't use it to recruit highly skilled female doctors. If the government provided women doctors, M. Slater thought that the Dufferin Fund would have no problem giving the money to the WMS. The WMS could make use of the hospitals of the Dufferin Fund.¹⁴²

No new organization was created out of respect for the excellent work done by the Dufferin Fund for such a long time. In 1913, the government gave the Dufferin Fund an annual subsidy of Rs. 150,000. It was requested that a plan be created by The Dufferin Fund and submitted to the government for approval. In 1913, a Subcommittee permitted by the Central Committee established the WMS's rules. The Government of India adopted these regulations, and the new program took effect on January 1st, 1914.¹⁴³

10.1.b. Constitution of Women's Medical Service -

According to the Women's Medical Service for India's constitution, the service shall be a portion of the National Association for Supplying Female Medical Aid to the Women of India (Countess of Dufferin's Fund) and shall be placed under the Central Committee of this Association for purposes of direction and control, and shall form a special service of medical women and shall be known as The Women's Medical Service for India. The corpus of medical discourse gathered from European doctors generally addressing the health care and death rate of indigenous women and children in the first decades of the twentieth century was one of the most significant outcomes of establishing the WMS in India.

Several books and essays about Indian women were published in the second and third decades of the twentieth century. The majority of them discussed purdah and its physical implications. Purdah prevented them from seeing a doctor and gave rise to some ailments specific to the subcontinent. In India, rare pregnancy illnesses were a significant factor in maternal death. According to Margaret Balfour, the high mortality rates in Bengal were traced back to several

ailments, including sepsis, anemic hemorrhage, and eclampsia. Although not particularly frequent in Bengal, osteomalacia was another dreaded ailment directly connected to the purdah regime. In all honesty, it can be claimed that without a doubt, English lady doctors and medical women supporters of the movement for providing female medical aid to Indians saw their job as medical practitioners to encompass not only the treatment of Indian women through, for example, obstetric intervention with instruments or the dispensing of drugs, but also teaching in new habits of health care. Maneesha Lal has explicitly said that among the more recent research on the impact of the Dufferin Fund and follow-up initiatives, the role of the Dufferin Fund was restricted in terms of its actual influence on the great majority of Indian women. She acknowledges that it was the most critical institution in women's health and that the policies it developed impacted later initiatives.¹⁴⁴

11. Bengali Women in Medical Profession -

As a result of the formation of the Dufferin Fund, the demand for indigenous medical women increased. Starting from the mid-1880s, the Bengal government was required to provide female medical care to hospitals and dispensaries in the Mofussil. In 1887, J.M. Coates, the principal of CMC, wrote that he received several letters from Bengal districts, one from Assam and one from North-Western Provinces, requesting the services of medical women. Lady Dufferin penned, "The day will never come when highly educated women of any race will settle down in country villages and accept four annas for a fee."¹⁴⁵ In 1887, Campbell Medical School opened its doors to female students eager to provide medical care for female patients in rural areas. This was no mere coincidence. They had fewer credentials and preferred medical education in their native language. The medical school was instrumental in popularizing medicine as a career among women and expanding medical care to rural areas. Dr. Haimabati Sen, who worked at the Dufferin Hospital in Chinsurah, exemplified the struggles and lifestyles of the Campbell physicians. Dr. Sen's autobiography reflects the plight of a woman intent to

earn an honorable livelihood within a man's world, negotiating and fighting various forms of patriarchy. Her autobiography possibly reflects the narrative of most contemporary female physicians adapting to a male-dominated world.

11.1. Women at Campbell Medical School -

Regarding admission, Dr. Mackenzie proposed reducing the eligibility requirements for the admission of female students. Eligible candidates were needed to pass two criteria- I) the Upper Primary scholarship examination or II) an examination conducted at the beginning of each session by the instructors of the school, under the presidency of the Superintendent, in specific subjects. The candidates were required to read and explain a Bengali book, take down dictation in Bengali from a book, and calculate arithmetic and fractions to the rule of three to pass the examination.¹⁴⁶ The lower age limit for female students would be set at 16, but the upper age limit would be left to the Superintendent's discretion. Mr. Croft suggested establishing ten carry scholarships for three years for female students. The monthly value of the scholarships would be Rs.7, and they would cover tuition fees. The male students got a monthly scholarship of Rs. 5. It was decided that the Rs. 10 admission fees levied on men would be waived.¹⁴⁷ These modest monetary incentives were offered to draw in women students, and they were an excellent source of support for less-educated and sometimes even defenseless women who desired to pursue a career in the medical profession.

The government made several suggestions for the efficient operation of the women's department of the medical school. The front row of benches would be allocated for female students. Lectures would be organized exclusively for female students, and if necessary, a portion of the dissecting room would be partitioned off and separated for female students. The hospital responsibilities of both male and female students would be identical. The females, however, would be relieved of night duties. There was to be no discrimination in bestowing prizes. The top student in each class would receive a special incentive of not beyond Rs.18 in

addition to certificates of recognition. Swarnomoyee Hostel was appointed for the housing of far-away students. The Dufferin Fund could be used to pay for the cost of horse-drawn transport for the local students' needs for travel.¹⁴⁸ After months of deliberation, on 18 November 1887, the Lieutenant Governor of Bengal, Sir Steuart Colvin Bayley, issued an order to open Campbell Medical School to students. He stated, "some native ladies of position desire to receive instruction in the manner indicated that their services will be in request when they have been trained and that their knowledge will then not be inferior to that of many male practitioners recognized by the Government".¹⁴⁹ He categorically stated that there was " He stated categorically that there was a "real and practical" need for certified female physicians. The sole cause for concern for the lieutenant governor was the Campbell Medical School's admission standards.

Newspapers such as *Chanu Varta* and *Pratinidhi* advocated for the admission of women to medical institutions.¹⁵⁰ *Pratinidhi* suggested that, to produce a group of female physicians fast, the admission standards for female physicians could be lowered marginally compared to those for male physicians. However, as Mr. Croft and Dr. Mackenzie of the DPI anticipated, there was also opposition to the plan. The male medical fraternity resisted the decision because it would flood the country with incompetent women practitioners. Dr. R.C. Chandra, a renowned CMC physician, was likely the most vocal and vehement opponent of the proposition of welcoming female physicians to the Campbell Medical School (see Appendix I, Plate 4.6). He was against female medical assistants and argued that their services were unnecessary. He was persuaded that bad weather, night emergencies, and a failure to attend to their duties during the frequent interruptions of the female constitution would prevent them from performing their professional responsibilities to the best of their ability.¹⁵¹ Other Bengali physicians voiced concern that it would lower the medical profession's standard and tarnish Western medicine's reputation. A.J. Cowie, the Inspector General of Civil Hospitals,

considered the training given to male hospital assistants in vernacular schools a failure. In response to Croft's plan to train women medical students, he stated Croft's plan would now produce a group of women hospital assistants of an even lower caliber than was deemed necessary in the young men of the same class.¹⁵²

These negative responses could not deter the two Principals or DPI from following their purpose. In 1888, the Campbell Medical School, the primary institution for training men as Hospital Assistants for the Subordinate Medical Service, admitted fifteen female students. During the first two years (1888-1890), most students were Brahmins and kayasthas. In 1890, twelve Hindu women, eight Brahmos, and eight Christians joined the school. In addition to Brahmins and Kayasthas, there was one Vaidya and one Vaishnava among the Hindu females. The first Muslim woman was accepted in 1891, followed by the second in 1893. Three Europeans, seven Hindus, seven Brahmos, two Muslims, and ten indigenous Christians formed thirty-one female learners around 1893-1894. All candidates were required to pass a special rudimentary English examination beginning in 1890, and the course lasted four years starting in 1896. Geraldine Forbes argues that as the examination standards became more stringent and a greater command of English was required, the number of Bengali women in the student group started to decline, and gradually, after 1896, more native Christian, European, and Eurasian women entered the school.¹⁵³ Within a decade, 34 students attained certification as hospital assistants. The newspaper *Indian Messenger* made the following observation in response to the rising number of women applying for admission: the desire for prosperous and valuable occupations was rising daily among the middle-class Hindu poor.¹⁵⁴

Women physicians in Bengal provided care to underserved patients through their proficiency with forceps, cleanliness, basic medication, and the Bengali language and dialect. At work, they were ostensibly answerable to the civil surgeons. However, the level of oversight varied depending on the personality of each civil surgeon and the specific hospital in question. Private

practice and a larger salary than their male colleagues were the main sources of financial security. In many cities and towns, the commissioners had put away a lot of money as scholarships for women students. The cities and villages got money from both provincial and local funds. The main goal was to train nurses, help pay the salaries of women doctors at the city dispensary, or build a women's hospital at the local charity dispensary. The Lieutenant Governor believed that even the smallest towns would have a dispensary. He also thought that if a municipality didn't have enough money to support a dispensary, it could ask the district board for help. One important thing to know is that Indians could get jobs and work independently at clinics. European doctors or those with more training liked working in big hospitals in the cities. So, women who graduate from less prestigious medical schools could find work in these clinics, which are paid for by the government, a district board, or a local charity. These women were in a good position in the smaller areas, where they worked in clinics or Zenana hospitals.¹⁵⁵

11.1.a. Salaries of the Graduate Women Doctors of Campbell Medical School in Bengal -

In 1903, seven graduates from Campbell Medical School between 1891 and 1894 who got a VLMS were considered well-established in Bengal. The new hospitals and clinics for women built in the areas of Bengal were good places for Campbell graduates to find work. Even though their salaries were between monthly Rs.40 and Rs.60, much lower than the salaries of women who had graduated from CMC, they were often given living and travel expenses and the right to work privately. Bonotosini Chunder went to Sylhet with a monthly salary of Rs.40, free housing, and staff. Sushila Devi took a job at the Lady Dufferin Hospital in Bhagalpur with a monthly salary of Rs.60, a Rs.15 horse payment, and free housing. At the Monghyr Charitable Dispensary, Lukhimoni Devi was given Rs. 50 per month and free housing.¹⁵⁶ In private practice, they also made a lot of money. Hemangini Sen shifted to Bankura at the Lady Dufferin Hospital, Menaka Devi in Murshidabad at the Girish Chandra Hospital, Nistarini Chuckerbutty

in Shahabad at the Dumroan Raj Hospital, and Priyabala Guha in Bogra at the Zuharunissa Female Hospital.¹⁵⁷

11.1.b. Ibennessa Bibi: A Doctor of Campbell Medical School -

Ibennessa Bibi stands out among the doctors at Campbell because she was the first Muslim woman to attend medical school at 16 and got the third-best score on the admission test. Both the government and the district office of Mymensingh gave her a grant. She graduated from Campbell Medical School in 1894. On June 11, 1894, she started working at Bidyamoyee Female Hospital in Maymarsingha, where she spent at least twenty-four and a half more years as a "Native Lady Doctor". In her second year, another 18-year-old Muslim girl, Mussamut Latifanisa, got a scholarship from the government worth Rs. 7 and was ready to work for the Dufferin Fund in Calcutta.¹⁵⁸

11.1.c. Hospital Assistant Hemangini Devi -

Hemangini Devi, a hospital assistant in charge of the Dufferin Fund's Bankura Branch, may have graduated from Campbell Medical School in March 1891. She was paid Rs. 50 per month and lived for free. According to the Annual Report of the Dufferin Fund, 4,227 patients were treated indoors and outdoors in 1894. Hemangini Devi treated 14 people in their homes for free and did 85 small operations and 22 big ones. Eleven of the 22 surgeries were done at the home of the patient. Home health care was becoming more popular. Reports from Dacca and Mymensingh revealed that women doctors saw ten times as many patients in their homes as in hospitals. In addition to hospital and home care, women doctors tried to make their patients more aware. In 1901, Hemangini Devi wrote a book about medicine called *Sutika Chikitsa*. Indian women doctors or medical workers rarely wrote books on medicine alone or for well-known medical magazines at the time. She may have been the first Bengali woman doctor to write a book about this subject. Hemanta Kumari Chowdhury, the editor of the *Anthapur*

magazine, praised the book. Hemanta Kumari wrote an article in *Antahpur* called "*Bharat Mahilar Svasthya*", which means "Health of Indian Women".¹⁵⁹ In it, she was very worried about women's health at home and asked that health education be a part of all women's education. She also asked that health education be given the same value as "housecraft, childrearing, and cooking."¹⁶⁰ It was undoubtedly an advantage for the female patients to get care from women doctors at home instead of in the hospital since they spoke the same language and had the same customs. Families favored medical treatment at home as it showed status and was safer. The District Magistrate of Bankura was surprised that wealthy women didn't like hospitals. He was looking forward to the day when things would change and the women would get over their bias and start going to hospitals. Interestingly, the female graduates from Campbell helped the civil surgeons with surgery. Male doctors did critical surgeries like- removing uteruses, cutting off limbs, doing ovariectomies, and even trying lithotomies and clitoridectomies. But women doctors were restricted to tooth extraction and obstetrical treatments. Women were not allowed to do surgery. Their range of work was very restricted because they didn't have many chances to learn new skills. The Dufferin Reports said that in 1896, nineteen big operations at Campbell were operated by white female doctors, not the Indians.¹⁶¹

The female students of Campbell School were sent far from their homes to attend jobs. Their situation became terrible, which can be seen in the writings of Margaret M. Urquhart. She said, "the situation of a cultured girl in an illiterate household is bad enough, but more difficult still is the position of the independent wage-earning professional woman in a society that has no rule for the treatment of such unusual members. Not only is the woman doctor, school inspectress, or teacher lonely, but she is suspect".¹⁶² She also said, Unwise postings of young girls far away from their homes led to a series of disasters meant to make respectable villagers look down on women's education.

Harsh and dismissive attitudes from the local male community or even the press could not dissuade the female physicians. According to the yearly reports of medical colleges, Bengali women physicians practice in various areas of India, ranging from Guwahati in the east to Tehri Garhwal in the west.

11.1.d. Life of Haimabati Sen (1866 – 1933) -

Professional medical women physicians had to balance their professional and personal lives. Many of them choose not to marry to prevent needless family problems. Despite being the only breadwinner, many female physicians had a lower place in the household hierarchy. The unrelenting fight they experienced as medical assistants against various levels of patriarchal dominance, from home to the public arena, has been memorialized in Dr. Haimabati Sen's book, published in the second decade of the twentieth century. It was composed in Bengali and afterward translated into English.

Haimabati (1866-1933) married at nine to a 45-year-old man who was twice widowed and had two kids. After her husband died, she became a Brahma to complete her education in one of their widow shelters. There were other widow medical students at Calcutta. Campbell Medical School's low qualifying criterion piqued her interest in the medical study. Meanwhile, her friends and well-wishers encouraged her to remarry. Kunja Behari Sen, a Brahma Samaj worker and the manager of Brahma Mission Press, was her husband. Marriage provided her with apparent social security as well as a place of her own from which she could pursue her studies.¹⁶³ Her spouse supported her desire to attend Campbell Medical School. Her widowed and married classmates had to care for children and maintain families, attend lessons, and do hospital tasks. Haimabati was awarded two scholarships worth Rs.20 per month. She worked hard to complete her studies despite being pregnant two times during her training

period. She described her horrific first day of dissection. She did, however, grow into a confident medical student.¹⁶⁴

After finishing the exams, Haimabati got the gold medal out of four women and twelve men.¹⁶⁵ She was half a mark ahead of the person in second place, Gopal Chandra Datta. The students objected and went on strike, but the Superintendent of Campbell Medical School, Surgeon Major JB Gibbons, refused to listen to their request. They argued that the gold medal was created long before women were admitted to College, so only males were eligible for it. Even newcomers joined the agitation. The rage lasted a week, but the male students would not retreat from their demands. The situation was reported to the Lieutenant Governor, who convened an important meeting with Haimabati Sen. She agreed to give up her gold medal in exchange for silver medals for finishing first in all subjects. Haimabati's education was permitted to continue, and her monthly stipend was doubled to Rs.30. At the moment, financial stability and a medical profession were much more important to her than a gold medal.¹⁶⁶

Campbell female doctors had difficulties in finding respectable jobs at Calcutta. Dr. Haimabati Sen (see Appendix I, Plate 4.7) began private practice after passing out but soon found himself in a humiliating predicament. Dr. Dayal Shome, her professor at Campbell Medical School, invited her to help him with the birth of a European lady. She received Rs. 50 for her services, a midwife received Rs. 100, and Dr. Dayal Shome received Rs. 1000 for the procedure.¹⁶⁷ This was the condition of Calcutta's female assistants and midwives. They couldn't acquire a case without the assistance of a male doctor, and when it came to costs, the doctor got the lion's portion. She soon received a call from the Hooghly Lady Dufferin Hospital with an offer of Rs.50 a month, a free quarter to reside in, and the freedom to practice.¹⁶⁸

She was in high demand since she was the only trained women doctor in the Chinsurah district. Her daily schedule was markedly different from that of an average European medical lady.

According to Balfour and Young, a comparative investigation shows that, in contrast, indigenous female assistants had an excessive workload and long working hours. At the same time, their white counterparts enjoyed a simpler and more pleasant existence.¹⁶⁹ Hospital aides had a demanding working life and faced physical, psychological, and even sexual harassment. Regarding her medical career at the Hooghly Dufferin Women's Hospital, we can see that women's procedures were conducted mainly by civil and assistant civil surgeons in the early years. Civil surgeons performed twenty-four major and seventy-seven minor procedures in 1895. They performed most of the procedures to maintain control over the female aides. Female assistants only conducted procedures when they visited patients at home or when civil surgeons were unavailable. In 1896, women had twenty-five major and one hundred forty-six minor surgeries.¹⁷⁰ Dr. Sen was deemed unskilled to do surgical procedures. However, after some years, Dr. Sen mentioned in a report, "The Native Lady Doctor has been gradually gaining experience and has done her work to the best of her abilities."¹⁷¹ Many of her female patients had difficulties in the eyes, ears, nose, skin, nerves, ulcers, accidents, and rheumatic diseases. Despite her unique expertise in gynecology and obstetrics, Dr. Sen endeavored to treat these patients to the best of her abilities. Her patients received motherly care from her. She conducted seven forceps deliveries and four craniotomies in the patients' homes. She assisted the civil surgeon with procedures such as removing the placenta and obstructed labor. The Dufferin Fund Report praised her compassionate efforts to serve underprivileged women, which improved the hospital's reputation. She also treated middle or upper-class females who rejected medical care at hospitals.¹⁷²

In the 1890s, she was instructed by higher authorities to cover up a marital rape case and was given 500 rupees as a bribe. Her conscience was unwilling to accept the money, but she had no choice but to accept it.¹⁷³ Her time at the Dufferin Hospital ended when she quit in 1910. There are other explanations for her resignation, but it is most likely that a disagreement with the civil

surgeon compelled her to take such drastic measures. Private practice was her primary source of income after that. That was also jeopardized when a young girl came and was given command of the hospital. In her personal life, she faced domestic abuse. Her husband, Kunja Behari Sen, had little regard for her and accused Haimabati of having an unlawful relationship with Dr. R.L. Dutt, a civil surgeon empathetic to her situation. Despite being the main breadwinner, she was always polite to her husband.¹⁷⁴

11.1.d. The first Bengali Female Doctor, Kadambini Ganguly (1861 – 1923) –

Kadambini Ganguly, the first female student of Calcutta Medical College, has previously been addressed by many academics (see Appendix I, Plate 4.8). This chapter discussed her views on women's health and her engagement with Indian nationalist politics. Brajakishore Basu, as a Brahma leader, has always supported his daughter Kadambini's education. She started her education in 1868 and shifted to *Hindu Mahila Vidyalaya* in 1873, a unique academic institution. The school's curriculum was created substantially different from those of other contemporary girls' schools. Students would get the same curriculum as those at male schools. Dwarkanath Ganguly, a well-known Brahma leader, was the institution's mainstay. He was regarded as the school's main lifeline, on whom the entire practical work rested. Miss Annette Akroyd was unable to administer *Hindu Mahila Vidyalaya* despite her best attempts, and her relationships with her Brahma friends immediately deteriorated.¹⁷⁵ Dwarkanath broke all ties with the school in the middle of 1874, and it dissolved in 1875. On the other hand, the concept of an excellent school for ladies remained with Brahma leaders such as Ananda Mohan Bose, Durga Mohan Das and his wife Brahmomoyee, and Dwarkanath Ganguly. On 1 June 1876, a new school named *Banga Mahila Vidyalaya* was established on Old Ballygunge Road with fourteen students.¹⁷⁶ There were nine unmarried females and four widows among them. English was used as the teaching medium, and fundamental neutrality was maintained. Dwarkanath Ganguly's tireless work helped the institution reach new heights. Kadambini was a student at

this school. On 1 August 1878, *Banga Mahila Vidyalaya* merged with Bethune School, most likely owing to financial restrictions, and it operated as a Brahmo school while open to everyone. It came to be known as the Bethune School. Kadambini was transferred to Bethune School as a result of this merger.¹⁷⁷ During her early years, Kadambini's connection with Dwarkanath Ganguly most likely fostered a desire to pursue higher education. He had a significant impact on her professional life.

The first test came when two Hindu Mahila Vidyalaya students, Kadambini Basu and Sarala Das, the daughter of Durga Mohan Das, opted to take the Calcutta University entrance exam. Kadambini scored second division in the Calcutta University admission test. Sarala Das, on the other hand, did not attempt the admission test. Kadambini's achievement in 1878 was not overlooked. Mr. Croft, the DPI, suggested a scholarship of Rs.20 or Rs.15 for Kadambini Basu to pursue her studies at FA levels.¹⁷⁸ Individual locals recognized her accomplishment as well. Kumar Rajendra Narayan Roy, Jaydebpara, Dacca bestowed a gold medal, and books valued Rs.50 to Kadambini.¹⁷⁹ Sir Richard Garth, President of the Bethune School Committee, and the Secretary paid a visit to Bethune School on August 16, 1879, to give the gold medal and books from Kumar Rajendra Narayan Roy. Sir Richard Garth praised Kadambini and especially praised the role of Hindu elites in subsidizing women's education on that day in front of the present teachers and students.

The accomplishment of Kadambini in the admission exams addressed the issue of women's access to higher education. It was an issue that afflicted both the government and educated Bengalis, particularly the Brahmos. They wanted to educate their ladies and placed their trust in Kadambini. However, another promising lady, Abala Bose, had let them down. After marrying the great scientist Sir Jagadish Chandra Bose, she settled down and left her study. Manmohan Ghosh, Secretary of the Bethune School, said during the award presentation event on February 27, 1879:

“In consequence of the success of Miss Bose already referred to and the desire which she has expressed to be permitted to continue her studies to the FA examination of the University, the Committee are now considering the expediency of opening collegiate classes as a separate branch of the Institution. Any scheme of this kind would, of course, involve the necessity of providing larger accommodation and a superior staff of teachers.”¹⁸⁰

As a result, Lieutenant-Governor of Bengal Sir Ashley Eden decided to establish special college-level courses at the Bethune School, starting with Kadambini as the only student. Mr. Manomohan Ghosh addressed a letter to the DPI two months later, on 22 April 1879, urging him to prepare for assigning a teacher for Kadambini Basu. Kadambini Basu completed the First Arts Examination (FA) in 1880. Monomohan Basu joyfully declared her test accomplishment at the annual award presentation event on March 9, 1881.¹⁸¹ Kadambini Basu intended to study medicine at Calcutta Medical College. However, the College officials denied her plea to study medicine. Instead, Bethune School was elevated to the status of a college, and in 1882, Kadambini Basu and Chandramukhi Basu became Calcutta University's first female graduates. It was a magnificent feat. Calcutta University's Vice Chancellor hailed it as the "most memorable event" of the year.¹⁸²

Dwarkanath Ganguly and Kadambini Basu's long-standing acquaintance finally resulted in their marriage on June 12, 1883. Her guide and mentor, Dwarkanath Ganguly, encouraged her, helped Kadambini achieve her professional goals, and advised her to maintain her political and social lives. Over two decades after his first marriage, at 39 with grown children, he married Kadambini, who was twenty years younger than him. She was twenty-one years old, about to become twenty-two. Pandit Ram Kumar Vidyaratna presided at the wedding. The witness was Dwarkanath Ganguly's close friend, Durga Mohan Das. Act 111 of 1872 was used to register it. Despite their reservations, a significant number of acquaintances, including several European gentlemen, were asked to attend the wedding.¹⁸³

Dwarkanath Ganguly proved his critics wrong by encouraging his wife to pursue a medical profession. Dwarkanath pushed for her entrance and was successful in getting Kadambini enrolled in CMC. He had to run a campaign in which he said that no candidate could be denied on the grounds of gender. It was promoted by the current journal *Paricharika*. After a great struggle, she joined CMC around ten or twelve days after her marriage. She was awarded a five-year scholarship of Rs.20 per year to continue her education.¹⁸⁴ This event was praised by the *Indian Messenger*. As a medical student at a co-educational university, Kadambini was unlikely to encounter serious challenges from other students. Amritalal Sarkar, the son of eminent doctor Mahendralal Sarkar, and Kadambini were college classmates. His own reservations about teaching men and women in the same class reflected the patriarchal worldview of the late nineteenth century.¹⁸⁵ Some issues developed at the start of medical school, particularly in the Anatomy class, where the professor was against taking mixed students. However, Dr. Coates and Harvey intervened and settled the issue. Women attend separate lectures on certain topics; in others, they attend joint lectures. All classes run well, with no hitch or issue.¹⁸⁶ She attended all of her classes with decorum. Based on the photos, it is safe to conclude that she wore sarees to college.

Despite the greatest efforts, Kadambini could not get the MB (Bachelor of Medicine) degree from CMC. She failed in Materia Medica and Anatomy on her first MB test. She was, however, awarded grace points and permitted to take the final MB.¹⁸⁷ This gesture was criticized in today's publications. Professor of Medicine Dr. Coates was the Principal of the Medical College and one of Kadambini's examiners at the time. Kadambini was conferred the GMCB (Graduate of Medical College, Bengal) degree to pursue her career. Fundamentally, this degree was awarded to CMC graduates prior to 1857. Following the establishment of Calcutta University, degrees such as LMS and MB were granted. Although the GMCB degree was no longer in use, there was no official notification of its withdrawal.¹⁸⁸ We actually lack a

definitive answer on whether Dr. Chanda deliberately failed Kadambini or she really failed that exam. However, it must be noted that Dr. Chandra has always opposed the enrollment of women in medical colleges. Though she failed to qualify as a complete doctor, perhaps through no fault, the Vice Chancellor praised her accomplishment at the 1887 convocation.¹⁸⁹

The GMCB degree conferred to Kadambini granted her the authority to practice medicine; therefore, her status as the first Indian woman trained in an Indian medical college is entirely legitimate. The Marathi doctor Ananda Bai Joshi qualified as a professional physician before Kadambini, but she attended an American medical school while Drs. Bidhumukhi Basu and Virginia Mary Mitra were Kadambini's juniors by two years.¹⁹⁰

After receiving her degree, Dr. Ganguly established a practice at Benitola. She placed an advertisement in the newspaper *Bengalee* for almost a year (Table No. 7.1).¹⁹¹

Table No. 7.1: Advertisement of Kadambini Ganguly in the *Bangalee*

<p>“Mrs. Ganguly BA, (45/5 Beniatola Lane, College Square, North East Corner, Calcutta). Having studied in the Medical College for five years and obtained a college diploma to practice MEDICINE, SURGERY AND MIDWIFERY has commenced practice and treats <i>WOMEN AND CHILDREN</i>. Consultation free for poor patients at her home between 2 and 3 daily.”</p>

Source: Chitra Deb, *Mahila Doktor, Bhin Graher Basinda*, Calcutta: Ananda, 1994, p. 98.

Within the span of three years, she relocated and altered her advertising strategy (Table No. 7.2).¹⁹²

Table No. 7.2: Second Advertisement of Kadambini Ganguly

“Mrs. Ganguly

B.A. GMBC

Medical Practitioner

Can be consulted at her residence 57, Sukia Street, Calcutta, where she has now removed, terms moderate.”

Source: Table No.7.2: Chitra Deb, *Mahila Daktar, Bhin Graher Basinda*, Calcutta: Ananda, 1994, p. 98.

Most of her patients were female, and she primarily delivered babies in hospitals and private residences. She became more confident and assured in her professional life. Despite repeated newspaper advertisements throughout 1888, she was unsuccessful in attracting patients. Male patients would never seek her advice. Female patients required permission from male family members to visit their chamber. Women of distinction did not see the doctor's chamber for general consultations. They preferred domestic births assisted by *dhais* or female physicians. In 1888, she began working as a physician at the Dufferin Hospital in Calcutta for Rs.300 per month. In this context, Florence Nightingale's biographer, Cecil Woodham-Smith, reveals an intriguing piece of information. She claims that Florence Nightingale and Dr. Mary Scharlieb advocated for Kadambini Ganguly and helped her secure a position with a monthly salary of Rs.300 at the Dufferin Hospital.¹⁹³ Florence Nightingale communicated to Dr. Mary Scharlieb in 1888 that – “Mrs. Gangooly is, I believe, a woman of high caste and cultivation, and it would be a great encouragement to the Hindoo ladies to embrace medicine if she was appointed,”¹⁹⁴ This might be taken as Florence Nightingale's personal appreciation for a Bengali lady who had the fortitude to pursue a medical career.

Kadambini Ganguly and Bidhumukhi Basu both experienced racial prejudice at work.¹⁹⁵ They were not assigned important responsibilities, and they virtually performed the duties of a midwife. Kadambini had to obey the orders of the English or Anglo-Indian physicians at the

hospital. She was in charge of the Zenana Hospital three times. Mr. Cottons, the Secretary of the Hospital Committee, praised her abilities. She wished to be in charge of a ward even without remuneration. The committee was still apprehensive. Her colleague, Mrs. Foggo, an Anglo-European woman doctor, refused to work under her supervision. When Mrs. Foggo took a month's vacation in 1889, Mrs. Throbe was allocated her role on the advice of the local committee rather than Kadambini, who remained a simple officiating doctor. Her choice of European physicians was denied only based on racial inferiority. The press was outraged by the Dufferin Fund's discriminating stance.¹⁹⁶ However, the Bengali intelligentsia's hostility to the Dufferin Fund was overtly political. Perhaps nationalist passion was at work in opposition to the Dufferin Fund. Surendranath Banerjee, the famous nationalist leader, said explicitly in his daily Bengalee that Indian woman physicians were deliberately neglected, while all advantages were provided to European and Eurasian lady doctors.

Kadambini conveyed her frustration and anger in an open letter –

“By the present arrangements, English medical women, though they may not at first possess higher qualifications than their Indian sisters, will soon acquire much better skills by performing hospital duties, for it is a recognized fact that hospitals exist for two purposes- the treatment of the sick poor and the education of the medical profession and that the performance of the hospital duties quietly improve the qualification of a doctor. The Indian medical women will miss all the advantages of such professional duties by their exclusion from the medical charge of important hospitals or by being placed in an inferior position there, for in the inferior class of hospitals, few cases of importance will ever come up for treatment and in the large and important hospitals, the major operation and other important duties will always be performed by the senior person in charge. No opportunity had yet been offered to Indian medical women to show whether they could take responsibility and charge larger, more important hospitals. It must not be forgotten that it is the opportunities and surroundings that make the individual.

Now, without giving Indian medical women opportunities to prove their capabilities, it is not fair to them to pronounce that they are not competent to hold first class appointments and to be placed in responsible charge of large and important hospitals.”¹⁹⁷

In contemporary Bengali society, Kadambini's confidence in establishing herself in her personal, professional, and political spheres was not well received. Malavika Karlekar argues that women from respectable families came to view Kadambini as a menace. She competed with males, academically and professionally, without seeking a gender-based advantage. Her presence and participation in the political arena sparked much curiosity and apprehension. By questioning her character, conservative publications such as *Banganiban* attempted to diminish her reputation.¹⁹⁸ It was a battle against illiberal ideology, and in this fight for justice, Dwarkanath Ganguly received support from his Brahma allies, including Sibnath Sastri, the renowned doctor Nilratan Sarkar, and the news media. The *Indian Magazine* advocated for the freedom and professional independence of women.

Dr. Nilratan Sarkar and other prominent Brahmans brought the case before the Court of Justice Trevelyan. The Chief Presidency Magistrate rendered his decision in the Brahma Defamation Case on May 12, 1891. Three cases had been filed against the *Banganibasi*. Two suits were filed by the Brahma Samaj and the Brahma Congregation, while Dwarkanath Ganguly filed the third in the name of his wife Kadambini Ganguly, whom the complaint alleged had been slanderously portrayed in the pages of *Banganibas* newspaper. As for the first two reports, the defendants pleaded guilty, but in response to the third claim by Dwarkanath Ganguly, they claimed that the article hadn't been intended to apply to Mrs. Ganguly and contained generic allegations. The Magistrate conducted a thorough inquiry and ultimately determined that the defamatory article in the *Banganibasi* referred to Mrs. Ganguly. The journal's editor, Mahesh Chandra Pal, was thus declared responsible and sentenced to six months in detention and a Rs. 100 fine.¹⁹⁹ In passing sentence on the owner, the magistrate remarked that he had

considered that the complainant's wife had sued him for one lakh rupees in damages in the High Court.

She chose to improve her academic credentials by obtaining degrees from Edinburgh. It would not only make her more acceptable to 'native' patients than European women physicians but also make the British press and the people silent. Kadambini traveled to Edinburgh in Quest of Knowledge to earn a degree and investigate new developments in medical science. She received two licentiates: A diploma of Licentiate of the Royal College of Surgeons (LRCS Glasgow) and a Licentiate of the Royal College of Physicians (LRCP Edinburgh).²⁰⁰ She bore her travel and higher education expenses in England. The monthly expenditures would not fall less than Rs. 100 per month. Interestingly, she arranged for her money in a novel and unconventional manner. To commemorate 400 years since the discovery of America, Chicago hosted a massive fair in 1893, in which Swami Vivekananda delivered his famous speech. Kadambini took a keen interest in the exhibition and collected the pieces herself.²⁰¹ On 15 July 1892, she published a letter in the newspaper Bengalee imploring the public to submit artifacts created by Indian women. Interested parties were instructed to contact her at 13 Cornwallis Street. She wrote in her letter that it is a common misconception that Indian women lack aesthetic sensibility and skill in craft and artistic endeavors. To dispel this misconception, Indian women were advised to send handcrafted items. Indian women had a significant demand for exquisite embroidery on silk wool. She also made a plea to the women who fought for the freedom of Indian women.²⁰²

Kadambini Ganguly went to Chicago on February 26, 1893, with a list of artifacts. There was nothing unusual about Indian women going to study in the U.S. or England. Ananda Bai Joshi, Guru Bai Karmakar, and Dora Chatterjee are all well-known Indian women who went to study in other countries.²⁰³ They went to the U.S. to study at the Philadelphia Medical College to become doctors. In the 1880s, people like Pandita Ramabai and Cornelia Sorabjee went to

Britain to study medicine. But the way Kadambini arranged her means for abroad was unique and unconventional.

When she got to London on March 23, 1893, the *Bamabodhini Patrika* said that the royal women praised the Indian artifacts, and Princess Christiana made arrangements to send them to Chicago at Kadambini's address (35, Blackfield Road, Maida Vale, London). Within twenty days, she filled out the “triple qualification” form offered by the three medical institutions of Scotland- the Royal College of Physicians of Edinburgh, the Faculty of Physicians and Surgeons of Glasgow, and the Royal College of Surgeons of Edinburgh.²⁰⁴ According to the rules, Kadambini could take the final test because she had a degree from Calcutta University and an LMS from Calcutta Medical College.²⁰⁵ In July 1893, Kadambini got all three of her diplomas from Scotland. She took tests in medicine, drugs, surgery, surgical anatomy, nursing, and medical law. The Royal College of Physicians and Surgeons, Glasgow, notified that she had earned a triple qualification. Kadambini was the only woman on the list of fourteen obtaining candidates in the register. She was seventh on the list and the only female candidate. Mr. Robb, who was in charge of keeping records, said that Kadambini was probably the first woman to get all three degrees. In 1886, women students were allowed to take that test for the first time, and Kadambini did so in 1893. This was definitely something to be proud of. She got the LRCP, LRCS, and Licentiate of the Faculty of Physicians and Surgeons (LFPS Glasgow) diplomas on July 18, 1893, three months and five days after she got the LRCP. It could have happened because these three schools agreed to simultaneously give out these three degrees.²⁰⁶

The *Woman's Herald* released a short account of Kadambini on August 31, 1893. It was called "*How a Hindu Girl Became a Doctor: A Story of Struggle and Triumph.*"²⁰⁷ She got a job as a top doctor at Lady Dufferin Hospital after she returned from Edinburgh. In 1894, she became the doctor in charge of Eden Female Hospital's outpatients. She was also the first woman doctor

to be hired as a tutor at the Campbell Medical School. There, she taught classes on childbirth and medicine. An article in the Indian Messenger on April 8, 1894, called this event "A LADY LECTURER IN THE CAMPBELL MEDICAL SCHOOL."²⁰⁸

But she didn't stay at the Lady Dufferin Hospital for long. Maybe she was tired of working at a hospital where she was racially judged and had to make deals with European bosses. She quit her job to pursue private practice. By working for the Maharaja of Nepal for a while, she was able to start a successful practice and make a lot of money. Between 1895 and 1896, she was in charge of taking care of Nepal's Queen Mother.²⁰⁹ The Queen Mother of Nepal liked Kadambini and gave her many gifts; the most exclusive was a pony. That made a difference because it made her more famous and wealthy in Bengali families. It changed her social status. Satyajit Ray was delivered under her supervision on May 2, 1921. Upendrakishore Raychaudhuri was the son-in-law of Kadambini and the paternal grandfather of Satyajit Ray.

As a reputed wealthy Bengali doctor, Kadambini Ganguly was able to get into politics and social work, which were both male-dominated fields. As early as 1876, Dwarkanath asked for women to be representatives in the Indian National Association, which was the first nationalist group. It was started by Surendranath Banerjee. As a reputed wealthy Bengali doctor, Kadambini Ganguly was able to get into politics and social work, which were both male-dominated fields. As early as 1876, Dwarkanath asked for women to be representatives in the Indian National Association, the first nationalist group started by Surendranath Banerjee.²¹⁰ Since the Indian National Congress was formed in 1885, women have been able to join the party. Women's participation in the National Congress was accepted in 1876 after Dwarkanath's reasonable demand.²¹¹ The Calcutta Congress of 1890 agreed that women should be able to bring up issues and talk about them. Six women were members at the fifth meeting of Congress. Kadambini Ganguly, Ramabai Ranade, and Swarnakumari Devi were just a few

of them. The information about Kadambini was written as follows: "1831/Bengal Presidency or Government/Calcutta Congress Circle/ Bengal Ladies Association/ Electoral Division/ Mrs. D. N. Ganguli, B.A. GMCB/ Elected at a meeting by the Bengal Ladies Association."²¹² Kadambini Ganguly was asked to deliver a Vote of Thanks in English. In English at the Calcutta Congress in 1890. She was picked over the other women, possibly because Manmohan Ghosh and Dwarkanath Ganguly were influential leaders of Bengal who advocated for her. She was loudly applauded after delivering her speech. But Borthwick and Karlekar believed that Kadambini might not be passionate about politics.²¹³ His husband made her do it since she wasn't a political person. She may have been chosen to give the Vote of Thanks at the Calcutta Congress because she spoke English well and was seen as a role model by Bengali women. Maybe the nationalist leaders wanted to show their support for strong, empowering women like Kadambini Ganguly, which could encourage other women willing to join the Indian freedom struggle.

However, we cannot ignore her political engagement and social work for the upliftment of Indian women. Kadambini dedicated herself to helping people, especially working to improve women's lives. Political leaders and social workers looked up to her because she served the public well. In line with this idea, she wrote a message to the Health Officer of Calcutta to bring his attention to the major problem of the high rate of child death at the time. She suggested building "lying-in cottages" for poor women and putting their children there so they could get good care. She was ready to take care of the houses, which she thought should have been built with funds from the city corporation.²¹⁴ But her appeals were not accepted. When the bubonic plague hit Calcutta in April 1898, many people, especially workers, left the city out of fear. People were extremely frustrated about the plague vaccine because it hurt and made them sick. It was thought that vaccinations were used as a tool to control Indians. Sadharan Brahma Samaj set up a "Plague Suppression Committee" to help people understand the need for vaccines.

Dwarkanath and Kadambini were the key people who started the project. A day after the official news of the disease, they "organized a mass inoculation of more than sixty Brahmos (including children.)".²¹⁵ In 1906, after the partition on December 29, Kadambini Ganguly took on a more important role when she organized the Women's Conference in Calcutta. The conference was held at Bethune School and College under the leadership of the Maharani of Baroda. The Maharani praised the Bengali girls for helping and supporting the Swadeshi movement. She also said that their work had inspired young girls from other states.²¹⁶ After Mahatma Gandhi was jailed in Transvaal in 1907, one of his closest political allies, Mr. Henry Solomon Leon Polak, an English Jew, came to Calcutta and helped start the Transvaal Indian Association. Mrs. Ganguly became the President of the Association and worked hard for the Transvaal Indians.²¹⁷ Swarnakumari Devi, the fourth sister of the famous artist Rabindranath Tagore, also helped this group. The women of Bengal raised money under the direction of Kadambini. They called the fund "Mayer Kouto," which means "mother's box" in Bengali. Kadambini knew how to organize these kinds of funds because she helped start the Brahmo women's group Banga Mahila Samaj in 1879, along with Radharani Lahiri, Kamini Sen, Swarnapрова Bose, Swaraswati Sen, and Kailashkamini Dutta. It grew quickly into a group of a hundred women who worked together on different social projects.²¹⁸

Dr. Kadambini Ganguly died on October 3, 1923. On that day, she performed surgery and got Rs. 50 as payment, which was used to pay for her funeral. Kadambini was brave and determined enough to write her own story²¹⁹. In many ways, she was different from the image of the ideal wife and devoted mother in Bengali society in the nineteenth century. She was always in the spotlight, which made it easy for people who didn't like her to make judgments about her. She was lucky that she dared to ignore her doubters and keep going because she had a supportive husband who fought for her all his life. She was a good mother, doctor, and social worker all at the same time. She had eight kids, one of whom was a stepchild with special

needs. Even though she was always busy, she cooked daily for her sister-in-law, a Hindu widow and very religious. As Kadambini went from patient to patient in a horse-drawn wagon, she sometimes did the 'feminine' job of making lace, which she was famous for.²²⁰

11.2. Lesser-Known Female Doctors of CMC –

The accomplishments of Dr. Kadambini Ganguly served as a source of inspiration for educated women in Bengal, motivating them to follow a professional path in medicine. According to the education report of CMC for the academic year 1887-1888, nine students, including both male and female individuals, passed the first MB examination in 1888. However, until 1935, there was a minimal representation of Hindu female students in medical education at CMC.

Bidhumukhi Basu and Virginia Mary Mitra were the first two women to graduate from CMC with an MB degree. Bidhumukhi Basu was the daughter of Bhuban Mohan Basu, and Virginia Mary Mitra was the daughter of Matilal Mitra. Both of their fathers were converted Christians. Both of them completed their studies and received Graduation degrees in 1890. Both of them applied for the scholarship to the DPI Sir Alfred Croft, and the government offered a monthly grant of Rs.20 for five years. This initiative aimed to encourage the pursuit of medicine as a career among women in Bengal.²²¹

11.2.a. Bidhumukhi Basu (1866 -) –

Bidhumukhi Basu had two brilliant sisters, namely Bindubashini, an exceptional student of CMC, and Chandramukhi, one of the first graduates of Calcutta University. According to Chitra Deb, Bindubashini completed her MB degree in 1891. She was awarded for her exceptional performance in the second MB test, particularly for achieving the top scores in the field of Medical Jurisprudence. During the award distribution ceremony held on June 29, 1891, Sir William Comer Petheram, the Chief Justice of Bengal, expressed admiration for the

accomplishments of the three Basu sisters.²²² Subsequently, from 1903 onwards, she resided with her sister, Bidhumukhi.

Bidhumukhi Basu successfully completed her admission exams at Dehera Mission School in Dehradun, achieving a third division. In 1883, she acquired a second division in the First Arts test and moved to Calcutta to enroll at CMC. She was a well-respected professional and a distinguished individual in social work. In 1898, a letter from Suresh Chandra Samajpati to Nabakrishna Bhattacharya exhibited Bidhumukhi's professional qualifications as an accomplished medical practitioner. Bidhumukhi Basu successfully treated the wife of Suresh Chandra, and he highly praised Bidhumukhi for her excellency in the medical profession.²²³ According to Thacker's Indian Medical Directory, Dr. Basu is identified as a "Private Practitioner, " specifically listed as "Bidhumukhi Basu L.M.S., M.B, 93-1, Hari Ghosh Street."²²⁴ Dr. Basu's reputation as a medical professional extended far.

There was a notable scarcity of information available on Bidhumukhi Bose. She remained unmarried throughout her life and devoted herself to social work. As a social worker, she made significant contributions to society by advocating for various measures to enhance maternal care and child welfare. These measures included the provision of uncontaminated milk for children, access to food for pregnant women from impoverished backgrounds, establishing district nurses and women health visitors, creating shelters or crèches for young children, and overall improvement of sanitary conditions. These recommendations were intended to promote the well-being of mothers and children in urban areas, particularly in large towns.²²⁵

In one of her writings, Begum Rokeya referred to a lecture by Dr. Basu at Greer Park, in which she advised females about their dietary choices, specifically suggesting the inclusion of rice accompanied by a vegetable. She expressed her opinion that consuming several vegetables in combination may result in gastrointestinal discomfort.²²⁶ Bidhumukhi Basu provided relentless

support to the two daughters of Ishwar Chandra Vidyasagar, who were facing severe financial hardship. She made a plea to the public through many periodicals and Journals, urging them to help and provide assistance to the daughters of a highly esteemed personality of Bengal. For this intention, she provided her address.²²⁷

Towards the end of her professional life, she traveled to Gomoh, located in Bihar. The precise year of her demise remains unknown. After her death, she was cremated by following Hindu rituals.

11.2.b. Virginia Mary Mitra (1865 -) –

Virginia Mary Mitra (see Appendix I, Plate 4.10), a fellow student of Bidhumukhi Basu, displayed exceptional academic achievement at CMC. Regrettably, similar to Haimabati and Kadambini, Mary did not leave behind any written account of her life in the form of an autobiography or memoir. Her father, Matilal Mitra, was one of the renowned members of Bengali society in Calcutta. In 1881, Mary successfully completed her admission exams at Kanpur Girl's School, achieving a second-division grade. She enrolled in the First Arts program at Isabella Thoburn College in Lucknow. In 1883, she completed her test and achieved second division in that. At that point, Kadambini had effectively pressurized the CMC officials, compelling them to modify its regulations and provide admission to female students. Bidhumukhi and Mary took advantage of the circumstances to get admission to CMC.²²⁸

Virginia Mary Mitra achieved the highest score in the first MB test and was awarded a monetary reward amounting to Rs.100. Despite not achieving a rank in the second MB, she successfully finished her examinations with exceptional marks. She began her professional journey as a medical practitioner at the Bhagalpur Zenana Hospital. However, she quit her position and relocated to Calcutta, intending to establish a private medical practice in 1893. The exact timing of her marriage to Dr. Purna Chandra Nandy, either the next year or in 1904

when she was 39 years old, as proposed by Ghulam Murshid, remains uncertain.²²⁹ According to Dr. Susmita Mukherjee, if the year of her marriage was 1894, then her professional career as a medical practitioner was notably short. Nevertheless, if we consider the year 1904, she would have engaged in a practice period spanning fourteen years before her marriage.²³⁰

Dr. Purna Chandra Nandy was from a traditional Hindu family with conservative values. Interestingly, his family members expressed their disapproval of his choice to wed a Christian woman who was a medical professional. He was subjected to strict surveillance inside his residence. He escaped from his house and had a religious conversion to marry Mary. Nevertheless, the consequences of his choice were significant, as he lost his substantial inherited property. Under the guise of experiencing a medical emergency at CMC, the individual departed from their residence in the company of an associate. He escaped from (CMC) and had a religious conversion to marry Mary. Nevertheless, the consequences of his choice were significant, as he experienced the loss of his substantial inherited estate. Dr. Purna Chandra Nandy established his private practice with the valuable support of his wife, Mary.²³¹ She took responsibility for attending to her husband's patients and dispensing some medications but did not engage in independent medical practice. She chose to take back her professional career and focus on the family's needs since both were in the same profession. One possible explanation is that the woman's husband might have disapproved of her independent professional pursuits. Alternatively, it is conceivable that she chose to dedicate her life to supporting her husband's medical career as a gesture of respect, considering that he relinquished a significant family property to marry her to be with her. Nevertheless, she showed respect for his decision.

The situation was undeniably disheartening. Virginia Mary Mitra prioritized her marriage above her professional career, resulting in the loss of a highly skilled doctor who might have provided valuable services to Bengali women. None of their three children pursued a career in

medicine. Mary Mitra vehemently objected when her oldest daughter, Sarala, voiced her desire to pursue a medical career.²³² She adamantly said she would not let her daughters pursue medical studies. This decision indicated her suppressed feelings of sadness and grief over her decision to give up her ambition of a career in medicine. During the early twentieth century, it was uncommon for married women to engage in paid employment and contribute to their husbands' financial resources. Regrettably, Mary gave in to this conventionalized attitude.²³³

11.2.c. Dr. Jamini Sen (1871 – 1932) –

From 1890 to 1910, Jamini Sen (see Appendix I, Plate 4.11) appeared as the only Bengali female candidate to complete her graduation in 1896 successfully and was awarded two degrees: LMS and MB from CMC (Calcutta Medical College). She achieved a distinction in her fourth academic year and attained the top position in the subject of Materia Medica. Jamini, the second daughter of Sri Chandi Charan Sen, was born in Basanda, Bakergunj District of Bengal. Sri Chandi Charan Sen held esteemed positions as a judge, writer, and prominent member of the Brahmo Samaj. Chandi Charan Sen, an erudite Brahmo, supported women's education; nonetheless, he had reservations about pursuing medical education for his daughters. He had the traditional belief that since medical school required co-education, male students would not treat their female colleagues with the respect they deserved. Consequently, he forbade his eldest daughter, Kamini, from pursuing a medical degree. However, he ultimately surrendered to Jamini's firm determination, Kamini's desires, and Durga Mohan's convincing efforts.²³⁴

Jamini graduated from Bethune in 1890 with a Fine Arts degree and shortly after joined CMC. After completing her medical school, she embarked on establishing her private practice. After two years, she eventually chose to join the Sholapur Zenana Hospital. In 1899, at the suggestion of Kadambini Ganguly, she went to Nepal accompanied by her assistant, Kumud

Kumari, and her brother, Jatindra Mohan, to attend to the Queen. Dr. Sen resided in Nepal for a duration of 10 years. In addition to her responsibilities in attending to the Queen, she became the administrator of the Kathmandu Zenana Hospital. The excessive pressure and tension significantly impacted her general health. Jamini Sen was known for her extensive work hours, commencing at seven o'clock in the morning and extending far into the late afternoon. Following the demise of her brother in the year 1901, she made her way back to Calcutta.

After joining the Dufferin Hospital, she quickly noticed the value of overseas medical education degrees. She was awarded a scholarship from the Dufferin Fund, enabling her to promptly embark on her journey to Britain on the 8th of March, 1911. Jamini obtained LMO from Rotunda Hospital in Dublin. In 1912, she received the prestigious Fellow of the Royal Faculty of Science designation from the esteemed Glasgow University. She was the first female to achieve this accomplishment.

She departed from Britain for Berlin to acquire knowledge of modern medical techniques and tools. Upon arriving in India, Jamini Sen became a Women's Medical Service member in 1914 and was subsequently sent to Agra. In this context, she earned significant appreciation among her patients. However, she faced racial discrimination and was denied the same benefits and rights as white physicians.²³⁵ Despite possessing more excellent qualifications and abilities, Indians were consistently marginalized in contrast to Eurasians, denying equal status, opportunities, and respect. Even though she was successfully completing her responsibilities at the Hospital in Agra in a scorching summer, Jamini was transferred to Shimla and then to Shikarpur. This particular phase of her career at Shikarpur is notable due to her consistent documentation of life. This document provides significant insights into her commitment to her profession and female patients.

Nevertheless, she was relocated from Shikarpur to Bettiah in Bihar and then to Akola in Berar. In the city of Akola, Jamini was entrusted with the task of supervising a newly opened hospital. In 1921, Jamini Sen was involved in a disagreement with the officials of WMS on problems. She submitted a request for leave due to her niece's illness, Kamini's daughter. However, the request was denied by the authorities. In protest, she submitted her resignation from a position that offered a monthly income of Rs 650.²³⁶ In 1921, Jamini pursued her studies at the London School of Tropical Medicine in England, where she obtained a diploma, enabling her admission to Cambridge University. Following this, she received a Public Health diploma and returned to India in 1924.²³⁷

Upon arriving in India, she assumed sole responsibility for managing the Baldeo Das Maternity Home in Calcutta, as per the invitation from her classmate and Chairman of the Calcutta Corporation, Dr. Harisadan Dutta. Jamini Sen's diligent efforts rapidly augmented her reputation as a physician, further enhanced by her effective administration of the philanthropic organization.²³⁸ In addition, she provided training to a group of nurses and authored a guidebook titled "Prasuti-Tatva," which focused on maternity care. Jamini Sen may have experienced an excessive workload, so she went to Puri in 1929 for vacation, where she was offered to take responsibility for Puri Hospital by some Brahmo men in Puri at the request of the District Magistrate.²³⁹

For her career, she traveled to different parts of India for work. But she was not allowed to stay for long. She faced racial discrimination at the workplace several times but never compromised her self-respect for her money. She was offered a tremendous workload, but she completed those with dignity. She protested against the racial disparity and tried to achieve all the educational degrees to compete with the white women at work. She retired in 1929 and passed away on 21st January 1932.²⁴⁰

11.2.d. Dr. Sarala Ghosh (1904 –) –

Sarala Ghosh, one of the promising medical students of CMC, was born in 1904 in the city of Dacca. She expressed a desire to pursue a career in medicine, and despite her mother's objections, her physician father accepted her request. Sarala showed a high degree of dedication to her occupation. She was aware of the prevailing gender disparities within professional and cultural contexts.²⁴¹

Women physicians were asked to carry a stethoscope to symbolize their professional identity as a doctor. Sarala recalled an unpleasant incident in the house of a Bengali elite gentleman, where she went to provide medical assistance to a patient. The female head of the household mistakenly identified her as a *dhai* due to her inability to understand the idea of a female doctor, and her improper behavior made Sarala worried for the women in the medical profession.²⁴²

Dr. Sarala Ghosh lamented the tough challenges women face in their professional pursuits, as they encounter skepticism and lack of support, even from their fellow women. A married woman in the medical profession had to face more challenges than other unmarried colleagues. Dr. Sarala Ghosh suggests that women doctors might achieve stability in their lives by finding a suitable partner since they have challenges in being accepted by either gentlemen or families.

The prevailing societal expectation was that a female doctor should refrain from entering into matrimony and instead devote her life to the betterment of the community. The medical student observed that at that period, there was a prevailing reluctance among families to accept a doctor as a daughter-in-law and a general lack of willingness among 'Bengalee' men to marry a female doctor.²⁴³

Conclusion –

Since the late nineteenth century, discrimination based on gender has been the primary reason for encouraging women to enter the medical field in India and Bengal. The scope of lady physicians was limited to women and infant care. There is no record of female physicians treating male patients. It is evident from the autobiographies, letters, and recollections of the female physicians that they were denied professional success according to their merit. They were relegated to working among the women to avoid the male physicians' scrutiny. We primarily identify concentrations of female physicians in gynecology and obstetrics, dentistry, psychiatry, and pediatrics. To analyze this enduring legacy, comprehensive research must be conducted. These women did not always come from the lower middle class; most were from literate Brahmo families. Their financial independence allowed their standing in society. Involvement in the outer world's social, political, and economic spheres transformed them from silent members of society into vocal ones. The works of Jamini Sen reflect a profound feeling of solitude and a deep desire for motherhood. During her time in Nepal, she made the compassionate decision to adopt a three-month-old girl from a financially disadvantaged couple, providing her with much care and love. Virginia Mary Mitra and Satyapriya Ghosh made significant personal sacrifices to prioritize their professional or family commitments. While Mitra sacrificed her career, Satyapriya had to give up a fulfilling married life. In addition to their career objectives and constant commitment to their chosen profession, these women experienced a continuous cycle of compromise and negotiation in both their professional and domestic spheres. In the next chapter, we have discussed the life of some eminent male Indian medical professionals who worked under colonial domination, even though they did not surrender their individuality and their cultural identity.

Notes and Reference:

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- ¹ S. Nurulla and J.P. Naik, *A History of Education in India*, Bombay: Macmillan, 1951, pp. 131-5.
- ² W.J. Buchanon, "The Introduction and Spread of Western Medical Science in India," *Calcutta Review*, Vol. 1. nil., No.278,1914,p.436, cited in Anil Kumar, *Medicine and the Raj British Medical Policy in India 1835-1911*, New Delhi, Thousand Oaks, London: Sage Publications,1998, p.18.
- ³ D.G. Crawford, 'A History of the Indian Medical Service', vol. II, London, 1914, p.43, cited in Anil Kumar, *Medicine, and the Raj British Medicinal Policy in India, 1835 -1911*, New Delhi: Sage, 1998, p.19.
- ⁴ Poonam Bala, *Imperialism and Medicine in Bengal: A Socio Historical Perspective*, New Delhi: Sage,1991, p.44.
- ⁵ Deepak Kumar, (ed.), *Disease and Medicine in India: A Historical Overview*, New Delhi: Tulika Books, 2012.
- ⁶ John Rosselli, 'Lord William Bentinck and His Age,' *Bengal Past and Present*, Kolkata: *Journal of the Calcutta Historical Society*, Vol. 94, 1975, pp. 68- 88.
- ⁷ David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India*, O.U.P., Delhi, 1993, p. 55.
- ⁸ see David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India*, O.U.P., Delhi, 1993, pp.33-50; David Arnold, *The New Cambridge History of India, III.5, Science, Technology and Medicine in Colonial India*, Cambridge University Press, Cambridge, 2000; Mark Harrison, *Public health in British India: Anglo-Indian preventive medicine 1859-1914*, Cambridge University Press, Foundation Books, New Delhi, 1994, pp.36-58.
- ⁹ Centenary of Medical College, Bengal 1935, pp. 7-9; also see, D.G. Crawford, *A History of the Indian Service, 1600-1913*, vol. 2, London: Thacker and Co., 1914, pp. 434-435.
- ¹⁰ David Arnold, op. cit., p. 57.
- ¹¹ Ibid., pp. 223-32.
- ¹² Ibid.
- ¹³ Ghoshal, Dhananjay (ed.), *Bangalir Bijnancharcha: Prak- Swadhinata Parba*, Kolkata: Ashadwip, 2018.
- ¹⁴ Srilata Chatterjee, *Western Medicine, and Colonial Society: Hospitals of Calcutta, c. 1757-1860*, Delhi, Primus, 2017.
- ¹⁵ Gopaul Chunder Roy, "On the Past and Present State of Medicine in India," paper read at *The Medico Chirurgical Society*, 3rd February 1871, *Glasgow Med. Journal*, vol. 3, 1871, p. 548.
- ¹⁶ Ibid., p. 549.
- ¹⁷ Ibid.

¹⁸ *Ibid.*, pp. 549-50.

¹⁹ *Ibid.*, p. 550.

²⁰ Supana Gooptu, *Cornelia Sorabjee; India's Pioneering Woman Lawyer*, New Delhi: Oxford University Press, 2005. p. 30.

²¹ Poonam Bala, *Imperialism and Medicine in Bengal: A Socio Historical Perspective*, New Delhi: Sage, 1991. p. 17.

²² Geraldine Forbes, 'Education for Women' in Sumit Sarkar and Tanika Sarkar (eds.), *Women and Social Reform Movement in India, A Reader Volume*, 1, 2008, p. 90.

²³ Dipesh Chakraborty, 'Post Coloniality and the Artifice of History: Who Speaks for "Indian Pasts?"' *Representations*, 37, Winter, 1992.

²⁴ Dipesh Chakraborty, 'Post Coloniality and the Artifice of History: Who Speaks for "Indian Pasts?"' *Representations*, 37, Winter, 1992, p. 17, as cited in an article by Mrinalini Sinha, 'Gender in the Critique of Colonialism and Nationalism: Locating the 'Indian Woman,' in Sumit Sarkar and Tanika Sarkar (eds.). *Women and Social Reform Movement in India, A Reader*, vol. 2, pp. 217-218.

²⁵ G.M. Chiplunkar, *The Scientific Basis of Woman's Education*. Poona: Ganesh Printing Works, 1930, p. 247.

²⁶ *Indian Education Policy, 1913*. It was a Resolution issued by the Governor-General in Council on the 21 February 1913, Calcutta, 1915. pp. 15-16.

²⁷ Maithreyi Krishnaraj, *Women and Science, Selected Essays*, Michigan: Himalaya Publishing House, University of Michigan, 1991, p. 34.

²⁸ Karuna Chanana, *Interrogating Women's Education: Bounded Visions, Expanding Horizons*, Michigan: Rawat Publications, 2001, p. 112.

²⁹ *Bureau of Education, Selections from Educational Records*, Part 2, 1840-1859, compiled by J.A. Richley, Calcutta, 1922, New Delhi: National Archives, 1965. p. 32.

³⁰ Sabyasachi Bhattacharya, Joseph Bara, Chitma Rao Yagati, BM. Sandhkar (eds.), *Development of Women's Education in India 1850-1920*, New Delhi: Kanishka Publishers, 2001. pp. xii-xiii.

³¹ Benoy Bhushan Roy and Pranati Roy, (eds.), *Zenana Mission- The Role of Christian Missionaries for the Education of Women in the Nineteenth Century Bengal*. Delhi: ISPCK, 1998. pp. XX.

³² Sabyasachi Bhattacharya Joseph Bara, Chinna Rao Yagati, BM. Sandhker (eds.), *op. cit.*, p. xiv.

³³ *Ibid.*, pp. xiv-xv.

³⁴ M.A. Laird, *Missionaries and Education in Bengal, 1793-1837*, Oxford: Clarendon Press, 1972. p. 134.

³⁵ 'Female Missionary Intelligencer,' Volume 1, (1854), P, 108 as cited in Krishna Lahiri, *Beyond and Barriers: Education of Women in Bengal 1800-1900*, India: Bhumika Creations, 2021. p. 55.

-
- ³⁶ Syed Nurullah and LP.Naik, *A History of Education in India (During British Rule)*, New Delhi: Macmillan & Co, 1951, pp. 80-81.
- ³⁷ Ibid., p. 166.
- ³⁸ N. N. Kanungo, *Nineteenth Century Bengal, Some Patterns of Education, 1833-1886*. Lucknow: Qanungo, 1977, p. 84.
- ³⁹ J.C. Bagal, *Women's Education in Eastern Bengal, The First Phase*. Calcutta: The World Press Pvt Ltd, 1956. p. 8.
- ⁴⁰ Radha Kumar, *The History of Doing, An Illustrated Account of Movements for Women's Rights and Feminism in India, 1899-1990*, New Delhi: Kali for Women, 1993. p. 14.
- ⁴¹ J. C. Bagal, *Women's Education in Eastern Bengal*, op. cit., pp. 27- 35.
- ⁴² 'Hindu Women'; *Friend of India*, 16 March 1871, as cited in K. Lahiri, *Beyond and Barriers: Education of Women in Bengal 1800-1900*, India: Bhumika Creations, 2021, p. 140.
- ⁴³ 'The Church Missionary Intelligence', vol, 14, (1863), p.139,' as cited in K. Lahiri, *Beyond and Barriers: Education of Women in Bengal 1800-1900*, India: Bhumika Creations, 2021, p. 156.
- ⁴⁴ J. C. Ingleby, *Missionaries, Education and India: Issues in Protestant Missionary Education in the Long Nineteenth Century*, Delhi: ISPCK, 2000. pp. 167-200.
- ⁴⁵ Meredith Borthwick, *The Changing Role of Women in Bengal, 1849-1905*, Princeton: Princeton Legacy Library, 1984, p. 50-85.
- ⁴⁶ Sabyasachi Bhattacharya, Joseph Bara, Chinna Rao Yagati, B.M. Sankhdher (eds.), op. cit., PP. xiv
- ⁴⁷ *Bureau of Education, Selections from Educational Records, Part 2, 1840-1859*, compiled by J.A. Richley, Calcutta: Superintendent Government Printing, India, 1922. p. 59.
- ⁴⁸ Ashok Sen, *Ishwar Chandra Vidyasagar and His Elusive Milestones*. Calcutta: Riddhi, 1977, p. 156.
- ⁴⁹ Barbara Southward, *The Woman's Movement and Colonial Politics in Bengal, The Quest for Political Rights, Education and Social Reform Legislature, 1921-1936*. New Delhi: Manohar, 1995, p. 50.
- ⁵⁰ Syed Nurullah and J. P.Naik, *A History of Education in India: During British Rule*, India: MacMillan & Co. Pvt. Ltd., 1943, pp. 388-389.
- ⁵¹ Sabyasachi Bhattacharya, Joseph Bara, Chinna Rao Yagati, B.M. Sankhdher (eds.), op. cit., pp. 115-117.
- ⁵² Mary Carpenter, *Six Months in India*, vol 2, London: Longmans, Green and Co., 1868, P. 14.
- ⁵³ Dr. Nihar Ranjan Roy, 'The Formative Years, 1857-82', in *Hundred Years of the University of Calcutta*. University of Calcutta, 1957. pp. 122-23.
- ⁵⁴ Jharna Gourlay, *Piety, Profession and Sisterhood: Medical Women and Female Medical Education in Nineteenth-Century India*, Kolkata: K. P. Bagchi & Company, 2017.
- ⁵⁵ Ibid., p.2

-
- ⁵⁶ S. Armstrong-Hopkins, *Within the Purdah: In the Zenana and homes of Indian Princes and Heroes and Heroines of Zion*, New York: Eaton & Mains, 1898.
- ⁵⁷ *The Zenana*, December 1893, vol. 1, no. 2, p. 19.
- ⁵⁸ M. Urquhart, *Women of Bengal: A Study of the Hindu Pardanashins of Calcutta*, Calcutta: YMCA Association Press, 1927.
- ⁵⁹ P. Chatterjee, 'The Nationalists' Resolution of Women's Question', in K. Sangari and S. Vaid (eds.), *Recasting Women: Essays in Colonial History*, Delhi: Kali for Women, 1989, pp. 233-253.
- ⁶⁰ Jharna Gourlay, op. cit. pp. 6-7
- ⁶¹ Jharna Gourlay, op. cit. pp.7-8
- ⁶² *The Association of Medical Women in India* was established in 1907. They published a journal named *The Journal of the Association of Medical Women in India*.
- ⁶³ S. Sehrawat, 'The Foundation of Lady Hardinge Medical College and Hospital for Women in Delhi: Issues in Medical Education and Imperial Governance', in S. Kak and B. Pati (eds.), *Exploring Gender Equations: Colonial and Post-Colonial*, New Delhi: Nehru Memorial Museum and Library, 2005, pp. 117-146.
- ⁶⁴ Jharna Gourlay, op. cit. pp. 10-14.
- ⁶⁵ M. MacMillan, *Women of the Raj*, London: Thames & Hudson, 1996. p. 8.
- ⁶⁶ M.A. Lind, *The Companionate Memshahibs: Welfare Activities of British Women in India 1900-1947*, New York, London: Greenwood Press, 1988, pp. 54-78.
- ⁶⁷ Frances Elizabeth Hoggan, M.D, "Medical Women for India", Reprinted from *The Contemporary Review*, August 1882 in *Journal of the National Indian Association*, October 1882, no. 133, Bristol: J.W. Arrowsmith Printer, Quay Street, 1882.
- ⁶⁸ *Ibid.*, pp. 1-3.
- ⁶⁹ *Ibid.*
- ⁷⁰ *Ibid.*, p. 4.
- ⁷¹ *Ibid.*, p. 6.
- ⁷² *IMG*, 1 January 1883, vol. 18, p. 24.
- ⁷³ Frances Elizabeth Hoggan, op. cit., p. 7.
- ⁷⁴ *Ibid.*
- ⁷⁵ *Ibid.*
- ⁷⁶ *Ibid.*
- ⁷⁷ *Ibid.*, pp. 11- 12.
- ⁷⁸ *Ibid.*, P. 8
- ⁷⁹ *Ibid.*, pp. 10-14.
- ⁸⁰ F. E. Hoggan, op. cit., pp. 24-26.

-
- ⁸¹ E. Garrett Anderson, "Medical Women for India", *The Times*, 31 October 1881, Issue 30339, p. 4.
- ⁸² Frances Elizabeth Hoggan, op. cit., pp. 267-275.
- ⁸³ Jharna Gourlay, op. cit., pp. 222-228.
- ⁸⁴ Ibid.
- ⁸⁵ George A. Kittredge, *A short history of the "Medical women for India" fund of Bombay*, Bombay: Education Society's Press, Byculla, 1889.
- ⁸⁶ Ibid.
- ⁸⁷ Ibid., pp. 1-4.
- ⁸⁸ Ibid., p. 6.
- ⁸⁹ Ibid., p. 8.
- ⁹⁰ Ibid.
- ⁹¹ Jharna Gourley, op. cit., p. 227.
- ⁹² Ibid.
- ⁹³ Ibid., p. 228.
- ⁹⁴ Ibid., pp. 236- 239.
- ⁹⁵ *The Indian Magazine*, September, 1886, No. 189, PP. 474-478, May 1887, No. 197, pp. 245-247, June 1887, No. 198, pp. 341-346.
- ⁹⁶ Jharna Gourley, op. cit., pp. 236-237.
- ⁹⁷ P. Analog, "Rebellious Wives and Dysfunctional Marriage", in Sumit Sarkar and Tanika Sarkar (eds.), *Women and Social Reform in Modern India*, Bloomington & Indianapolis: Indiana University Press, 2008, pp. 282-312.
- ⁹⁸ M. Kosambi, *At the Intersection of Gender Reform and Religious Belief: Pandita Ramabai's Contribution and the Age of Consent Controversy*, Bombay: Research Centre for Women's Studies, 1993, pp. 107-145.
- ⁹⁹ Jharna Gourley, op. cit., pp. 239-240.
- ¹⁰⁰ Ibid., pp. 181-189.
- ¹⁰¹ Ibid., pp. 177-178.
- ¹⁰² Geraldine Forbes, *Women in Colonial India*, New Delhi: Chronical Books, 2005, p. 110.
- ¹⁰³ Ibid., pp. 59-60.
- ¹⁰⁴ Harriet Dufferin, *The National Association for Supplying Medical Aid to Women of India*. Patron, Her Most Gracious Majesty Queen Empress, Simla, 1888. p. 12
- ¹⁰⁵ Maneesha Lal, 'The Politics of Gender and Medicine in Colonial India: The Countess of Duflerin's Fund, 1885-1888', in Neelam Kumar (ed.), *Women and Science in India, A Reader*. New Delhi: Oxford University Press, 2009, pp. 62- 63.

-
- ¹⁰⁶ Antoinette Burton, *Dwelling in the Archive, Women Writing House, Home, and History in Late Colonial India*. New Delhi: Oxford University Press, 2003. p. 8.
- ¹⁰⁷ Maneesha Lal, op. cit., pp. 63-67.
- ¹⁰⁸ NAI/GOI, *First Annual Report of the National Association for Supplying Medical Aid to the Women of India*, January 1886, Calcutta pp. 29-30.
- ¹⁰⁹ *Calcutta Review*, October 1887, vol. 85, p. 238.
- ¹¹⁰ NAI/GOI, op. cit., pp. 10-11.
- ¹¹¹ *Medical Gazette*, March 1885, vol. 20, p. 299.
- ¹¹² Mark Harrison and Biswamoy Pati (eds.) *Health Medicine and Empire: Perspectives on Colonial India*. New Delhi: Orient Longman, 2000, p 9.
- ¹¹³ Anne Witz, "Colonising Women': Female Medical Practice in Colonial India," 1880-1890" in Lawrence Conrad and Anne Hardy (eds.), *Women and Modern Medicine*, Amsterdam and Atlanta: Brill Rodopi, Volume Series 61, 2001, p. 23.
- ¹¹⁴ David Arnold, *Colonizing the Body*, op. cit., p. 270.
- ¹¹⁵ NAI/GOI, op. cit., Appendix IV. pp. 48-49.
- ¹¹⁶ Ibid., 51.
- ¹¹⁷ Ibid.
- ¹¹⁸ Ibid., p. 51.
- ¹¹⁹ Maneesha Lal, op. cit., p. 70.
- ¹²⁰ *The Calcutta Review*, October 1887, vol. 85, P. 233.
- ¹²¹ Harriet Dufferin, op. cit., p.13.
- ¹²² Ibid., p. 16.
- ¹²³ Ibid., pp. 18-19.
- ¹²⁴ Ibid., p. 17.
- ¹²⁵ Ibid., p. 20.
- ¹²⁶ Anne Witz, op. cit., p. 34.
- ¹²⁷ *Municipal Department, Proceedings No.425-426*,13 May 1899. (WBSA)
- ¹²⁸ Harriet Dufferin, op. cit., p. 40.
- ¹²⁹ *Tenth Annual Report of the National Association for Supplying Medical Aid to the Women of India, For the Year 1894*, Calcutta; Office of the Superintendent of Government Printing, 1895, Appendix, XII, pp. 127-128.
- ¹³⁰ Ghulam Murshid, *Reluctant Debutante Response of Bengali Women to Modernization, 1849-1905*, Rajshahi, Bangladesh: Sahitya Samsad, Rajshahi University, 1983, p. 43.

¹³¹ *Tenth Annual Report of the National Association for Supplying Medical Aid to the Women of India*, For the Year 1894, op. cit., p. 128.

¹³² Supriya Guha, 'The Best Swadeshi': Reproductive Health in Bengal, 1840-1940' in S. Hodges (ed.), *Reproductive Health in India: History, Politics, and Controversies*, Hyderabad: Orient Longman, 2006, pp. 158-159.

¹³³ David Arnold, *Colonizing the Body: State, Medicine and Epidemic Disease in Nineteenth-Century India*, Berkley: University of California Press, 1993, p. 263.

¹³⁴ M. Balfour and R. Young, *The Work of Medical Women in India*, Oxford: Oxford University Press, 1929, p. 39.

¹³⁵ D. Engels, 'The Politics of Child Birth: British and Bengali Women in Contest, 1890-1930', in P. Robb (ed.) in collaboration with K.N Chaudhuri, Avril Powell, *Society and Ideology: Essays in South Asian History*, Delhi: OUP, 1993, p. 234.

¹³⁶ Susmita Sengupta, 'Women and the Medical Profession in Colonial Bengal, Mid-Nineteenth Century to Mid-Twentieth Century', Ph.D. thesis, Calcutta: University of Calcutta, Dept. of History, 2011, pp. 182-183.

¹³⁷ *NAI/GOI, Home /Medical*, 4 February, Bombay, 1888, p. 1.

¹³⁸ *Ibid.*, p. 16.

¹³⁹ *Ibid.*, pp. 19-21.

¹⁴⁰ *NAI/GOI, Medical —A*, January 1911, Nos, 107-108. pp. 1-5.

¹⁴¹ *NAI/GOI, Medical-A*, April 1913, Nos. 32-39. p. 9.

¹⁴² Susmita Sengupta, op. cit., pp. 192-195.

¹⁴³ *NAI/GOI, Medical-A*, April, 1913, Nos, 32-39, pp. 25-50.

¹⁴⁴ Maneesha Lal, op. cit., p. 87.

¹⁴⁵ Jharna Gourley, op. cit. p. 193.

¹⁴⁶ Susmita Mukherjee, *Women and Medical profession in Colonial Bengal 1883-1947*, New Delhi: Primus Books, 2022, p. 133.

¹⁴⁷ *WBSA, General Department, Education Branch*, no.7, April 1887.

¹⁴⁸ *Ibid.*

¹⁴⁹ *General Department, Medical Branch*, B Proceedings, no. 21, December 1887, WBSA.

¹⁵⁰ *RNP* 16 July 1883, p. 438. and *RNP* 6 July 1883, p. 384.

¹⁵¹ Jharna Gourley, op. cit. pp. 195-196.

¹⁵² *Ibid.*

-
- ¹⁵³ Geraldine Forbes, 'Medicine for Indian Women, Campbell Medical Graduates in the Districts of Bengal', Unpublished Paper presented at the Conference on South Asia, Madison, 18-20 October, 1996, pp. 19-20.
- ¹⁵⁴ *The Indian Messenger*, 2 August 1891, as cited in Geraldine Forbes, *Women in Colonial India, Essays on Politics, Medicine, and Historiography*, New Delhi: Chronicle Books, 2005, p. 115.
- ¹⁵⁵ Susmita Mukherjee, op. cit., pp. 136-138.
- ¹⁵⁶ *The Ninth Annual Report of the National Association for Supplying Female Medical Aid to Women of India for the year 1893*, pp. 142-143.
- ¹⁵⁷ Forbes, *Women in Colonial India, Essays on Politics, Medicine, and Historiography*, pp. 130-1.
- ¹⁵⁸ *Twelfth Annual Report of the National Association for Supplying Medical Aid to the Women of India, for the year 1896*, Calcutta: Office of the Superintendent of Government Printing, 1897, p. 102.
- ¹⁵⁹ Susmita Mukherjee, op. cit., pp. 140-142.
- ¹⁶⁰ Ambalika Guha, *Colonial Modernities: Midwifery in Bengal 1860- 1947*, The Social Health and Medicine in South Asia, London: Routledge, 2018, p. 51.
- ¹⁶¹ Mousumi Bandyopadhyay, Kadambini Ganguly, *The Archetypal Woman of Nineteenth Century Bengal*, New Delhi: Women Press, 2020, pp. 109-110.
- ¹⁶² Margaret. Urquhart, *Home of Bengal, A Study of the Hindu Pardanasins of Calcutta*, Calcutta: Association Press, 1925, p. 148.
- ¹⁶³ Geraldine Forbes, ed., *Memoirs of Haimabati Sen: From Child Widow to Lady Doctor*, translated by Tapan Raychaudhuri with an Introduction by Geraldine Forbes, New Delhi: Roli, 2002.
- ¹⁶⁴ Ibid., p. 171.
- ¹⁶⁵ Ibid., p. 302.
- ¹⁶⁶ Ibid., p. 303.
- ¹⁶⁷ Susmita Mukherjee, op. cit., pp. 149-150.
- ¹⁶⁸ Geraldine Forbes, op. cit. pp. 316-17.
- ¹⁶⁹ Indrani Sen, Resisting Patriarchy: Complexities and Conflicts in the Memoir of Haimabati Sen', *Economic and Political Weekly*, vol. XI.VII, no. 12, March 24, 2012, p. 61.
- ¹⁷⁰ Susmita Mukherjee, op. cit., pp. 151-152.
- ¹⁷¹ *Twelfth Annual Report of the, National Association for Supplying Medical Aid to the Women of India for the year 1896*, p. 88.
- ¹⁷² *Twelfth Report of the Bengal Branch of the Countess of Dufferin Fund for the Year Ending 30 November 1896*, p. 10.

-
- ¹⁷³ Geraldine Forbes, ed., op. cit., p. 344.
- ¹⁷⁴ Ibid. p. 382.
- ¹⁷⁵ Chandal Sengoopta, *The Ray's Before Satyajit, Creativity and Modernity in Colonial India*, New Delhi: Oxford University Press, 2016, p. 91.
- ¹⁷⁶ Soma Basu, *Kadambini Ganguly: A Portrait of a Doctor at Dawn*, Calcutta: Rupali, 2012, p. 53
- ¹⁷⁷ *General Report on Public Instruction in Bengal for the year 1876-77*, Calcutta: Bengal Secretariat Press, 1877, pp. 74-77.
- ¹⁷⁸ *General Department, Education Branch, Proceedings of the Lieutenant Governor of Bengal, To: The DPI, From: Mr A. Mackenzie, Secretary to the Government of Bengal*, file nos. 37-2, February 1879, WBSA.
- ¹⁷⁹ Soma Basu, op. cit., p. 58.
- ¹⁸⁰ Mousumi Bandyopadhyay, *Kadambini Ganguly, The Archetypal Women of Nineteenth Century Bengal*, New Delhi: Manohar, 2010, p. 143.
- ¹⁸¹ Ibid., p. 145.
- ¹⁸² Chandal Sengoopta, op. cit. pp. 95-96.
- ¹⁸³ Narayan Dutta, op. cit., p. 52.
- ¹⁸⁴ *Indian Messenger*, 13 July 1884, NAI.
- ¹⁸⁵ Soma Basu, op. cit. p. 81.
- ¹⁸⁶ 'Medical Education in Lower Bengal', *IMG*, vol. 20, No. 3, March 1885, p. 78.
- ¹⁸⁷ Ibid.
- ¹⁸⁸ Chitra Deb, op. cit, p. 93-94.
- ¹⁸⁹ *Calcutta Medical College Commemorative Volume 1835-1984*, Calcutta, 1894, p. 66.
- ¹⁹⁰ Susmita Mukherjee, op. cit., pp. 161-190.
- ¹⁹¹ Chitra Deb, op. cit. p. 98.
- ¹⁹² Ibid.
- ¹⁹³ Sharmita Ray, 'Women Doctors', Masterful Maneuverings: Colonial Bengal, Late Nineteenth and Early Twentieth Centuries', in *Social Scientist*, vol. 42, nos. 3-4, March-April 2014, p. 63.
- ¹⁹⁴ Jharna Gourley, op. cit. p. 133.
- ¹⁹⁵ Mousumi Bandyopadhyay, op. cit., 2010, p. 186.
- ¹⁹⁶ Narayan Dutta, 'Abalabandhav – Dwarakanath o Kadambini', *Amrita*, January 1980, p. 45.
- ¹⁹⁷ Ibid., and also see Susmita Mukherjee, op. cit., p. 177.
- ¹⁹⁸ Chandal Sengoopta, op. cit., pp. 105-06.
- ¹⁹⁹ 'Brahmo Defamation Case', *Bengalee*, 18 July 1891, p. 340.
- ²⁰⁰ Malavika Karlekar, 'Anatomy of a Change-Kadambini Ganguly and the Seven before her', *Telegraph*, 8 July 2007.

-
- ²⁰¹ Ibid.
- ²⁰² “Kadambini o Tar Biliti Degree”, *Desh Patrika*, 14 March 1987, p. 87.
- ²⁰³ Antoinette Burton, *At the Heart of the Empire: Indians and the Colonial Encounter in Late Victorian Britain*, California: University of California Press, 1998, p. 53.
- ²⁰⁴ Chandal Sangoopta, op. cit., p. 103.
- ²⁰⁵ “Kadambini o Tar Biliti Degree”, op. cit., p. 88.
- ²⁰⁶ Ibid., pp. 89-90.
- ²⁰⁷ "How a Hindu Girl Became a Doctor: A Story of Struggle and Triumph.", in *The Women's Herald*, 31 August 1893.
- ²⁰⁸ Mala Dutta Roy, *Kadambini Gangopadhyay, Prothom Bangali Mohila Chikitsak*, Kolkata: Signet Press, 2015, p. 140.
- ²⁰⁹ Meredith Borthwick, *The Changing Role of Women in Bengal, 1849-1905*, Princeton: Princeton University Press, 1984, p. 323.
- ²¹⁰ Prabhat Chandra Ganguly, *Banglar Nari Jagaran*, Calcutta: Brahma Samaj, Bengali year 1352., p. 87.
- ²¹¹ Susmita Mukherjee, op. cit. p. 186.
- ²¹² Ibid., pp. 184-187.
- ²¹³ Malavika Karlekar, *Voices from Within, Early Personal Narratives of Bengali Women*, London: Oxford University Press, 1991, p. 11.
- ²¹⁴ *Bengalee*, 23 August 1890, p. 402.
- ²¹⁵ Susmita Mukherjee, op. cit. p. 188.
- ²¹⁶ Mala Dutta Roy, op. cit. p. 154.
- ²¹⁷ *Indian Massenger*, 7 October 1923.
- ²¹⁸ Ghulam Murshid, *Nari Pragati: Adhunikatar Abhighate Bangaramani*, Dacca: Naya Udyog, 2008.
- ²¹⁹ Chitra Deb, *Mahila Daktar: Bhin Graher Basinda*, Kolkata: Ananda, 1994, p. 103.
- ²²⁰ Susmita Mukherjee, op. cit., p. 190.
- ²²¹ Samita Sen and Anirban Das, ‘A History of The Calcutta Medical College and Hospital, 1835-1936’, in *Science and Modern India: An Institutional History c. 1784 – 1947*, ed. Uma Dasgupta, vol. XV, part 4, *History of Science, Philosophy, and Culture in Indian Civilization*, ed. Dabi Prasad Chattopadhyay, New Delhi: Pearson Longman, 2010, p. 500.
- ²²² ‘Prize Day at the Calcutta Medical College’, in *IMG*, vol. 26, no. 8, August 1891, pp. 252-255.
- ²²³ Soma Biswas, *Unobingsho Shatake Bangladeshe Chikitsabignanchorcha, Pathikrit Char Bangali Mahila Daktar*, Kolkata: K. P. Bagchi, 2015, p. 108.
- ²²⁴ Ibid., p. 110.
- ²²⁵ Susmita Mukherjee, op. cit., pp. 200-201.

-
- ²²⁶ Abdul Quadir, ed., *Rokeya Rachanabali*, (Complete Works of Begum Rokeya Sakhawat Hossain), Dacca: Bangla Academy, 2015, p. 105.
- ²²⁷ Susmita Mukherjee, op. cit., p. 201.
- ²²⁸ Ibid.
- ²²⁹ Chitra Deb, *Mahila Doktor: Bhin Graher Basinda*, op. cit., p. 109.
- ²³⁰ Susmita Mukherjee, op. cit., p. 201.
- ²³¹ Ibid., pp. 201- 202.
- ²³² Chitra Deb, op. cit., pp. 108-111.
- ²³³ Susmita Mukherjee, op. cit., pp. 201-202.
- ²³⁴ Soma Biswas, op. cit., pp. 120-133.
- ²³⁵ Susmita Mukherjee, op. cit., p. 205.
- ²³⁶ Soma Biswas, op. cit., p. 129.
- ²³⁷ Chitra Deb, op. cit., p. 136.
- ²³⁸ Ambalika Guha, *Colonial Modernities: Midwifery in Bengal 1860 – 1947*, London: Routledge, 2018, p. 130.
- ²³⁹ Susmita Mukherjee, op. cit., pp. 202- 206.
- ²⁴⁰ Chitra Deb, op. cit., p. 137.
- ²⁴¹ Bharati Ray, ‘Women of Bengal: transformation in ideas and Ideals, 1900 – 1947’, in *Social Scientist*, vol. 19, no. 5-6, May-June, 1991, p. 11.
- ²⁴² Chitra Deb, op. cit., pp. 173-174.
- ²⁴³ Susmita Mukherjee, op. cit., pp. 209 – 210.

Chapter 4

Breaking the Chain: Bengali Doctors in Western Medical Profession

What is colonial about colonial medicine has engaged academics for more than a decade. “Colonial medicine” is no longer just a word to describe medical procedures brought to the colonies by an imperial influence or an era before "national" medicine emerged in these regions. According to David Arnold, colonial medicine refers to exercising colonial power within and through practicing medicine in a colonial setting. Drawing on the Foucauldian idea that power and knowledge are bound together in discourse, The displacement of the more "neutral" medical-geographical category of the "torrid zone" with the multivalent "tropics," the transformation of the "tropical" from a descriptive climatic type to a diagnosis of backward and imperfect civilization, and racialization of the tropics through its association with qualities such as fecundity, lassitude, and rapid decay are some of the themes that Mark Harrison has traced. In this chapter, we have discussed the definition of race in the nineteenth century and how the British colonizers used racial theory to make their race superior and more modern than the weak Indians. We have further discussed the racial inequality in the medical field and how the Western medical system became the “Colonial Medical” system. In the present study, the lives of some eminent Indian doctors who worked within the colonial framework to show the experience of an Indian who was not convinced by Western racial superiority have been thoroughly investigated. However, they accepted the Western medical system as an alternative branch of medicine and for their professional growth.

1. The Idea of Race and the “Colonial Medicine” -

Race is defined differently depending on the context and period and cannot be drawn as a linear statement. A group of people's ethnic identity shapes their sense of self. It frequently emerges based on previous traditions, occasionally based on religion, culture, rituals, and means of

subsistence. The term "race" is described as the "essentializing of groups of people which held them to display inherent, persistent or predictive characteristics, and which thus had a biological or quasi-biological basis"¹ in the recent historiography of South Asia. This is perhaps the most accurate definition of race now available, as many more recent ones have been too ambiguous and included ideas of 'racial' identity that are primarily religious and cultural. According to Mark Harrison, such criteria make it difficult to distinguish between class, caste, ethnicity, and race. In the nineteenth century, the term "race" was frequently used to describe a mix of biological and cultural qualities. However, it was typically based on a presumptive biological essence that determined all other traits. The term "race" was rarely used by writers in the seventeenth and eighteenth centuries who sought to explain the differences between Indian and European constitutional systems. They did not frequently view physical and mental traits as inherent and unchangeable. It was widely believed that Indians' alleged "lethargy" or "timidity" was caused by their protracted exposure to the weather rather than an innate, constant inclination. Indeed, as David Arnold has argued, European ideas of the "Tropics," "the Torrid Zone," and other like categories marked moral and cultural divisions in addition to geographical and environmental.² These ideas were based on the humoral theory of medicine, which claimed that physical characteristics of the environment, like heat and cold, had an equivalent in the human body. The constitutions of people were believed to resemble the dominant traits of the climate in which they lived, even though individual bodies varied to some extent. Harrison shows that these ideas were frequently hazy. Still, in the seventeenth century, as medical professionals and others began to apply a form of Linnean taxonomy to study people, the classification of people according to character and physiology became more systematic.³ However, the categorization of people was not yet so tight that it was thought that their various variations were comparable to separate living things or even different "types." The work of Ivan Hannaford and Baron George Cuvier demonstrates how attitudes towards

race changed over the nineteenth century. The emphasis on heredity over environmental variables and biological reductionism are the two characteristics of nineteenth-century racial philosophy that set it apart from everything that came before. The racial theory went against many of the ideas of the Enlightenment, most notably the notion that humanity is inherently perfectible and united. However, it drew inspiration from the intellectual resources offered by eighteenth-century classifications of human beings.⁴

1.1. Different Perspectives on the Idea of Race -

Mark Harrison thinks it's important to consider more extensive cultural and political elements of the "Race", some unique to the Indian context. The establishment of British rule in India at the turn of the eighteenth century accentuated 'racial' distinctions by fostering the idea that Britons were fundamentally superior to their Indian subjects.⁵ This 'superiority' had frequently been explained in terms of the environment: the bracing climes of the north were considered to operate as incentives for mental and physical exertion. At the same time, the discomfiting climate of the tropics led to lethargy. However, the requirement for more extended stays in India following Britain's takeover of Bengal and the early nineteenth century's territorial expansion indicated that more Englishmen would be subjected to these environmental factors.⁶ Their imperial ambitions were severely restricted by climate. By 1830, it was thought that Europeans would become some sort of hybrid race inferior to the imperial race because of their prolonged presence in India. Health hazards constituted a severe challenge to the foreign rulers of India, who had to fulfill their imperial needs with a small contingent of British soldiers. It impacted the very foundation of the Raj; it de-masculinized the British soldier and eventually left him unsuited for the job. It was also hampering the image of the British solid superior race. This fear of degeneration drove the hunt for reasonably healthy locations in India. Numerous topographies written in India starting in the 1820s gave rise to a keen understanding of the regions where Europeans and their businesses could be anticipated to prosper. At the same

time, a new sense of hygiene and sanitary habits emerged among the Europeans.⁷ The Europeans gradually began to adopt the aristocratic norms of personal hygiene, which made them increasingly critical of Indian sanitation practices. They considered it their duty to civilize Indians.

Harrison asserted that- firstly, there was more "dialogue" than is typically acknowledged in the field of knowledge production, even though it wasn't between equals; second, science and empire did not cooperate for the objectives of social control; third, colonial encounters amounted to considerably more than the appropriation of information for command; and fourth, there were inconsistencies within and shifts in the relationship between east and west in the field of medicine.⁸ Mark Harrison's work suggests overcoming the limitations of Edward Said's understanding of colonial medicine, which places an unhistorical emphasis on potent discourses of othering and completely rejects the idea of dialogue. In doing so, it partially leaves the socio-cultural constructionist perspective on the history of medicine. His formative setup is based on the idea that Western medicine has undergone a universally recognizable scientific evolution, which determines how it interacts with other medical systems in India.⁹ In other words, these critical interpretations of colonial medicine as a discourse on "curing their ills" and the practice of a state-sponsored "colonization of the body" are more influenced by a specific reorientation of Foucault following Edward Said's 'Orientalism'.¹⁰

If we consider that modern Western medicine had a "colonizing" relationship with the patient's body and society. In that case, the limiting issue for a Foucauldian analysis of colonial medicine is, what was colonial about the colonization of the body? How can people and populations deal with, respond to, or fight this sort of authority, as any history of colonialism must undoubtedly consider the history of resistance to colonial power? In response to that question, David Arnold stated that medical care provided in and by colonial states is referred to as colonial medicine. The fundamental conflict in colonial medicine—between orientalizing and universalizing—

reflects the "tensions of empire" more broadly.¹¹ These tensions revolve around the universalizing claims of European ideology and the particularistic nature of conquest and rule, the constraints placed on rulers by the difference, and the increased level of exploitation and dominance that colonialism entailed. Therefore, the "problem of difference" and the "problem of resistance" can summarize the two main drawbacks of seeing colonial medicine via a Foucauldian lens.¹² The term "difference" relates to two distinct concepts: first, the distinction between the colonial and modern states, and second, the "difference that difference made" regarding control over the exercise of power throughout the colonial period.¹³ To consider the colonial state a biopolitical one, Ishita Pande set aside this concept of "difference." She persistently pursued the subject of "race" as necessary to exercise biopower.¹⁴

Partha Chatterjee asserts that the discussion of race has arisen more frequently in recent years to highlight the specifically colonial nature of British rule in India. This is because the logic of a modern authority structure has pushed political processes in favor of rationalizing administration and normalizing the subjects of its management.¹⁵ David Scott raises several important issues regarding the historical validity of racial concepts, their unique power dynamics, and their incorporation into social practices that define subjects.¹⁶ However, according to Ishita Pande, the solution to reconciling modernity and colonialism can be found in a historical understanding of race as a scientific concept. It also solves the persistent "problem of difference" that obstructs comprehending the colonial state as a biopolitical one.¹⁷ We might be able to analyze the colonial state as a (modern) biopolitical one by renaming "difference" as "race" and by acknowledging race as an evolving modern ideology. Ishita Pande agrees with Amitav Ghosh that racism is not just any exclusionary and racist ideology; instead, it is a modern, post-Enlightenment ideology since it is based on ideas and practices related to science, nature, biology, and evolution.¹⁸ The concept of race no longer stands out as

an oddity about the universalist characteristics of "science" or the universal claims of liberalism in light of its modern scientific theorization.

According to Shula Marks, Western biomedicine has unquestionably "played a major role, both in making universalizing claims and in creating and reproducing racial and gendered discourses of difference."¹⁹ Medicine played a vital role in the empire's liberal ideology by serving as a means of universalizing a theory of difference. It helped to create and spread concepts about race in a way that made race seem less unusual and more like one of the normalizing tactics used by the contemporary biopolitical state. It becomes vital to acknowledge the particular political rationale on which the modern colonial state relied, according to Ishita Pande, because that rationality stipulates the framework within which the colonized could develop their reactions and define themselves. Even though the colonial state was established based on coercion, extreme inequality, economic exploitation, and a fundamental marginalization of colonial populations, it is also widely known that in nineteenth-century India, the colonial state was increasingly justified in light of the principles of liberty. The colonial occupation brought up significant rifts in colonial communities in the name of modernity. It created the modern landscape where the "rule of difference" could be successfully staged and vehemently contested.²⁰

A political philosophy known as liberalism was articulated in colonial Calcutta as a government of the "biosocial"²¹ body that would be realized not only via coercive public health measures but also through regular and personal sanitary regulations. Liberal reform included everything from retraining in market disciplines and economic exercise tasks to dispensing civic rules and retraining in hygiene sensibility. Hygiene was not only the responsibility of the colonial state; Bengalis also adopted it as a means of modern self-expression. The fact that Bengali social reformers emphasized health awareness for the betterment of society does not mean that it was a plot or a strategy by the British government to turn Indians into collaborators

of the British government.²² To assume that the British were merely in control of society through this would be inaccurate. Through good sanitation habits, Indians also developed into responsible citizens. On the one hand, the British took advantage of Western medicine in political and economic ways that were alternately repressive and beneficial. In order to demonstrate the supremacy of the British race over other peoples, this Western medical system was adopted as a colonial medical system. Simultaneously, on the other, the British government's campaign to increase public health awareness had a positive impact on Indians' health. Bengalis were drawn to Western knowledge and adopted Western medicine, did not accept British racial superiority, or turned into collaborators of Western power, although exceptional cases exist. Bengalis with advanced Western education found the Western medical system highly alluring professionally.

After discussing various theories on race, it can be said that historians have understood the Western medical system as an imperialist tool and a way to demonstrate racial superiority to the British. In that case, why the British permitted Indians to receive Western medical education may arise. It can be answered like this: firstly, there was a shortage of white physicians compared to the British need. Thus, efforts were made to save costs by hiring Indian physicians and assistants, as they were given lesser salaries than their European counterparts, which clearly shows the racial inequality in the imperial medical service. Secondly, high-caste Hindu soldiers in the British troops were not willing to have medicines from European doctors. Racial hatred was a multifaceted issue. Racism was present on both sides. Between 1891 and 1922, medical services were heavily dependent on Indian personnel, according to correspondence between Kenya, London, and India. The Colonial Office and the India Office were asked in a letter from the PMO in January 1907 to take additional steps to hire Indian medical professionals.²³

2. Inequality in the Colonial Medical Field -

To understand the racial inequality in Indian medical service, we should thoroughly examine the grievances outcompeted during 1883 by native medical professionals. One of their issues was the salary structure of the government, which perfectly shows the repressive structure of the system (Table No. 8.1). Principal administrative and military salaries were fixed at the following total amounts until 1883

Table No. 8.1: Salaries of Principal Administrative and Military Appointments of IMS until 1883

Posts	Per annum Rs.
Surgeon-General, Bengal	... 2700
„ , Madras	... 2500
„ , Bombay	... 2500
Deputy Surgeon-General (2 at others)	... 2250
	... 1800
Surgeon Major of 20 years of service and Upwards in charge of Native regiments	... 1000 with Rs. 90, horse allowance in cavalry regiment.
Surgeon Major in charge of ditto	... 800 with Rs. 90 ditto
Surgeon above 5 years' full-pay service in charge of Native regiment	... 600 with Rs. 60 ditto
Surgeon under 5 years' ditto	... 450 with Rs. 60 ditto

Source: *An Appeal from the Surgeons of Indian Medical Service*, Royal College of Surgeons of England, India, 1884, pp. 6-7.

In the civil and military sectors, the pay for other medical appointments ranged from Rs. 1800 to Rs. 400 monthly. Appointments in the Assay Department were also open to qualified

Medical Service Officers. Their charges were paid between Rs. 600 to Rs. 2,250 per month in salary.²⁴

However, a medical officer hired will only be paid at the rate specified in paragraph 12 of the government memorandum until he has completed the Hindustani test called the "Lower Standard." The rate of remuneration specified in paragraph 12 is Rs. 286-10-0 for surgeons with less than five years of experience, Rs. 305-14-2, &c. for surgeons with more experience but less than six years.²⁵

The junior members of that service eventually turned, bestirred themselves during the Parliamentary session of 1883, and succeeded in making their voices heard after being cruelly misled year after year by the memorandum of the India Office that claimed to outline the conditions of the Indian Medical Service. The fact that they immediately received the unequivocal support of the leading medical journal in Great Britain, the Journal of the British Medical Association; of the Service Journals, especially the United Service Journal; and that their statement regarding the actual condition of the service as they have found it in India immediately made clear that their grievances were genuine and that the memorandum in question had grossly imposed upon them was made evident.

It is clear from the above pay structure that if a surgeon has fewer than five years of experience and has passed the Lower Standard Examination in Hindustani, he cannot be paid less than Rs. 400 per month. However, sadly, the Profession at Home, and intending candidates in particular, will hardly credit them when they claim that the rates of pay laid out so alluringly to young Surgeons in paras. 14 and 15, under and up to five years of service, no more to Surgeons above five years in many cases, exist in some instances alone, and in several instances chiefly only on the paper of the memorandum, while other conditions that are not even mentioned in the message, which was imposed as the only official information provided to candidates. No surgeon of five years' service from the Bengal Army List of March 31st and June 30th, 1883,

drew Rs. 450 per month. From here, the dissatisfaction of the employees with the pay structure of the Indian Medical Service is seen.

2.1. Indian Subordinate Medical Department -

The situation of the native subordinate medical professional was worse. The Indian Subordinate Medical Department had two main branches- the military and the civil. The military division was subdivided into two more branches- 1) the assistant surgeon branch and 2) the hospital surgeon branch. The civil branch also had two sections – i) the assistant surgeon branch and ii) the hospital surgeon branch.

Military assistant surgeons were preserved for the Europeans only. Military hospital assistants were recruited from Indians. Civil assistant surgeons were mainly Indians. Civil hospital assistants were invariably natives of India or Burmah. The military hospital assistant served only in the native military hospitals and with a native army. To understand the position of native medical professionals in IMS, we need to examine the salary structure of the subordinate medical department (Table No. 8.2 and 8.3).²⁶

Table No. 8.2 Salary Structure of Military Assistant Surgeons

	Monthly (Rs.)	or	Yearly (Euro)
Fourth Class ...	85 "	or	68 "
Third Class ...	110 "	or	88 "
Second Class ...	150 "	or	120 "
First Class ...	200 "	or	160 "
Senior or Honorary Lieutenant ..	300 "	or	240 "
Senior or Honorary Captain ...	400 "	or	320 "

Source: C. H. Joubert de la Ferté, "The Indian Subordinate Medical Department," *The British Medical Journal*, Aug. 15, 1908, Vol. 2, No. 2485 (Aug. 15, 1908), pp. 386.

Table No. 8.3: Salary Structure of Military Hospital Assistants in April 1908

	Monthly (Rs.)	Yearly (Euro)
Hospital Assistant, Third Grade.	25	20
Second Grade.	40	32
First Grade.	60	48
Senior Hospital Assistant, Second Grade	80	64
First Grade	100	80

Source: C. H. Joubert de la Ferté, "The Indian Subordinate Medical Department," *The British Medical Journal*, Aug. 15, 1908, Vol. 2, No. 2485 (Aug. 15, 1908), pp. 387.

The allowances were rare and vary from 5 to 15 rupees per month²⁷.

The civil assistant surgeon branch of the Indian Subordinate Medical Department was created in 1847 to provide a higher grade of native practitioner for Government duties in the Units of civil administrations, such as districts and collectorates. The service in this branch was open to Europeans, East Indians, and natives who had educated themselves free of charge to the State and have a medical qualification equal to the license in medicine and surgery of an Indian university eligible for employment in this branch (Table No. 8.4).²⁸ The position was excellent and young native medical men who graduate annually from British schools competed fiercely for these appointments.

Table No. 8.4: Salary Structure of Civil Assistant Surgeons

	Monthly (Rs.)		Yearly (Euro)
Civil Assistant Surgeon, Third Grade ...	100	=	80
Second Grade ...	150	=	120
First Grade ...	200	=	160
Senior Grade ...	300	=	240

Source: C. H. Joubert de la Ferté, "The Indian Subordinate Medical Department," *The British Medical Journal*, Aug. 15, 1908, Vol. 2, No. 2485 (Aug. 15, 1908), pp. 387.

Promotions are given every nine years and are contingent on passing exams up to the old grade, which was by selection. There were several benefits, such as free housing and the ability to practice privately, which, in a big city, may be worth much more than the salary.

A select handful of the best men from the senior grade were chosen for a small number of civil surgeoncies, where they began on 350 rupees per month, or Euro 280 per year, with additional positions and private practice. They received pensions based on the salaries that they had received while in the service when they reached the retirement age of 55.

The need for medical men and civil hospital aides grew for government employees and private requirements in the 1900s. Their social standing was low, and they received low remuneration for government work and private practice. These indispensable men who made their living among the laboring and working classes could be said to correlate to the lowest ranks of the medical profession in Europe. The civil hospital assistant student completes a rigorous four-year program of instruction before taking a pass examination. Most students who passed the exam chose to work for the government, and their numbers were never enough to meet either government or private demand. Although only English-speaking individuals qualified for the 1901 salary increase, the pay rate remained low (Table No. 8.5).

Table No. 8.5: Salary Structure of Civil Hospital Assistants

	Monthly (Rs.)		Yearly (Euro)
		E S. D.	
Fourth Grade, under 5 years.	25	=	20 0 0
Third Grade, under 10 years.	35	=	28 6 8
Second Grade, under 15 years.	45	=	36 0 0
First Grade, under 20 years.	55	=	44 0 0
Senior Grade (by selection), over 20 years...	70	=	56 0 0

Source: C. H. Joubert de la Ferté, "The Indian Subordinate Medical Department," *The British Medical Journal*, Aug. 15, 1908, Vol. 2, No. 2485 (Aug. 15, 1908), pp. 388.

Private practice was allowed, yet there were some restrictions. Of course, the amount that can be made through practice varies greatly depending on where the task is. It was practically nothing throughout the first few years.²⁹ Table No. 8.6 shows the salary structure of the surgeons and officers of SMS in 1910.³⁰

Table No. 8.6: The Monthly Salary Structure of the Subordinate Medical Service in 1910

	Per Month
Senior sub-assistant surgeons - First class, rankings Subadar	110 rs.
Second class, ranking as Jemadar	90 rs.
Indian warrant officers - Sub-assistant surgeons, first-class	70 rs.
" second class	50 rs.
" third class	35 rs.

Source: Arnab Chakraborty, “Negotiating Medical Services in the Madras Presidency: the Subordinate Perspectives (1882–1935)”, *Medical History*, Vol.65:3, Cambridge University Press, 2021, pp. 247–266.

Even in the eyes of British officials, the subordinates were starting to gain greater respect and status when it came to surgical situations or other medical abilities (Table No. 8.6). They began dominating the rural and semi-urban medical sectors due to their exposure to local politics and specialized knowledge. The subordinates became crucial to administering local pharmacies intended to treat locals in the absence of IMS doctors who frequently refused to move to villages. This grouping of individuals from various caste, religious, language, and socio-economic backgrounds resulted in forming a distinctive bureaucratic community that can be referred to as the society's social ascendants.³¹ The subordinates utilized the local political power structure in addition to working within the confines of the government to maintain the status quo and promote the superiority of Western medicine to ensure that their dominance was unopposed. The change in the attitude of the British Govt towards these subordinate medical service providers also changed the perspective of the local people. Ultimately, these local

subordinates were the torchbearers of Western medicine in rural India, govt, valued their service. However, their pay scale was not improved according to their job description.

This salary discussion clearly shows that compared to Europeans, Indians had fewer opportunities in the medical profession, and their salaries were also lower. It was assumed that Indians could never be educated like Europeans. According to the British government, the quality of Indian doctors could never be equal to that of European doctors. However, we have seen that white doctors were not happy with their pay scale in IMS. It was less profitable than their other European counterparts were in Britain. IMS lost its glamour in the 1930s, and after World War, European doctors were not interested in joining even after increasing the pay of the IMS doctors. In the 1920s, we would see Indian doctors trying too hard to establish medical schools and colleges for Indians. They didn't want to depend on the British to prove their intelligence and create scope for independent research and recruitment.

3. Colonization of the 'mind' or the 'Body' -

The historians are interested in exploring the political ideologies and agendas of the British while establishing Western medicine in colonial India. Although other prominent nationalist personalities also participated in the medical controversy, their role was primarily incidental. The medical debate did have a significant political impact on the medical education of British India. It resulted in the determination that only Western medical standards should be used to define the education that Indian students should receive, and it hardened the distinctions between 'Western' doctors and their indigenous counterparts. Even though Western medical education was firmly established by the 1880s, graduates and licentiates still found it challenging to make a livelihood, even in major cities, due to the competition from native practitioners, and very few of them left the Presidency towns. Beginning at the beginning of the twentieth century, the demand for Western medical treatment had grown, and some

physicians had established highly lucrative practices. Some of these physicians could even replace the European physicians working for the Indian Medical Service.³²

3.1. Activities of the General Medical Council and its Criticism by Indian Nationalists -

All senior government positions were dominated by the I.M.S., which also enjoyed privileges to private practice. Professorships at medical colleges were very profitable, but several civil surgeon-ships also allowed for sizeable raises in the official pay. Indians could enroll in the I.M.S. after 1855 since admission required passing a competitive examination. However, due to age limits and the location of the exam in London, very few Indians were accepted. According to Crawford, by 1913, 55 men with 'pure native names' had joined the I.M.S. proper, and another 54 had entered the junior branch.³³ Most Indians who went to Britain to compete for the I.M.S. or higher degrees could obtain one of the various certificates to register with the General Medical Council (GMC). However, in 1886, this became more challenging. However, the G.M.C. started recognizing degrees granted by Indian universities in 1892. They didn't insist on looking at the medical colleges, perhaps because they thought there wasn't much of a difference between the standards of British and Indian degrees.³⁴ This kind of situation did not persist for long. The G.M.C. started taking a more direct interest in midwifery education in 1907 and urged the licensing organizations to increase their standards.

In 1920, G.M.C. enquired further about the policies and procedures governing the training in India, and in 1921, they declared that these were insufficient for midwifery. Indian degrees would no longer be recognized after March 1922 if the conditions weren't met. Due to this threat, the situation became political, and the Viceroy asked Secretary of State Montagu to speak with the G.M.C.³⁵ Sir Norman Walker was assigned to visit the universities in India.³⁶ Since December 1924, when Calcutta University refused to let Richard Needham take their exams, Calcutta degrees were no longer recognized. Needham, the I.M.S. officer who traveled

with Sir Norman Walker on his first tour, became the Official Inspector of the G.M.C. in 1922 and frequently traveled to the medical colleges until Walker re-joined him in 1927. They proposed in July 1927 that the Government of India employ a full-time Inspector of Medical Qualifications to handle the same task.³⁷ But, the British govt in India failed to decide due to provincial disagreements. The G.M.C. once more wrote to the India Office in December 1929 to inform them that all Indian degrees would no longer be recognized as of February 1930 because "the mere possession of an Indian Medical Degree does not, by itself, ensure the possession of a qualification equivalent to the minimum qualification accepted in this country."³⁸

3.1.a. Response of the Nationalist Leaders on the issue of Rejection of Indian Medical Degree -

Most nationalist leaders and the New Indian Medical Association rejected the Act because they believed it represented India's continuous servitude to Britain and was not intended to address any Indian issues. To coordinate degree standards and to negotiate international degree acceptance, the Act was approved in 1933, and an Indian Medical Council was founded. The licensees and medical schools were excluded. By 1936, Indian degrees were once again acknowledged. Although the Government of India had made every effort to ensure that the negotiations over acceptance would go effectively, the appointment of the first secretary of the M.C.I. on the suggestion of the President of the G.M.C. had resulted in a local political controversy and the recognition debate had since subsided by the year 1935.³⁹ Sir Fazl-i-Hussain had pledged in 1993 that the Act his department was drafting would give orderliness at home and honor overseas. However, B. C. Roy, who served as President of the M.C.I. from 1940 to 1945, asserted that in his experience, they still failed to achieve honor overseas.

Broader political developments were taking place when these events were occurring. The Morley-Minto reforms broadened the political representational gestures made by the Viceroys in the 1880s, including the incorporation of Indians in Provincial Councils and the recognition of the electoral concept. The improvement and widespread use of education, the easing of racial and religious tensions, and the accumulation of political experience were the conditions for advancement toward the new political objective of the British government.⁴⁰ In December 1916, Congress proposed its reform plan, but at that time, the Viceroy's council had already approved most of the revisions. The country was supposed to get closer to self-government due to the reforms in several ways. Plans to increase the number of Indians employed in the upper levels of the public sector were not subject to much debate. The Council decided that awards for military service should be provided so that exceptional Indian troops may receive commissions. Plans to improve local autonomy and resolve several unresolved complaints also received approval. Most disagreements centered on political advancement. The Provinces were primarily the subject of discussion on legislative amendments. By May 1917, it had been decided that some administrative tasks would fall under the purview of the newly elected councils. The result was the Montagu-Chelmsford Reforms, which were most important in transforming the conditions of medical education, the I.M.S., and medical policy-making in general. The attempts to speed up the Indianization process, the handover of control to elected Ministers, and the devolution of authority to the provinces were all changes that had a significant impact on the medical community.⁴¹ The introduction of recruitment exams in India and the decline in the number of applicants from Britain significantly increased the number of Indians joining the elite services in the 1920s. Indianization in the medical field was explored in two contexts: lowering the number of positions only open to I.M.S. members and facilitating Indian recruitment into the I.M.S.⁴² While acknowledging the impossibility of acting quickly, the Secretary of State for India reaffirmed that it was preferable to limit the growth of the I.M.S.

for economic reasons and to raise the proportion of significant positions held by Indians.⁴³ The B.M.A. intervened on their behalf because the I.M.S. was concerned that they would be denied the lucrative private practice that came with the excellent civil surgeons and Professorships as a result of the entire dispute. However, from 1904 to 1913, Indians made up one-sixth of the IMS recruits. Despite many efforts by IMS and BMI, IMS lost its popularity among European doctors.

3.1.b Indianization of the I.M.S. -

Indianization of the Indian Medical Service (IMS) had been slower before the War; in 1913, there were only approximately 5% Service Indians. All new recruits were initially assigned to a military location and did not transition to civil work for at least five years. They were also subject to military discipline and were given military ranks. The number of recruits who were eventually transferred to civil work depended on the needs of the Army, not those of the civil authorities. In the event of war, most doctors were called back to active duty, leaving only a tiny staff behind.⁴⁴ Due to the drastically improved medical chances in Britain due to Lloyd George's National Insurance policies, relatively few of the limited number of doctors were interested in coming to India.⁴⁵

The Medical Adviser to the Secretary of State claimed in 1931 that the civil branch of the I.M.S. was unattractive to European applicants because Indian Ministers had made issues for I.M.S. officers in civil, both British and Indians since they reduced their patronage—a crucial factor in a Minister's political popularity. Since they reduced their patronage—a critical factor for a Minister's political popularity—Indian Ministers made things difficult for I.M.S. officers in the civil service, both British and Indians.⁴⁶ Although the claims seemed unfounded after thorough investigations, the perception might have discouraged some recruits and influenced the G.M.C.'s choices. Two outcomes of the 1919 Reforms that had an impact on European

doctors were Indianization and the devolution of power to the provinces, and the devolution of power to Ministers had a less substantial effect. It did mean that the central government could occasionally not carry out its policies. Still, more crucially, it said that the Indian government could not react quickly to events or pressure coming from London. However, the Indian government found implementing many innovative policy changes challenging. Instead, it was caught between the demands of the India Office, which catered to a completely different audience, the Provincial Governments, and the Indian public opinion expressed both inside and outside the Provincial and Central Legislative Assemblies and Councils. The medical policy was never very high on any list of priorities, and it was uncommon for concrete policy ideas to be presented in New Delhi. Therefore, it is evident that by the 1930s' end, many aspects of medical policy-making had been molded into patterns that significantly impacted the choices made in independent India. Although the G.M.C. involvement played a significant role, it shouldn't possibly be overstated. It is evident from the criticism leveled at numerous nationalist politicians during this time that they typically supported the G.M.C.'s goals. They took issue with the G.M.C. doing it and doing it in a way that constrained their latitude to act.⁴⁷ Needham and Walker joined the B.M.A.'s special committee in 1931 to represent the organization's interests in discussions surrounding the impending Government of India Act. The G.M.C. was also accused of racial discrimination, supported by some evidence. While Indian medical colleges were threatened with severe punishments for not improving their maternity training after only one year, British medical colleges had 13 years to improve their maternity training with no penalties for falling behind. But, very few Indians opposed the idea of a Medical Council directly. They didn't show their disagreement about the Indian standards, which were decided to be the same as British standards and didn't express concern about the potential impact these judgments would have on the availability of healthcare in rural areas. Fazl-i-Hussain noted in 1933 that a medical treatment system that reached the rural areas was

"the essential need of the country" but that a uniformly high standard of medical education could not be integrated.⁴⁸ Naturally, after independence, Indian doctors who were privileged in the imperial institution stepped into power. Although we don't want to overstate the importance of the situation, it is true that even after independence, western influences can still be seen in the medical area. Despite the physical end of colonialism, psychological reliance on Western medical institutions persists. Therefore, it may be claimed that it can only be ended if it is physically colonized; if it is psychologically inhabited, it takes time to reverse its effects. In that, we must understand the psychological dilemma of the Indian doctors working at the imperial institutions.

4. Bengali Doctors in the Profession –

In this part of the study, we have investigated some essential facts regarding the Indian experience in Western medical institutions. for example–

What were the positions of Indian doctors in those imperial medical institutions? What was their experience regarding class, caste, and racial differences? How did they deal with the cultural gap between Indians and Europeans in their workplaces? How was their work atmosphere?

While investigating these questions, we have found numerous names who worked in imperial medical institutions, such as Soorjo Coomar Goodeve Chuckerbutty, Mahendr Lal Sarkar, B. N. Ghosh, Sir Kailash Bose, Ramnath Chopra, Shantilal Roy, Nihar Ranjan Gupta, Upendranath Brahmachari, Paritosh Roy, Uma Mukherjee, Nalini Choudhury, Sudhamoy Ghosh, Pritthish Choudhury, Radha Gobinda Kar, Nilratan Sarkar, etc. In this chapter, I have chosen Mahendra Lal Sarkar, Kailash Chandra Bose, Nilratan Sarkar, Ramnath Chopra, and Shantilal Roy for thorough research. In various ways, they have contributed to the field of medical science in colonial India.

4.1. Soorjo Coomar Goodeve Chuckerbutty (1826 – 1874) -

In 1850, Soorjo Coomar Goodeve Chuckerbutty (see Appendix I, Plate 5.1) began his medical career as an assistant physician at the Medical College Hospital. Soorjo Coomar Goodeve Chuckerbutty was fluent in French, German, and Latin. He traveled several trips around Europe, stopping at libraries, colleges, and museums. He had become a Christian and taken on the name of his tutor, and he preferred to be named Soorjo Coomar Goodeve Chuckerbutty.

4.1.a. Medical Career and Academic Pursuits -

At the Calcutta Medical College, Soorjo Coomar was named acting Professor of Materia Medica four years later. The East India Company opened the appointments to the Indian Medical Service to public competition in 1855. Chuckerbutty passed the first Senior Competitive Examination, The Indian Medical Service, conducted in London from January 8–11, 1855, and qualified in second position. He was the first Indian to have a post in this service, previously reserved for British descent only. This led to him being hired by the Bengal Army as a surgeon, where he later rose to the rank of surgeon-major. He achieved such a significant milestone for the first time as an Indian. The well-known lawyer Sir Edward Ryan, PC, who advocated for the possibility of higher positions for Indians, was instrumental in starting the examination. Soorjo named his oldest child, Henry Scot Ryan Goodeve Chuckerbutty, as a possible token of respect. Fascinatingly, the younger Goodeve earned his barrister license just like Sir Edward Ryan. He continued functioning as a professor periodically until 1866 when he was appointed a regular Professor of Materia Medica.⁴⁹ He published dozens of research works in numerous medical journals (including *The Lancet*, the *British Medical Journal*, and the *Indian Medical Gazette*), both Indian and British, and presented papers before prestigious scientific societies in Calcutta. He tried hard to promote education among the Indians, and for professional education, he advocated for Western medical education. His appointments as a

Fellow of Calcutta University and Justice of the Peace in 1863 provide insight into his prominence among the British people. He served as the Honorary Magistrate of the Calcutta town. He was vital in establishing the British Medical Association's Bengal unit. This distinguished Calcutta Medical College alumnus significantly impacted science throughout his lifetime. He was one of the co-founders of the Bethune Society. In the following years, he published articles on typhus, tetanus, a rare instance of hydrophobia, and dysentery.

4.1.b. Political Thoughts of Soorjo Kumar Goodeve Chuckerbutty During Great Indian Revolt of 1857 -

Following the Indian Rebellion of 1857, he gave a series of lectures named “*Popular Lectures on Subjects of Indian Interest*” that reflected his changing perspective and criticism of British objectives in India. He gave lectures on various themes - firstly, he wanted to inculcate the idea of cleanliness and sanitization among Indians. Secondly, he advocated physical exercise and gymnastics for the young people of India. It is stated that following the paper's presentation, a gymnasium run by a French Master was temporarily established on the grounds of the Hindu School. Although the initial initiative was unsuccessful, it did plant the seeds for change. Eventually, the city experienced a boom in gyms and sports facilities. The impact of the article published on March 9th, 1854, caused many Indians to be interested in contemporary European sports. The third was to motivate native students to travel to England to apply for the Covenanted Services, an intention that has since been fulfilled. The fourth was to defend native education during the Sepoy mutinies when there was tremendous clamor against it and many arguments made to eliminate it. The fifth and sixth were devoted to a psychological analysis of native education to identify its flaws and suggest solutions. The British Medical Association's Bengal Branch was established due to the seventh theme of his lectures.⁵⁰ The eighth lecture's objective was to draw attention to the condition of the medical profession in our nation, the need for safeguards, and the improvements suggested by the changing

relationships between the various classes of practitioners in the public sector. There was a need for it then, as evidenced by the multiple modifications made in these areas since then. The ninth was created to promote further expansion of enrolment and enhancement of instruction in the Medical College's vernacular classes, which had already been substantially realized. The purpose of the tenth lecture was to guide Medical College students and highlight the relative importance of English, Vernacular, and Oriental classical education, as well as the responsibility of the State to support each, to the extent appropriate, in a comprehensive national education plan for India.⁵¹

He extensively discussed topics that showed a different side of Soorjo, including his patriotism and his fight to organize India's National Education. It also demonstrates his exceptional analytical skills and his knowledge of human psychology. Soorjo had mastered a different aspect of himself. He learned Sanskrit, Bengali, and Persian in his village school, developed his English skills while attending Comillah and the Hare School in Kolkata, and was further required to study Latin and French for his education requirements while educating himself in German and Hindustani for professional needs. S. Chukkerbutty was vocal about the appointment of the natives in the British medical service and advocated for the benefits for both the Europeans and Indians would enjoy. He lectured on it, and the British government allowed native people into the service. "We do not say that no plausible objections can be raised against nominative a native civil servant or a native assistant surgeon; we say only first that all such."⁵² According to him, the then-current Charter Act stipulated that they were entirely open for men of all races, ethnicities, and nationalities; one now obtains a covenanted appointment through a system of competition, the basis for which is his individual qualities as determined by fair and open competition. "While you have the opportunity, you may prove to the world by a sufficient number of instances that you wish to be admitted to the higher offices of Government, not through private patronage but upon your own solid merits, which will bear comparison with those of

any nation in the world."⁵³ He strongly advised the natives to send their children to England without delay. Here, we see Sooraj Coomar's eagerness to prove the merits of Indians to the whole world, i.e., the British.

4.1.c. A Traveller by Heart -

He was an eager traveler and went on several journeys around Europe with his companion, Dr. Robert Edmond Grant, FRS, to study natural history. He visited France, Germany, Liechtenstein, the Czech Republic, Denmark, Austria, and the Netherlands, among other countries. In the book, "Popular Lectures on Subjects of Indian Interest," he briefly describes his adventures after visiting sections of Africa during his transcontinental tour. He recalls three travels, the fourth postponed due to the 1848 French Revolution. He spent two months in Paris and criticized the French emperor. For his third voyage, he learned French and German, journeyed alone across parts of Europe, and made friends with a Bremen merchant, who connected him with some other European students in Hamburg, where they had a celebration to remember. He is listed as visiting and staying with his family in Norwood in the 1861 census.⁵⁴ Which means he often used to visit Europe.

4.1.d. Soorjo Kumar's Stance on Native Medical Education during the 1857 -

On the problematic situation of the Great Mutiny of 1857, he advocated for native medical education to the British government, as he assumed the changing nature of the British administration. He emphasized the point made by the Lieutenant Governor, who acknowledged that only two or three of the many native physicians and assistant surgeons who graduated from Calcutta Medical College had evidence to support their involvement in the uprising. He appealed to the British administrators not to stop providing Western medical education to Indians. He also expressed grief to those who lost their loved ones in the insurgency. His remarks reveal that the medical college's two Indian students or physicians participated in the

1857 Great Revolt. From this point on, we can observe the emergence of a nationalistic zeal among Indians. The association of graduate doctor revolutionaries with the First War of Independence indicates the absolute acceptance of the event. This fact is sensational because it is stated in an article by a senior I.M.S officer and officially says that the war of 1857 was not just a mutiny of sepoys. It also implies that some forgotten Indian Freedom warriors gave up a comfortable life and career to join the rebel army during the War of 1857.⁵⁵

In his 1858 lecture, "*A Defence of Native Education in India During the Sepoy Mutinies*," he spoke against the racial difference between the British and Indians. He asserts:

"When God made some men dark and other men fair, he had a great purpose to serve. He did not make climates for men, but men for climates. The inhabitants of the Tropics are black because that region is intended for their habitation. The inhabitants of the colder latitudes are white because the sun is less powerful in them and does not tan the skin. Hence, when fair men settle within the Tropics, their descendants grow more and more color from the action of the solar heat with every succeeding generation; nay, it is observable even in individuals of fair people who have lived long in a hot country. In like manner, the proteus, which dwells in caves, when exposed to the sun, becomes colored, losing its former surface translucency. The pride of color, therefore, is as foolish in man as it would be in that humble creature".⁵⁶

He questioned what would be the case if this racial animosity had existed. Why, every European believed that each native was continuously attempting to kill him, preventing the hiring of any Indian locals, even as household enslaved people, out of fear.

4.1.e. Personal Life of Mr. Chuckerbutty -

S. C. G. Chuckerbutty took two years' leave from the army in 1874 due to frequent asthma attacks and possible heart trouble and returned to London, the city he had fallen in love with.

On September 29 of that year, Surgeon-Major Soorjocoomar Goodeve Chuckerbutty, M.D., M.R.C.S., I.M.S, JP, passed away in Kensington at the age of 48 and was buried in West London's Kensal Green Cemetery.⁵⁷ He had a widow named Sarah, who survived until 1878, and several children, the oldest of whom, Henry Scott Ryan, became a qualified barrister and worked in the Calcutta High Court. Alfred, the third son, was eligible for the Indian Civil Service in 1889, while William Maurice, another son, studied science at the University of London. The fourth son attended the UCS. While Martha, his daughter, was educated in England, Marie Ann, another daughter, passed the University of Cambridge Higher Local Examination in 1884. Soorjo Commar was the second doctor at the Calcutta Medical College Hospital and a professor of Materia Medica at the time of his passing.⁵⁸

He believed that the British were trying to introduce Western medicine throughout India for the benefit of the Indian people. He converted because the British had such an impact on him. Additionally, he changed his name and gave the terms of his children to British-sounding. Another reason for his conversion was the non-acceptance of Hindu society for crossing the sea or *Kala Pani* (which was forbidden for the Hindu Brahmins) and for dissecting a human body. As a traveler and physician by profession, he could not bind himself to the boundaries, so he accepted Christianity. However, his writing shows that he changed this blind faith in the British in his later years. After 1857, the scenario also changed politically, economically, and professionally, as reflected in his writings. The attitudes of the British towards the native students became more strident. His advocacy for medical education for the Indians was proof of his consensus for improving the standard of the Indian medical education system during the political turmoil. Also, a behavioral change can be noted in British attitudes.

4.2 Mahendra Lal Sircar (1833 – 1904) -

There were only two approaches—Western medicine and Eastern medicine—in the Indian medical community prior to the introduction of homeopathy. Samuel Hahnemann, the founder of homeopathy and a well-known physician in Germany, coined the term "allopathy" to

describe the orthodox medical school's approach to medicine, which is the opposite of homeopathy in terms of medical theory.⁵⁹ In the fourth decade of the nineteenth century, Dr. Honigberger, Tonnier, Berigny, and others brought homeopathy to India.⁶⁰ However, Bengal had the most significant exposure to it after Mahendra Lal Sircar converted to homeopathy. In 1867, he was the first Indian to advocate for change in the medical field. His coworkers opposed, humiliated, and insulted him for choosing homeopathy over allopathy.⁶¹ Quitting homeopathy was almost as awful for him as leaving the practice of medicine. However, People were compelled to believe in homeopathy by his constant, confident approach toward his faith. We need to know about Mahendra Lal Sircar to comprehend the years of battle for homeopathy in India. Before thoroughly analyzing Mahendra Lal Sircar's contribution to the Indian Science Movement, we must first discuss his early education and medical career.⁶²

4.2.a. Early Life and Education -

On November 2, 1833, Mahendra Lal Sircar (see Appendix I, Plate 5.2) was born in Bengal's Howrah District at Paikpara. His mother died four years after his father's death, whom he lost when he was only five years old. He and his brother were raised by his maternal uncles, Ishwar Chandra Ghosh and Mahesh Chandra Ghosh, in Nebutala, Calcutta. In a 'pathshala' of Paikpara, Tarak Kumar Das of Nebutala taught him English and Bengali. Because of his English proficiency, he was allowed to enroll in Hare School in 1840. He got the chance to enroll in Hindu College after passing the Junior Scholarship test in 1849. His keen interest in medicine was starting to expand at the moment progressively. But at that time, science was not taught at the college. He was moved to Calcutta Medical College in 1854. He gained a lot of respect from academics for his intelligence and exceptional medical expertise. The faculty of Calcutta Medical College ordered him to give a series of lectures on the "Mechanism of the eye as an optical instrument" to his juniors when he was only in his second year of study.⁶³

He received numerous awards, medals, and scholarships in the fields of medicine, surgery, midwifery, physiology, physics, botany, and chemistry. He earned his M.D. degree in 1863 after passing the final L.M.S exam with distinction in medicine, surgery, and midwifery in 1860. He and Jagabandhu Bose were the second Calcutta University MDs, which greatly influenced Mahendra Lal Sircar's decision to pursue a career in medicine. After receiving his M.D., he opened a private practice in Calcutta and quickly gained recognition among people of all social classes.

Another medical school, Homeopathy, was then in the early stages of development in India.⁶⁴ Homeopathy was marginalized by the conventionally orthodox Allopathic medical school. At first, Sircar had a deep disdain for homeopathy. He initially believed that homeopathy was denying credit to the human body's immune system for naturally healing some diseases.

4.2.b. Aversion to Homeopathy: Early Phase of Professional Life of Dr. Sircar -

A direct student of Samuel Hahnemann, John Martin Honingberger penned the first book on homeopathy in India in 1852.⁶⁵ he administered the first homeopathic therapy. Doctors, including Dr. Cooper, Dr. Tonnere, Dr. Berigny, Dr. Rutherford, and Dr. Salazar, attempted to make homeopathy a recognized medical discipline in India.⁶⁶ But Homeopathy became famous by Babu Rajendralal Dutta. But Babu Rajendralal Dutta is the one who made homeopathy popular.⁶⁷ Early in his life, Rajendralal Dutta pursued traditional medicine but later switched to homeopathy and became a well-known homeopath. Many notable people like Iswar Chandra Vidyasagar put their faith in Rajendralal and his homeopathy treatment. But Rajendralal understood that a medical doctor needed to be converted for homeopathy to be widely known. On May 27, 1863, at the preliminary meeting for establishing a medical society as a section of the British Medical Association, Mahendra Lal Sircar gave a speech denouncing the futility of homeopathy.⁶⁸ As Rajendralal Dutta read Sircar's speech, the hope he cherished finally found

a man he might be convinced to practice homeopathy. However, Sircar did not want to waste his time studying even Rajendralal Dutta's Cases.

The editor of the Indian Field, Sircar's friend Kissory Chand Mitra, coincidentally sent Morgan's Philosophy of Homeopathy to Mahendra Lal for review. Mahendra Lal saw it as a great chance to refute the purported "truth" of homeopathic medicine. Sircar read this book on homeopathy for the first time. He believed he could write the review in a single sitting. He did, however, read it twice and said, "On a second, careful perusal, the conviction was forced upon me that no opinion could and should be passed on a priori grounds alone on a system which was alleged to be based upon facts, and which boldly challenged an appeal to facts."⁶⁹ This book changed his life. After reading this book, Sircar realized he had no knowledge of homeopathy and asked for Rajendralal Dutta's assistance. He evaluated the patients of Rajendralal Dutta in 1865. Sircar was interested in determining whether or not the patients recovered without the use of medication. Without the help of homeopathic medicine, several of them recovered. However, many people were treated and rebound with the globules. Sircar began researching cases after becoming persuaded. Sircar began researching cases after he had become convinced. He discovered that homeopathy was more effective than conventional medicine. He came to a conclusion contrary to what he initially believed; it was not quack medicine.

4.2.c. Conversion to Homeopathy: A life-changing decision of Dr. Sircar -

He quit his conventional profession within a year and started preparing and prescribing homeopathic medications to his patients. He felt it was his responsibility to share his observations with everyone. He spoke with one of his esteemed professors at Calcutta Medical College about his revised perspective on homeopathy. He was, however, advised to continue his conventional medical practice. However, as his experience developed, his

conviction grew more robust than it had been. Mahendra Lal decided to share his knowledge with the other medical experts. He advocated for homeopathy in a speech titled "On the Supposed Uncertainty in Medical Science and the Relationship between Disease and their Remedial Agents," which he delivered at the Bengal section of the British Medical Association's fourth annual meeting in February 1867.⁷⁰ Mahendra Lal urged his fellow doctors to look into his claims and use homeopathy as a form of treatment in his address. The conversation was proceeding politely until one of the marine surgeons vented his ire at Mahendra Lal Sircar for highlighting the benefits of homeopathy rather than disparaging it. The other doctors strongly dismissed his expulsion.⁷¹

The secretaries claimed that Mahendra Lal's paper belonged to the Association and requested to leave it with them. Mahendra Lal contended that as the Association's first secretary, he was aware of the absence of such a regulation prior to the meeting. Sircar didn't have another duplicate of that handwritten document. Sircar consented to deliver his presentation at the request of another Association member, but only as a friend and not as an official representative of the Association.⁷² After much effort, he managed to take back his paper. He was dismissed as the Association's vice-president. He suddenly transformed into a social pariah. Mahendra Lal felt upset by the negative criticism of him made by medical professionals in their writings in Bengali and English, but he remained firmly devoted to the cause of homeopathy. Instead of embracing homeopathy, his patients requested to prescribe allopathic medication⁷³

4.2.d. The New Journey of The *Calcutta Journal of Medicine* -

The deep belief of Sircar surprised many of Mahendra Lal's well-wishers, who had urged him to practice conventional medicine once again. Since he had no patients to cure, Sircar spent his leisure time expanding his understanding of homeopathy. Only a few publications, including *The Hindoo Patriot*, had begun to embrace homeopathy. The *Englishman's* editor also showed

sympathy for Sircar. Mahendra Lal knew the *Indian Medical Gazette's* doors were shut on him. He created his medical magazine to accomplish his vision of providing homeopathy equal standing with allopathy. He wanted to provide a platform for the original medical writing of Indians. In January 1868, *The Calcutta Journal of Medicine* began publication.⁷⁴ The publication promoted accurate homeopathic knowledge in India. Unsurprisingly, the resistance disappeared as Mahendr Lal's Journal gained popularity. To spread the success of homeopathic medicine, he recorded his triumphant instances in the journal. These success tales demonstrated Sircar's rising fame as a homeopath. Babu Rajendralal converted affluent people, who later became Mahendr Lal's initial supporters. Iswar Chandra Vidyasagar, Gopal Chandra Lahiri, Radhakanta Deb, Nabinchanda Sen, Dwaraka Nath Mitter, and Thakur Ramkrishna Deb were only a few of the notable Bengalis who were his patients. He also treated Lady and Lord Dufferin, the viceroy of India. He founded a charitable dispensary and provided free care to many low-income patients. Men in Bengal began to consider Mahendr Lal, a doctor who employs homeopathy for better treatment in exceptional cases.

In Mahendr Lal's own account, "Thus 16th February 1867 has been memorable in the history of the medical profession in this country."⁷⁵ The first medical professional from India to advocate for medical reform. The most effective cure, in Mahendra Lal's opinion, is homeopathy. He sought to establish homeopathy as an enhanced form of traditional medical treatment. He wanted to make the argument that the two schools were interconnected.⁷⁶ According to him, the approach to treating a particular disease comes in second, and all medical professionals should use the best possible method for treating an illness. Unhealed patients started arriving at Sircar for treatment. Traditional allopathic medical professionals also started supporting homeopathy. In India, many individuals made homeopathy their primary occupation within 35 years. There were four homeopathic universities in Calcutta, and students traveled overseas to study the discipline. Why did people in India begin using homeopathy? To

answer this question, we can observe that people willingly accept homeopathy because of the single-dose, low-cost therapy method. The "Help yourself" approach of homeopathy appealed to individuals of all classes and castes. Mahendra Lal constantly urged young homeopaths to share their knowledge and case information with other medical experts to advance the field. His journal served as the foundation for many successful arguments.

4.2.e. Establishment of The Indian Association for the Cultivation of Science -

Due to all this adversity, Mahendra Lal Sircar understood the importance of individuality under British rule. His sense of nationalism inspired him to take action for Indians. He discovered similarities between homeopathy and Ayurveda. Both schools recommend small dosages for treating a weak patient and believe in the body's natural healing process. Both therapies were neglected by established medical schools.⁷⁷ Indians became attracted to this new area of Western medicine by its similarities with indigenous medical practice. Mahendra Lal Sircar decided to promote scientific ideas among Indians and provide a forum for Indian scientists to conduct experiments using their originality. He expressed his ambition to create a scientific research institute for Indians in an essay titled "On the desirability of a National Institution for the Cultivation of the Physical Sciences by a Native Doctor," published in the *Calcutta Journal of Medicine* in August 1869.⁷⁸ Sircar received immediate support from elite-class Bengali society. *Indian Mirror* and *Hindoo Patriot* started supporting Dr. Sircar. The complete planning procedure for establishing the *Indian Association for the Cultivation of Science* (IACS) (see Appendix V) was described in an article published in the *Hindoo Patriot* on January 3rd, 1870. Sircar urged Indians to join the Association. It urged intelligent Indians to devote their lives to scientific study. The article's editor, Krishnadas Pal, pleaded with readers to donate funding. Sircar sought to enhance India's scientific credentials. He made an effort to promote science in British India. He was standing against British power. Sircar saw IACS as a

way of disseminating scientific ideas to modernize India. His initiative was created by Indians for Indians.

Father Lafont became Sircar's most important ally in seeing this project through to completion. Father Lafont gained recognition for his role in promoting science in India. He was aware of the fact that this Association would serve as the public face of India's advancement in science. He used all of his resources and influence to raise funds for IACS. Newspapers said Father Lafont and Sircar were the cornerstone of Bengal's scientific reformation. Sircar collected 86,385 rupees for his dream venture in only five years.⁷⁹ The inaugural meeting of the subscribers took place on April 4th, 1875, at the Senate House of Calcutta University.⁸⁰ At the second meeting in November 1875, a trustee was appointed to handle financial matters, and a provisional committee was established to develop the Association. Lieutenant-Governor published the governor plan on January 21st, 1876, and aided IACS in obtaining the extra funding. By requesting the government to purchase a building for the Association to promote scientific education in India, Sir Richard Temple helped Sircar. Utilizing the Association's contribution of 50,000 rupees in government securities, the government agreed to let them purchase the building. This forced Sircar to seek government assistance. He solely wanted Indians to help him establish this Association. But Sircar had to work on this project with the British.⁸¹

On July 29, 1876, the IACS conducted its first formal meeting at its new home at 210 Bow Bazar Street in Calcutta, with Richard Temple serving as president.⁸² On that day, several prominent Bengali elite gathered and gave an encouraging speech. The whole theater echoed Sircar's triumph. The institution was India's first scientific one. Sircar had intended to expand the Association's branches throughout India, but that never materialized. IACS initially struggled with staffing issues as well as funding issues. Nevertheless, the Association was able to host 100 lectures annually. Provisional Committee could not modify the building since it

belonged to the government and was not their property. They applied to the government and paid 30,000 Rupees for the property. Then, it was no longer a piece of government property. They renovated the building and made it more modern with advanced planning. Viceroy Lord Landsdowne placed the laboratory's foundation stone on March 27, 1890.⁸³

4.2.f. Eminent Scientists of ICAS –

As members of this organization, Jagadish Chandra Bose, Joyti Bhusan Bhaduri, Ashutosh Mukherjee, Meghand Saha, C.V. Raman, and Prafulla Chandra Roy made a significant contribution to science. The Association's goal of providing Indians with an opportunity for scientific investigation was strengthened. Indian science was developing under the British Empire.⁸⁴ Despite the Association being a well-known institution in Calcutta, Mahendra Lal Sircar was dissatisfied with its slow development. Sircar was frustrated by the lack of funds. However, the creative teaching methods and theoretical and practical guidance significantly altered Indian scientific education. Other institutions, like Presidency, Medical College, Shibpur Engineering College, etc., were pushed by modern approaches of ICAS to modernize their labs, teaching methods, and curriculum. IACS was the forerunner in revolutionizing the technique of science teaching in India despite its financing challenges and fewer student concerns.

4.2.g. The Impact of Nationalism on Mahendra Lal Sircar -

With the formation of the Indian National Congress in 1885 and the emergence of the Swadeshi Movement in 1905, scientific and technical education was emphasized by the nationalists for India's progress.⁸⁵ Promoting science was used to demonstrate ignorance to the British government. Jamsetjee Tata, a Parsi businessman, had plans to establish an Indian university to conduct research pertinent to the Indian industry. Sircar was pleased with Tata's plan to advance scientific education in India, but he was disappointed with ICAS since it was not

succeeding as Sircar expected. It was regrettable that IACS expanded after his passing in 1904. In one of his last lectures on IACS, he pleaded for the next generation to take charge of the organization and work to secure its future. He saw his lifetime effort to instill a love for science in Indian culture as a huge failure. However, he had planted a seed that grew after his demise.

The Universities Act of 1904 was passed by the Viceroy of India, Lord Curzon, to reduce the nationalist influence in academic institutions. It was an attack on the local scientific institutions in the guise of reform. Sircar encouraged the younger generation to raise money so smaller universities could get the necessary equipment to compete with government-funded institutions. Sircar had been bedridden when the University Commission made its report public. However, he put a lot of trust in the next generation of scientists. He was confident that the next generation would advance India by brilliant scientific invention.

Mahendra Lal Sircar arose, fought back, and achieved like a phoenix. He was unstoppable. He was almost excommunicated in 1866, and in 1870, he was accepted as a prestigious fellow at Calcutta University. He served as Calcutta's honorary magistrate and sheriff from 1877 till his death. He was appointed C.I.E. by the British government in 1883. In 1898, he received an honorary doctorate from Calcutta University.

Hindu liberal Mahendra Lal Sircar, despite not being an ardent follower of David Hare, Derozio, or Thakur Ramkrishna Paramahansa Deb, was immensely inspired by them. He wanted to contribute to the country in some way. He realized that India could not accomplish its cultural renaissance and freedom without providing scientific education for both men and women. He thus encouraged Abala Bose and Sarala Devi Chowdhurani to pursue science as a field of study.

Since 1903, his health was declined due to several medical conditions. At only 70 years old, he died on February 23, 1904, leaving a legacy that can never be forgotten. His form of

nationalism was unique. He aimed to free the minds of the Indian people from the British rule. He encouraged independent thought among Indians. He made every effort to lessen reliance on the British. He cherished independence. He also wished to liberate India from its traditional superstitious culture. He was making an independent stand during the era of the nationalist movement. The eminent doctor Mahendralal Sircar was credited with introducing nationalism to science. The nationalist philosophy of Mahendra Lal Sircar would aid our understanding of science's role in India's nationalist movement.

4.3. Kailash Chandra Bose (1850 – 1927) -

Born on December 26, 1850, in Calcutta, Kailash Chandra Bose (see Appendix I, Plate 5.3) was the second child of Babu Madhusudan Bose, a senior member of Simla's Bose family. His father and other family members were among the first to use steamships for communication on the river Hughli. They were widely recognized in business circles but also made a name for themselves as patrons of the arts and sciences. K. C. Bose entered Calcutta Medical College after graduating from high school with honors and went on to earn his degree from Calcutta University in 1874. He initially joined the government as a resident medical officer at Campbell Hospital in Calcutta, but a brother convinced him to leave the government and start his practice.

4.3.a. Professional Career and Achievements of Kailash Chandra Bose -

By two years, he gained a respectable reputation in Calcutta and built a successful practice, particularly among the Marwari people. It didn't take him long to establish himself as Bengal's top Indian physician. He served as Vice-President of the First Indian Medical Congress, President of the Calcutta Medical Society, Commissioner of the Calcutta Municipality in 1899, and Rai Bahadur since 1895. He was also made a Companion of the Order of the Indian Empire (C.I.E.) in 1900 in honor of his significant contributions to Bengal, and he was a Fellow of Calcutta University starting in 1904. He served as a Bengali representative to the All-India

Sanitary Conference, the Calcutta Medical Club president, a Plague Commission member, and a city councilor for twenty-two years in Calcutta. He received the Kaiser-i-Hind gold medal for his public service in 1910, and he was knighted in 1916, being the first Indian doctor to do so. He received numerous honors throughout the years, including the Order of the British Empire in 1918, membership in the State Medical Faculty of Bengal's Governing Body, and the presidency of the Antimalarial Co-operative Association. He was also a magistrate for the presidency by honor.⁸⁶

Sir Kailas' career was distinguished by two unique traits from the beginning to the end: his exceptional professional talent and his passionate philanthropic commitment to the hospitals and charity organizations of Calcutta City. He spent the money he earned from the first on the second. He was an optimist, an old-school Indian who sincerely believed in the connection to Britain, and a guy of exceptional charm and strength of character. In a way that would not have been conceivable for anybody less of an idealist and a seeker of the truth, he did not hesitate to speak the truth, no matter how unpalatable, and his viewpoint was heard and respected. He disregarded diplomatic protocol and the fictions of politics, neither of which he ever engaged in, because of his convictions and personal bravery.

4.3.b. The Fund Raiser -

In Calcutta, he found time to complete enormous work for the people. Among his numerous charitable endeavors, raising money to fund the Bengal Veterinary College and Hospital was noteworthy. He also raised Rs. 36,000 for the construction of kennels and the purchase of veterinary ambulances. With his efforts, he grew around one and a half lakh rupees to build cottages for paying patients at the Calcutta Medical College Hospitals. One of his friends gave Rs. 20,000 to the Prince of Wales Hospital in Calcutta for surgical supplies to appreciate his work there. He raised Rs. 12,000 for the Lady Dufferin Hospital's endowment fund. Eventually,

his most significant work was his extended and close personal association with Sir Leonard Rogers in raising enthusiasm for the Calcutta School of Tropical Medicine proposal and collecting funds for its endowment. In actuality, Sir Kailas Chandra Bose and Sir Leonard Rogers were able to approach the European commercial community and emphasize the necessity of supporting the program after garnering significant donations from the Indian community in Calcutta. Sir Kailas raised two and a half lakh rupees for this endeavor, and the school credits both Sir Leonard Rogers and Sir Kailas' efforts equally for its founding. The Kailas Chandra Bose ward for Indian men at the Carmichael Hospital for Tropical Diseases was named in his honor after he donated an additional Rs. 5,000.⁸⁷

He continued his charitable work by raising an additional Rs. 40,000 for a Puri pilgrim rest home and Rs. 13,000 for a separate female ward in the Puri Pilgrim Hospital. Other endowments that "he raised" included funds for improving the leper colony in Puri and providing clean drinking water for pilgrims there. Additionally, he raised funds totaling Rs. 75,000 for the pilgrim rest house at Kalighat. He left another sum of Rs. 65,000 at the disposal of the Bengali government for the construction of a zenana bathing ghat near the Howrah Bridge. Through additional efforts, he raised Rs. 65,000 for the Kidderpore Park and recreation grounds opening and Rs. 50,000 for a maternity home for Indian women that H. E., the Governor of Bengal, inaugurated. In Calcutta, finding a hospital for humans or animals or a charitable organization that hadn't owed him a debt of the highest appreciation was difficult.⁸⁸

4.3.c. A Social Worker -

He wasn't just involved in charitable activity. In the days when Calcutta was faced with a plague panic, his immense influence was put into the scale to stabilize and rally public opinion in favor of the measures advocated. He established fewer than eight private plague hospitals to treat patients from a respectable class who declined to enter the standard segregation hospitals.

He ran a vigorous campaign for the Government of India War Loans during the First World War and successfully invested almost two crores of rupees. He has left behind a significant body of work consisting of at least thirty medical and scientific pieces that cover a wide range of topics, including pandemic dropsy, cholera in Bengal, smallpox, diabetes among Bengalis, the use of drug addiction in India, water supply, reservoirs, and urban planning.

In an obituary published in the Indian Medical Gazette, it was stated, "Sir Kailas was a man whom it was an honor and a privilege to have known. Dignified, courteous, and stately in presence, he was an ideal host. In the speech, he was never hurried, spoke slowly, and never gave anything but his matured judgment."⁸⁹ He was respected for his intellect, experience, and wisdom, and his input from the Indian perspective at the meetings of the Governing Body of the Endowment Fund of the Calcutta School of Tropical Medicine was important. It was also said in that obituary that no Indian in India had a finer perspective on the past and the future, and no one's thoughtful opinion had more significant weight. Whether the topic included Calcutta University, the School of Tropical Medicine, the Medical College, or another philanthropic organization, his advice and opinion were always eagerly sought, even if they weren't always offered immediately. Furthermore, he could express genuine Indian opinion about many humanitarian endeavors in a way that would have been unthinkable for nearly any other Calcutta inhabitant due to his extensive practice and acquaintance with the city's wealthy and commercial Indian communities.⁹⁰ On January 19, 1927, Sir Kailas Chandra Bose, one of India's most renowned physicians, passed away from heart failure at the age of 76.⁹¹

4.4. Shantilal Roy -

From 1757 to 1900, when Britain ruled India, significant socio-political shifts and scientific advances impacted India's medical systems, institutions, and practitioners. Historians have also argued over whether the colonial government utilized Western medicine as a tool to expand

and justify its authority. Army Medical Department (AMD) physicians provided care wherever the British army stationed its troops. As the empire grew, army physicians might anticipate spending more than half of their careers abroad by the turn of the century. In contrast to the all-European British army, which employed both British officers and Indian NCOs and soldiers, the Indian Medical Service (IMS) hired officers to provide care for the Indian Army. Therefore, by definition, IMS physicians spent their whole professional lives outside of the United Kingdom, whereas AMD counterparts at least alternated between colonial and domestic travel. However, the IMS had benefits in that Doctors could move from the military to the civil branch of the IMS after a few years, subject to recall in crises.⁹² The practice of "Doctory," or Western medicine, grew in popularity in India during this time, supported by both the British and Indians who had received a Western education. The subordinate medical service was staffed by many Indians who had received Western medical training, while the superior medical service was predominately reserved for Europeans.⁹³

The Bengal Medical Service was established to hire British surgeons in Bengal formally. The first Indians to receive medical care from British doctors were Indian troops hired by the company. Due to their strict caste laws, high-caste soldiers were frequently reluctant to receive medications prepared by Europeans. British doctors recommended that the company engage Indian practitioners for new Indian regiments as compounders and to deliver medicine to the patients.⁹⁴ Subordinate Medical Services (SMS) were established in each presidency starting in 1760 to coordinate them. Until 1947, these services coexisted with "superior" medical services. They typically had some familiarity with local medical practices and learned new ones while training with European surgeons. They didn't have any formal education until the early 19th century. "Native doctors" was the title given to the British-trained Indian assistants.⁹⁵ Thus, the group of native doctors was diverse, with training ranging from Western medical education in English or vernacular languages to on-the-job training in the company hospitals.

4.4.a. Indian Doctors in the British Army -

Approximately 50,000 Indian troops and 947,000 British died in the imperial war out of the 1.27 million men in the Indian army during the First World War.⁹⁶ In World War II, nearly two million Indian soldiers served in the Indian Army (1943)⁹⁷. By the end of the war, there were almost 8000 Indian commissioned officers (ICOs), 220 lieutenant colonels, and four temporary or acting brigadiers, up from 577 at the beginning of the war. 140 of whom were medical officers. By 1945, the ratio became 4.1 British officers for every ICO, down from 10 British officers for every Indian officer in 1939.⁹⁸

One of the most important events after World War I was the independence of Burma. Burma was given independence from the British rule of India in April 1937 and established as a semi-autonomous nation, directly answering the Colonel's Office. At this point, Burma Command broke from the Indian Army. On December 12, 1941, four days after invading Malaya and officially starting World War II, Japanese troops made their first incursion into Burma. The first Japanese invasion occurred at Victoria Point, the country's far south. Thailand, a supposedly autonomous and neutral nation that supports Japan, was considered the primary threat to southern Burma. On January 31, 1942, the Japanese overran Moulmein and left toward the north. The 17th Indian Division was forced to run over Sittang after crossing the Bilin River. British soldiers destroyed the lone railway bridge in the area that crossed the river on February 23, 1942. Two of the division's brigades were still on the river's eastern bank. The 17th Indian Division was severely diminished as a result, yet it could still fight its way out of being surrounded. The 7th Armoured Brigade timely arrived in Rangoon. The 7 Indian Division and the 5th Indian Division, who had recently returned from the Middle East and were now under the command of the 15th Indian Corps, launched another modest offensive in Arakan in January 1944. While the Japanese 28th Army was starting its significant attack at the same time, the

main drive of the 15th Army was to seize the Imphal Plain and then move into India. A turning point in British success in Southeast Asia can be attributed to the Battle of the Admin Box in February 1944, when the Japanese attack failed and forced them to abandon their advance.

The big onslaught in central Burma started shortly after that. The IV Corps was cut off on the Imphal Plain, forcing the 17 Indian Division to retreat along the Tiddim Road. On March 29, 1944, the route between Kohima and Imphal was blocked, and Kohima was under siege from April 8 to April 20, 1944. The Japanese were pursued by the 14th Army, which eventually forced them back to the river Chindwin. Crossing the Chindwin, the 14th Army moved closer to the Irrawaddy. In the meantime, Akyab was taken by the 15th Indian Corps, which A.L.F.S.E.A commanded. As if moving toward Mandalay, formations from the 14th Army crossed the Irrawaddy River while a silent advance force from the 4th Corps was moved up the river farther below. As a result, Operation Extended Capital officially began with the 4th Corps attacking Meiktila. The Japanese Army in Burma took a dagger to the side. After Meiktila was taken and held, the Japanese resistance gave up. With the 4th Corps and 33rd Indian Corps moving into Rangoon, Central Burma was reclaimed. The 15th Indian Corps defeated them after fighting in a valiant amphibious battle to gain Rangoon.⁹⁹

One of the most outstanding British achievements during the colonial period was importing the European infantry system and teaching the Indians to be sepoy.¹⁰⁰ Even though the French first adopted this method, the British had greater success in growing the sepoy system. England and France divided their colonized subjects into "warlike" and "non-warlike" categories. The British authorities in India designated North-Eastern and Northern India, primarily the Punjabi people, as warlike. They believe that people from these regions are more masculine than people from other parts of India. According to Jeremy Black, the study of military history is mainly Eurocentric.¹⁰¹ Military sociology is similar. They are Eurocentric in that they primarily focus

on the armies and conflicts of European and, more recently, Western powers. One solution should be more intensive research on non-Western military experience, the spread of Western military systems into the non-European globe, and the hybrid forms that evolved from that, such as the great social histories of colonial armies currently available.¹⁰² The autobiographies of these Indian soldiers who worked in the British Indian Army during the Second World War can tell us an alternative story of the war. Studying war history from non-Europeans' perspective in more contemporary war historiography has replaced the Eurocentric approach. The experiences of the troops who fought on the front lines can be used to explain the realities of war and its detrimental effects on people's lives, society, politics, and culture. Understanding the brutal realities of the battlefield requires and benefits from reading war literature. Among all the British colonies, only the Indian native army was allowed to fight overseas. Indian perspectives on the British Empire are crucial for understanding colonized India's social and political history. In counterfactual historiography, the autobiographical writings of Indian soldiers serving in the British Army are living documents of war history. The details of the war, the actual picture of the battlefield, the personal relations of the Indians with the Sahibs, caste differences, caste problems, war crises, etc., all come up in the memoirs.

4.4.b. *Arakan Fronte* : A war memoir of Shantilal Roy -

Bengali doctor Shantilal Roy, who served the British Indian Army in the Burma campaign of the British empire during World War II as a military surgeon, wrote a book, "*Arakan Fronte*"¹⁰³ (see Appendix I, Plate 5.4), which was published later on with the constant encouragement of Dr. Niharranjan Gupta, one of his colleagues at Arakan front. Niharranjan Gupta validates that this book is not mere war literature or fiction but a real war history. He went on to say that actual war literature is scarce in Bengali. He said, "There is no such book in Bengali literature."¹⁰⁴ The few books published in the market under "war literature" are meaningless and far from the truth.

In this book, Shantilal Roy briefly discussed the war history of the British force and the Japanese force that met in the mountainous region of the Arakan province in Burma in late 1943 and early 1944. Shantilal mentioned that he joined the British military force as a surgeon in mid-1940, when power-monger Germany was unleashing a worldwide cataclysm, destroying the power balance in the whole world. Following the path of Germany, Japan in the Far East started conquering countries and destroying the British glory, honor, and prestige that had been established for so long. The defeat of the so-called “invincible” British forces was a shameful chapter in the war history of the British Empire.

4.4.c. Experience of the Frontier -

Santilal Roy was appointed to the civil service of IMS after returning from the battlefield of Malay. From March 1942 to April 1944, he worked for one and a half years in various military hospitals known as "Peace Stations."¹⁰⁵ Though he wanted a peaceful life after witnessing massive destruction, death, and blood, within four months he got bored in the “Peace Station.” He applied for a front-line job with his higher authority, which was approved after meticulous efforts. After leaving Calcutta, his troop halted between Silchar and Bishanpur roads in northeastern India. From there, he led the “Advance party” of the battalion and reached the Comilla of Bengal, the headquarters of the 14th Army.¹⁰⁶ From Comilla, they started their journey to Arakan.

He said, “Our motor carriage is joined to the passenger carriage, and we go with all the other passengers, but we are completely separated from them.”¹⁰⁷ They had old, dry bread, tin fish, and meat but little opportunity to bathe. Like that, they reached Mainamati. Then they marched long towards Arakan in Burma through the mountains, forests, and dusty, muddy road. During his five years of employment, he met a few Bengali co-workers. On this long, tiresome journey, he met two or four Bengali men for a short period, which relieved him for some time. After a

week, they crossed the Arakan border of Burma and reached Chota Mangdana, just beside the Mayu range of mountains. They set up camp in a valley between the Mayu mountain range.¹⁰⁸ The whole hospital was inside the tent; there was a provision to accommodate 250 to 500 patients. He stated that their *palton* (group) was a small “Mobile Surgical (Unit).” There were three officers – a surgeon, an assistant specialist, and an anesthetist. He was the only Indian doctor among them. Along with that, they had 15 assistants for the hospital work.¹⁰⁹

They had stocked all kinds of dressing tools and battery-operated electric lights. For quick moves with short-term notice, they had four motor vehicles. Their job was to stay connected with the field ambulance, perform surgery on the wounded men from the battlefield, and transfer them to relatively safe hospitals within a short time. Two or four field ambulances and other “Casualty Clearing Stations” had been brought there.¹¹⁰ Depending on the situation of the war, they were redeployed as needed.

After pitching the tent and building the hospital, everyone had to develop their accommodations. They raised their small tents in the shade of the forest, in the corner of the hill, in the dry stream. They made this setup near Mangdaw, five miles from the battleground. Shantilal Roy described the surroundings by stating there were various types of artillery, tanks, armored cars, artillery, machine gun mortars, and multiple types of firearms all over the hills. The trench was surrounded by wire fences and guarded by soldiers. As dusk approached, everything froze. No lights were allowed outside. To keep the trench safe from enemies, even smoking cigarettes was prohibited.¹¹¹

4.4.d. The Nights of Horror -

They spent their days treating patients, nursing, and comforting the wounded in the tent hospital. Two or three times a day, enemy aircraft circled over their heads and frightened them. Unfortunately, they constructed the tent along one of the routes of the Japanese pre-planned

three-pronged drive just as they were about to be attacked by the enemy. In that emergency, two wounded military men arrived at the tent hospital. The surgeon began his procedure in the tent's hole. They had batteries, electric lights, and a torch on their headgear for the operation theatre. While doing the operation, they heard the sound of rifles. And they had the order to take the position with firearms after hearing the first sound of firing. Santilal threw off his white operating gown and jumped on the trench. The trench was almost filled with army men, and he didn't dare to raise his head because he was not wearing the iron cap. He remembered that innumerable hot shells from the firearms were streaking over his head. The soil of the trench started to fall on them. He experienced the fine line between death and life very closely.¹¹²

He spent over two hours there, but there was no change in the situation. Unable to bear the severity of the winter, he decided to go to his shelter tent, about six hundred yards from the trench. He crawled slowly from the trench and reached his goal through the canal. He lay down there like a mummy and experienced the firearms' lighting and tremendously horrifying sounds. However, he could not stay there for long; a burst from a brain gun abolished his tent. He took shelter in the cave of Captain Tote (probably an Indian) and spent the rest of the night there.

The following day, everyone was terrified, and the order was to tie up everything and move back on the same day. Santilal remembered that the Japanese air fleet began to bombard that day and that it became a daily occurrence. Shantilal frequently mentioned one thing that the Japanese army tried to avoid in the Red Cross camp area in the first phase of the battle. However, Shantilal described a horrifying picture of the following day when he entered the operating room; he saw the injured patient, who had been forced to leave in the middle of the operation last night, his lifeless body was lying down under the operation table, which was also turned down. He was buried. But for a long time, "in my sleep, that terrible image of him with

slits in his stomach floated” in his memory.¹¹³ He tried to consolidate himself by thinking he had no other option that night than to stand and watch him die on the table.

They tied the things as ordered, put them on the motor truck, and got ready. At 10 a.m., the order came to attend to the wounded soldiers, and the situation was under control. The surgical unit started building the tent as soon as possible without the will to do so. The mental and physical conditions of the doctors were just ignored at the front. He felt sorry for the doctors like him because “feelings, emotions, momentary weakness, happiness, and sadness like ordinary people” did not suit them.¹¹⁴

The irony of fate was that the operation was identical to the night before, and the patient was in the same condition. Major Ives received another signal message. He ordered Roy to leave the place within two hours with all the surgical tools and the whole unit because the Japanese attacked the Seventh division, the British army’s headquarters, and mentioned the “situation serious but not hopeless.” Interestingly, Major Ives went to Bawli Bazar with Captain Ward and Captain Hutton and took the station staff car. He left three motor lorries for Roy and the unit. He stepped aside and said in Roy’s ear, “We are white, and the Japanese will kill us brutally if they catch us; you are an Indian, you will not be tortured, and maybe you can even be spared. Goodbye and Good Luck”.¹¹⁵ This kind of weakness on the part of the major created considerable discontent among the white men in the unit.

Roy could not leave this patient after the last night’s bitter experience. He finished the surgery and handed him over to the “rear party” along with other surgical patients, who were meant to start their journey after two days, only if they survived the Japanese attackers.¹¹⁶ After a long, nerve-breaking, life-and-death journey, they reached Bawli Bazar. On that journey, he used his surgical tools to extract gasoline from a lorry (which still had the body parts of a deceased driver, whose body had been cut down due to bomb blasting).¹¹⁷

4.4.e. The Bawli Camp: The Experience of ‘Casualty Clearing Station’ -

He portrayed the unbearable pain of the Bawli camp. Some of the soldiers arrived in only their pants or undervests. Some were traumatized, some lost their sanity, and some were in utter shock. Shantilal Roy distributed his personal belongings to his fellow soldiers without a second thought, as he forgot about anything but the severity of the battlefield, making him selfless.¹¹⁸

Shantilal and his unit got shelter in a ‘casualty clearing station.’¹¹⁹ The Japanese air fleet distributed leaflets to mark the Red Cross area. According to the Geneva Protocol, within 800 yards of the Red Cross area, no army men or firearms can get a room. So, the medical unit right away marked the spot with red flags. And Roy mentioned that the Japanese air fleet never bombarded that particular region.¹²⁰ The mission of the Red Cross Society was to raise funds and gifts from the public to provide medical care for the sick, injured, and war victims, among other needs. The Red Cross Society Act of 1836 establishes who and when the organization may benefit and what portion would go to the states and union territories. Shantilal described the misery of the innocent village people who lost everything in this war between two powerful countries.

4.4.f. Shantilal Roy’s Commemoration on Azad Hind Army -

An essential part of Shantilal's commemoration is the Japanese soldiers' advertisement for the Azad Hind Army. While working in the British army, Shantilal Roy witnessed misleading information about Azad Hind Fauj by British officers, which created a massive misconception about the INA among the Indians working in the British army. The Japanese fleet distributed books on Azad Hind Fauj and asked the Indian army men working under the British unwillingly to join Azad Hind Fauj. British people used to call those “JIFFS” (Japanese Indian Fighting Force). Roy acknowledged that the British Intelligence department. Used to report weekly on the movements and workings, number of soldiers, and exact location of the Brigades of Azad

Hind Fauj (Neheru Brigades, Azad Brigade, Jhansi Brigade, and Subhash Brigade) to their higher authority. Shantilal mentioned that he may not have been able to publicly show respect for the Azad Hind Army due to being in the British Army, but he felt proud as a Bengali. And hoped that just as the Turks got independence under the leadership of Kamal Pasha, India would gain independence from the British under the supervision of Netaji Subhas Chandra Bose.¹²¹

4.4.g. The Uncertainty of the Battlefield -

Their next destination was Gopee Bazar, which could be reached through Gopee Pass, a dangerous way to cross. They were prohibited from using the Red Cross flag while moving with the army group. He mentioned the “Dakota,” which supplied aid in the Gopee Bazar Camp area through parachutes.¹²²

The uncertainty of life on the battlefield is evident in the writing of Shantilal. He mentioned that setting up hospitals in the camp area was difficult, and they could be moved within a day. The situation worsened daily; they started living in “foxholes,”¹²³ which were suffocating and hideous. The patients’ beds were made of branches of the forked tree and bamboo sticks from the forest, and stretcher lines were placed on them. The canopy was made of foliage. There was a “blood Transfusion Unit” and a surgical room; this was the whole field hospital. He gave a brief description of his daily routine.¹²⁴ Their day started with “stand to” after their morning toiletries, then pushing plasma or blood to the wounded soldiers, surgery, and treatment, then transferring them to the larger hospital, which was in a relatively safe place. The field hospital had to be evacuated after the first emergency treatment and surgery of the newly arrived wounded from the battlefield was completed, and they were sent to the rear hospital. Because they were needed to clear the space for the next batch of wounded soldiers. The patients were sent to the larger hospitals by air for emergency cases. Then, the day was spent working on various details. In the afternoon, they used to take baths in the filthy canal water, which was

also not always available. They had to finish their meal before it got dark. Then again, “stand to” and a long, frightful night at the mud hole.¹²⁵

As night approached, it was prohibited to light any lamp except for emergency surgeries. The surgical room was built by digging five- or six cubits deep underground. The lamp had to be lit in that dark hole with utmost caution. Before that, they had to inform the commander about their emergency surgery, or else their soldiers around the perimeter would shoot at the lights. He witnessed the cruelty of the war, which didn’t spare anyone. There was a “Pass and Counter Password” for any emergency movement at night.¹²⁶

He praised the dedication and devotion of stretcher-bearers for their work. They did the most dangerous and difficult job; they carried the wounded on their shoulders and passed seven to eight miles from the battlefield to the field hospitals. There was a high possibility of being killed on the battlefield by Japanese sniper bullets from the roadside jungles; they walked through the night. Their courage and patience were unmatched. They served the wounded regardless of caste or disregard for life, but no one bothered about them as they were ordinary, insignificant people. They were doing selfless work without any acknowledgment. He didn’t exaggerate the unnecessary heroism of the soldiers while the enemies were approaching closely. Though part of the surgical unit, Roy had to be ready with his gun whenever necessary. He described his terrifying escape from the enemy's den after inadvertently getting too close to the enemy camp. He was called an “idiot” by the commander-general Lomax of the 26th Division for taking a wrong turn toward the enemy camp. Maybe he would be punished for that, but he knew the exact location of the enemy and saved his back.

4.4.h. Racial Discrimination in the British Army -

Racial discrimination towards Indians in the army camp has also been reflected in his writing. For example, the Indian men in the British army were left behind whenever a risk arrived. He

mentioned the cultural gap between Indian and European soldiers in the army.¹²⁷ The white masters were always disgraceful toward Indian culture, cooking methods, food habits, dietary rules, etc. Indian soldiers were forced to follow British etiquette at every moment. They were not allowed to talk in their mother tongue in the presence of any white men. “Beg your pardon” became a common term to maintain European decorum. Maintaining European sociality was another problem for Indians in the British army - limited talk, expressing verbal politeness, fake smiles, waving to greet people, and eating and drinking quietly with a fork.¹²⁸ You must ask for a verbal apology (like – “I beg your pardon,” “Excuse me,” etc.) if there is any word. It was problematic for Indians to follow such customs. However, to impress the masters’ Indian soldiers, they behaved indifferently toward their culture. Some of them deliberately act like sahibs to get acknowledgment from their white masters. But Shantilal assumed that the white masters would never adopt or even accept Indian culture for once. He said, “We Indians have no faith or trust in our religion, characteristics, nationality, culture, or civilization. We blame British colonizers, but everywhere we prefer their language, lifestyle, and way of thinking”.¹²⁹

According to him, Europeans were more or less womanizers; they had a habit of enjoying the company of women and alcohol, which was also not the culture of Indians, who were colonized by the British and had no such mindset. Europeans always tried to maintain their uniqueness from a distance. They used to laugh at the behavior of the Indians. According to Roy, racism and imperialism were inextricably linked to every particle of their blood. They always tried to prove their racial superiority with their behavior. “Kala Aadmi” does not come in qualities.¹³⁰

This encounter of caste and racial discrimination was also observed in the hospital by Shantilal. This disparity between Indian and British wounded soldiers was evident in their provision of food, accommodation, and special allowances. Notices came with special protein food and dietary plans for British troops only. Colonized Indian soldiers giving their lives for their colonizers were getting this kind of treatment in the army hospitals. He mentioned a tragic case

of discrimination against Indian soldiers. Many wounded Indian soldiers came from the battlefield to the hospital with missing fingers or hands. The mem nurses (sisters and V.A.D's) took care of them and used to feed them with their hands.¹³¹ They asked Shantilal, "Captain Roy, bring a couple of spoons; otherwise, feeding them will be very difficult. It is better to have more; poor people have to wait a long time to have food put in front of them due to the unavailability of spoons until one person does not finish his meal."¹³² Shantilal wrote to the quartermaster for spoons. The reply came, "Indian soldiers are not entitled to have a spoon; they have to eat with their hands."¹³³ Shantilal stated that his body was burning with anger and sorrow for his fellow Indian soldiers who lost their hands or fingers to those British colonizers, who cared a little for their misery. He again requested the British officer to arrange some spoons, not for Indians but for the mem nurses, feeding them with their hands, as they were their people. But the officer in charge immediately showed him the rule book, which he could not disobey.¹³⁴ Later on, Roy and the ward sister appealed to the higher authority in a party-like gathering, and at that time, spoons arrived in two days.¹³⁵ Another example was the requirement to change the mattresses of Indian soldiers at the hospital, which was denied by claiming that the Indians were provided with adequate beds, which was enough.¹³⁶ He hopes for a better future when a group of boys and girls devote their lives to India, to whom the country will be everything, and personal happiness, sorrow, and desire will be insignificant.

Now that the battlefield scenario was changing, the Japanese army stepped back slowly. Shantilal was moving forward, passing through the war-ravaged area. He saw the destruction, blood, dead bodies, ashes, bullet shells, the box full of firearms and grenades, love letters, "love knots," "forget me not," written on handkerchiefs by loved ones, etc. It was like poetry, where life and death were in the dust. He mentioned two bodies lying on the trench, one of them an Indian soldier and the other a Japanese soldier, with their arms around each other. It's not easy to interpret the actual incident that happened at that time. Humans and wild animals, like

elephants, leopards, giant pythons, wild pigs, etc., died in what seemed like a colossal crematorium. The melancholy of the war's destruction saddened his mind.¹³⁷

He reached a field ambulance hospital and heard the painful story of a Japanese attack on the hospital. One Japanese doctor and soldiers surrounded the hospitals and demanded a long list of medicines and surgical tools. But unfortunately, one admitted patient there started firing out of grievance, which resulted in a catastrophe. The Japanese army killed all the patients and doctors before the British rescue team arrived. However, one Bengali doctor saved his life when he fainted just before killing, and the bullet passed through his ear.¹³⁸ The illusion of Shantilal was broken after knowing that the Red Cross badge could not save the doctors there that night. After that tragic incident, the 7th Division of the Indian army created the famous "admin box," a defense perimeter within which the field hospitals were being built.¹³⁹ Later on, this system was followed by other camps as well. However, that system deprived them of the right to use the Red Cross, as it was violating the Geneva Protocol. The doctors were trained to use the revolver, Tommy, grenade, and Sten guns¹⁴⁰.

Being a doctor, Shantilal occasionally had to treat the Japanese prisoners of war. He described his dilemma while treating them, but he consoled himself by thinking about the innocent family of the Japanese men who had nothing to do with that political war. They were only doing their job. While visiting the deserted camp areas of the Japanese army, he saw various lucrative precious materials. Still, he dared not touch them because the Japanese used to hide explosives in those beautiful things, generally called "Bobby traps."¹⁴¹ Roy witnessed a horrible experience on his way to Tanabasi Hill (once the commander's headquarters, colonel Tanabasi). Roy had an awful experience. He compared the road to hell on earth, where animals were eating dead bodies, and the terrible, poisonous smell of dead bodies, body parts, and skeletons was scattered on the ground.

4.4.i. Bengali Colleagues of Shantilal Roy in the Burma -

During his three-month halt at Ngekydak pass, he met with two Bengalese from Field Ambulance and three Bengali doctors from other units (*Paltans*). That was the evidence of the presence of Bengali doctors in the British army at Arakan. He mentioned a few names of his fellow Bengali doctors; Paritosh Roy, Uma Mukherjee, Nihar Ranjan Gupta, Nalini Choudhury, and Pritthish Choudhury, with whom he had great acquaintance.¹⁴²

After two months of staying there, they separated in different directions. Roy came to Redwame Bin, near the river Nuff, which flowed from north to south. Nuff indicates the border between India and Burma. Arakan was on its eastern side, and Bengal was on its western bank. They waited there for a few days and then started returning to India.¹⁴³ The majority of the field forces used by the Allies in Burma, where Japan waged its largest land war outside of China, were supplied by the Indian army. After experiencing some setbacks, Indian forces were able to stand their ground against the 'fanatical' Japanese on battlefields renowned for their ferocity, cruelty, and lack of mercy, and ultimately beat them. They did it without the sense of nationalism and racial ideology researchers frequently use to explain such fighting.¹⁴⁴ Conflicting orders were presented to colonial soldiers. This dilemma was best illustrated by the British Indian Army, the most significant and potent colonial force ever. The army devised an intricate system for dividing and controlling its soldiers to avoid potentially deadly combinations emerging in the ranks. Men who fit into various "classes" based on ethnicity, caste, religion, and regimental affiliation frequently served independently and in multiple roles. As a result, each company in the majority of the Indian army's infantry battalions was distinguished based on race or religion. Due to the awkward "class" structure, logistics (different meals for each class) and replacements, in particular, were severely hampered. Losses had to be made up according to class proportions or risk upsetting the battalions' ethnic balance.¹⁴⁵

4.4.j. Shantilal's Protest against Racial Discrimination -

Shantilal Roy's writings demonstrate how the pain of frequent bombardment, stun guns, brain guns, shelling from warplanes, gunfire, death in front of one's eyes, and the pain of losing friends, personal belongings, and attachments become insignificant in the face of death. As a doctor, the pain of being unable to treat an injured patient properly has been his lifelong companion. He describes himself as a machine, not a human, with no emotions. He protested from within the system even as his mind became rebellious with intense resentment and hatred towards British apartheid. He tried his best to get Indian soldiers their fair dues. Despite this, Shantilal Roy's writings revealed his devotion to his work, sense of duty, and compassionate, hardworking, courageous mind that did not give up on the battlefield. Although he served in the British army, he never accepted the British as his master. His identity always made him proud to be a Bengali and an Indian. He never considered himself a slave of the British government. Exhausted, Shantilal wanted to return home and dreamed of an independent India. This diary of his during the war brings alive those war days. Therefore, the role of this book in the study of war history is immense. The infinite importance of writing a diary is also proved in the present time for studying social history.

4.5. Ramnath Chopra (1882 – 1973) –

Brevet Colonel Sir Ram Nath Chopra is regarded as the founder of pharmacology, the forerunner of systematic research on traditional medicines, a supporter of Indian medical systems, and a pharmacy patron (see Appendix I, Plate 5.5). As the first pharmacology professor, Chopra joined the Calcutta School of Tropical Medicine in 1921. He founded the first pharmacology study and research center during his two decades of service at the school. His main areas of study continued to be general pharmacology, chemotherapy, locally available

medications, drug addiction, and drug tests. He was crucial in transforming the outdated descriptive *Materia Medica* into a modern pharmacology with a solid experimental foundation.

He became revered as the nation's "father of pharmacology." Sir Ram Nath Chopra kept his interest in indigenous medicines and the Indian medical systems even after he retired from the Calcutta School since he had made it his life's work to spread awareness of them. His leadership of the Drugs Inquiry Committee (1930–1921) resulted in a history-making report with insightful recommendations that helped shape pharmacopoeial publishing, drug regulation, and the growth of the pharmacy profession.

4.5.a. Early Academic Life -

Ram Nath Chopra was from the state of Jammu and Kashmir. His early education started in Jammu and Srinagar. At Lahore, he finished his schooling. He attended the Government College in Lahore for his undergraduate studies. He had an outstanding academic history. Early in 1903, Ram Nath enrolled at Cambridge's Downing College. He fulfilled the Natural Sciences Tripos criteria in 1905 and, on June 20, received his B.A. Afterward, he was granted admission to the B.Chir. (5 December 1908) and M.A. (27 February 1909).¹⁴⁶

Interestingly, pharmacology rapidly replaced traditional *Materia Medica* when Chopra attended Cambridge. The institution appointed Dr. Walter E. Dixon as the reader in pharmacology (1904-05). He was appointed the University of Cambridge's first pharmacology professor in 1907. Professor Dixon was a passionate experimental pharmacologist, and Chopra attended all of his lectures and practical demonstrations from the first session. Chopra's interactions with Professor Dixon generated a growing interest in experimental pharmacology. He was encouraged to do his experiments by the professor. He advised Chopra to investigate how different medicines affected the ciliary motions.¹⁴⁷

Chopra contributed to this work by receiving his Doctor of Medicine degree from Cambridge University in 1908. Chopra successfully took the Indian Medical Service (IMS) exam in 1908 while pursuing a medical degree at St. Bartholomew's Hospital in London, finishing third in the order of merit. That year, he earned his Cambridge M.B., Cambridge M.D., and London M.R.C.P. in the shortest period. Early in 1909, he returned to India to start a career in the medical service. Ramnath served on the East African front during World War I and as D.A.D.M.S. during the Afghan War of 1919,¹⁴⁸ like Shantilal Roy. He noted that,

“On returning to India, I carried with me the enthusiasm instilled in me by the personality and scientific stature of Professor Dixon and was more eager than ever to take up an early opportunity of establishing myself as a teacher and researcher in modern pharmacology. Unfortunately, the climate of medical teaching in Indian universities was not ready to introduce pharmacology as a distinct discipline in the medical curriculum. No suitable placement, therefore could be found for a young specialist in pharmacology, such as I. As an officer of the Indian Medical Service, I was placed on general medical duty in eastern Africa and in several military outposts in northern India. After nearly a decade, an opportunity came my way, and I was appointed Professor of Pharmacology in the newly established Calcutta School of Tropical Medicine. I was also appointed to the Chair of Pharmacology at the Calcutta Medical College.”¹⁴⁹

4.5.b. Professional Career at Calcutta School of Tropical Medicine -

The School of Tropical Medicine was formally inaugurated in November 1921, although the pharmaceutical work was completed at the end of 1922. After a few more years, the lab received more upgrades, matching the quality of some of the most excellent pharmacological laboratories in the United Kingdom. He was grateful for the assistance he received from his co-workers Major H. W. Acton, Professor of Pathology, Bacteriology, and Helminthology, who had previously worked with Sir Henry Dale at the National Institute for Medical Research in London, Dr. B. N. Ghosh, a skilled volunteer from another medical school in Calcutta who had temporarily worked with Professor Arthur Cushney, the renowned pharmacology professor of Edinburgh and London, and professor of Chemistry Dr. Sudhamoy Ghosh. Here, we can say

that the racial discrimination Dr. Shantilal Roy had faced in his work life, Ramnath Chopra didn't meet that intensely. Ramnath Chopra got volunteer assistance from white doctors not only from his School but from other institutions also. The *Calcutta School of Tropical Medicines* (CSTM) was established in 1921 by IMS physician Leonard Rogers, and its annual reports show that it began as an imperial institution.¹⁵⁰ As an Indian employee in such a setting, Sir Ramnath Chopra performed his duties competently. In addition to his role as the professor of the Pharmacology department, he was appointed the Principal of the *Calcutta School of Tropical Medicine* (CSTM) and the CSTM-affiliated *Carmicheal Hospital for Tropical Diseases* in 1934 for seven years. He diligently and skillfully completed all his duties over these seven years, including research work, institutional responsibilities, issues with experienced doctors' absenteeism due to illness, and teaching work.¹⁵¹ The school's annual report states that school administrators had no particular expectations when the pharmacology department began operations. Ramnath Chopra joined CSTM when the School's staffing still needed filling out. Nonetheless, Ramnath Chopra's tenacity, erudition, and research achievement quickly elevated the department to one of the most significant in the institution.¹⁵² The Department of Pharmacology at CSTM promptly established itself as the top pharmacology laboratory in the British Empire. He took the initiative to advance the research effort and appointed skilled researchers and employees in the Department of Pharmacology.

Dr. R. N. Chopra was a Major in the IMS when he started working as a professor at the School in 1921. In 1927, he was promoted to Lieutenant-Colonel.¹⁵³ It was his work on the *Drugs Enquiry Committee* and his contributions to the School which gave Colonel Chopra recognition in the New Year Honours list of January 1934 with the award of C.I.E.¹⁵⁴ He was appointed as His Majesty the King's Honorary Physician in 1935 and given the Brevet rank of Colonel.¹⁵⁵ In 1933, he was inducted as a fellow of the *Asiatic Society of Bengal*. In 1939, he was chosen Vice-President of the Society. In addition, he was awarded the Society's *Barclay Medal*.¹⁵⁶

The most considerable part of Professor Chopra's career was his two decades at the *Calcutta School of Tropical Medicine*. Many investigations that might be broadly categorized as general pharmacology and chemotherapy were conducted. Indigenous medicines were a significant part of his work plan. He also participated in important drug addiction surveys. The other activity that caught people's interest was drug analysis. During his time at the School, he served as the chairman of the *Medicines Inquiry Committee*, which produced groundbreaking pharmaceutical recommendations and made significant contributions to the growth of the pharmaceutical industry. Chopra's pharmacological research focused mainly on tropical diseases and potential treatments. Under Sir Ramnath Chopra's guidance, the CSTM Department of Pharmacology conducted significant research on topics such as snake venom, the distinction between healthy and diseased blood, the treatment of tropical diseases, the prevention of black fever, and the need for chemotherapy in antibiotic therapy. In these experiments, the technique of using medicinal properties on animals to judge the outcome of the study was introduced for the first time in India. Due to this, pharmacology as a subject underwent a change in methodology.¹⁵⁷

Chopra conducted significant clinical work in testing the efficacy of various treatments and studying conditions specific to tropical climates due to the number of beds at the Carmichael Hospital for Tropical Diseases. Studies on the treatments for malaria, amoebic dysentery, Giardia and filarial infections, ulcerative colitis, ascites, epidemic dropsy, asthma, etc., were conducted. It was proven that cobra venom effectively treats chronic pain in many patients.¹⁵⁸

The initial policy of the Calcutta School said that one of the responsibilities of the professor of pharmacology would be to research the traditional medicines of India. Professor of Pharmacology, including Indigenous Medicines, was the actual title of the position. Col. Chopra used the phrase "Indigenous Drugs" in its broadest sense, encompassing not just those substances that were initially indigenous to India but also those that had been imported from

abroad and had fully naturalized. For him, this phrase applied to all pharmaceuticals grown in India, regardless of whether they were included in the pharmacopeias of various Western nations or were employed in indigenous medical systems.

4.5.c. Chopra's Effort to Advancing Pharmacological Study on Indigenous Drugs -

He had the following primary goals in mind: Firstly, to make India self-sufficient by enabling her to use medicines made in India and make them in an administration-friendly form. Secondly, to find treatments from Ayurvedic, Tibbi, and other indigenous systems that proponents of modern systems can use. Thirdly, to find ways to influence the economy to make these treatments affordable for India's large, economically underprivileged population. Fourthly, Create an Indian Pharmacopoeia eventually.¹⁵⁹ He noted again in subsequent years that he never strayed too far from his primary interest and initial love in advancing pharmacological study on indigenous drugs. Around 1924, he had an idea for the project, and it had two goals: (a) to make Indian pharmacology self-supporting by enabling her to use locally produced drugs profitably under standardized laboratory conditions and (b) to find treatments from the claims of Ayurvedic, Tibbi, and other indigenous sources that were appropriate to be used by practitioners of western medicine. For that, he started a cooperative project with Ghosh and the Botanical Survey of India (Calcutta).¹⁶⁰ It was seen as a significant advancement in Indian medicine since it addressed the medicinal and financial sides of indigenous Indian medicines. Chopra began collecting and analyzing data on poisonous plants in India as an extension of his research on indigenous drugs. It was observed that about 700 plants reportedly flourished in the nation that were poisonous to humans, livestock, insects, fish, etc.¹⁶¹ The start was made for what would eventually become a thorough monograph on the subject.¹⁶²

4.5.d. Standardising the Use of Drugs -

In August 1930, the Government of India created the Drugs Enquiry Committee to explore the issues of the fraudulent practice of dumping substandard pharmaceuticals in India and offer appropriate suggestions. Lt. Col. Chopra was nominated to chair this Drugs Investigation Committee. The committee set out on an extended nationwide tour to interview witnesses and visit certain institutions. The committee's report was submitted at the end of March 1931.¹⁶³ The Committee offered several noteworthy suggestions. It was suggested that national legislation should regulate pharmacies and drugs. Colonel Chopra never stopped highlighting the dangers of drug adulteration and the sale of fake medicines.¹⁶⁴ Following pertinent recommendations of the Committee, it took nine years for the Drugs Act 1940 to come forth, and per terms of the Act, the Drugs Technical Advisory Board could be created in 1941.¹⁶⁵

The Government of India established the Biochemical Standardisation Laboratory in Calcutta in January 1937 as a preliminary step to these advances, with Col. Chopra serving as the Director on an honorary basis.¹⁶⁶ Col. Chopra remained in charge of the Laboratory till 15 November 1941, and was succeeded by Dr. B. M. Mukerji.¹⁶⁷ The *Biochemical Standardization Laboratory's* name was changed to the *Central Drugs Laboratory*, which received official status under the 1940 Drugs Act and its implementing rules, which went into effect on April 1, 1947.¹⁶⁸ As a result, the required statutory framework was created to control drug import, manufacture, sale, and distribution. In 1946, the 'Indian Pharmacopoeial List' was prepared and released.¹⁶⁹ It was designed to act as an Indian Supplement to Britain in 1932. The List contained vegetable pharmaceuticals growing in India and their galenical, some equivalents of B.P. drugs occurring in India, and even a few synthetic chemicals.

In India before independence, the state of pharmaceutical practice was generally pitiful. Most of the dispensing was left in the care of untrained compounders. The *All-Bengal Compounders*

Association (ABCA) was established in the late 1920s due to a rift among Bengali compounders. In January 1934, Col. Chopra agreed to chair the ABCA's annual meeting. He called attention to the neglected state of the pharmacy profession and the solutions offered by the Drug Enquiry Committee to improve the sad situation. Bengal Pharmaceutical Association (BPA) was chosen as the new name for the ABCA on Col. Chopra's recommendation.¹⁷⁰ Another significant event that occurred while Col. Chopra served as the BPA's president was the Indian and Eastern Chemist's elevation to the official organ of the association beginning in April 1938.¹⁷¹ The Editorial Advisory Board was presided over by President Chopra. He served in this position till July 1940.¹⁷²

The establishment of a center for pharmaceutical education caught the attention of the *Bengal Pharmaceutical Association*. In response to a scenario, the Government of Bengal established a committee in October 1938, with Col. Chopra as its chairman, to review the plan and financial support offered by the philanthropist Dr. D. E. Anklesaria in this context.¹⁷³ The Committee's report a year later emphasized the need to construct a pharmacy School in Calcutta. Also, it made recommendations for laws to regulate pharmacy practice in Bengal. In the meantime, the United Provinces' Pharmaceutical Association changed its name to the *Indian Pharmaceutical Association* (IPA), which became a reliable and representative All-India organization.¹⁷⁴

Col. Chopra's continuous interest in indigenous medicines and the Indian medical systems kept him busy promoting them for the following two decades when he left the Calcutta School of Tropical Medicine after two decades of highly productive work there. The Government of Jammu and Kashmir established the Drug Research Laboratory in 1941 to utilize the state's plant resources and establish a national drug industry. Col. Chopra's leadership allowed the Laboratory to make significant advancements. Col. Chopra continued promoting local pharmaceuticals through his numerous compilations on the issue written in collaboration with his co-workers at the Jammu Laboratory¹⁷⁵.

Col. Chopra had much assistance from the Indian Research Fund Association while attending the Calcutta School, which included funding for research into indigenous medications. The IRFA instructed him in 1938 to analyze the research his team had done up to that point on indigenous medicines, and the result was a pamphlet that was released in 1939. Chopra and his colleague's groundbreaking research on traditional medicines garnered high praise.¹⁷⁶ The much-anticipated second edition of his book on local pharmaceuticals was greatly appreciated, first published in 1933 and then revised.¹⁷⁷

4.5.e. Ramnath Chopra's Contribution to Modernising Indigenous Drugs -

It's interesting to note that R. N. Chopra's professional career has always included both indigenous medicines and Indian medical systems ever since he joined the School of Tropical Medicine in 1921. His commitment to conducting thorough research on medications of Indian origins was actually a validation of the efficacy of Indian medical systems, which were the only available treatment options prior to the arrival of the Western medical procedure with the colonists. In addition to his regular responsibilities as a professor of pharmacology, Chopra was also required to serve as the Bengali government's choice for Secretary of the *Ayurveda Committee and Member of the Tibbi Committee*.¹⁷⁸ Col. Chopra served as chair of the *Drugs Enquiry Committee* (1930–1931), which produced a report on indigenous drugs and recommended a uniform curriculum for teaching and training indigenous practitioners as well as limiting the use of Indian medicine to those who had received the appropriate training, qualifications, and registration. It was advised that the simple single pharmaceuticals and compounded indigenous remedies should be controlled, distinct from the Western drugs and preparations.¹⁷⁹

His main goal was to make India self-sufficient in medicine so that it wouldn't depend on other nations for its supply of pharmaceuticals. Second, to find the therapeutic modalities and drug

components from the traditional Indian medical systems, such as Ayurveda and Unani, that can be incorporated into the contemporary medical design. Thirdly, he wanted to make medicine more affordable and better quality available to India's large section of poor people.

He persuaded British officials by highlighting the expense of drug imports. Chopra believed that the high cost of medications prevented a large portion of the population from receiving Western medical care because they could not afford it. He stated that the only way the drugs could be cheapened and brought within the means of the masses was to utilize the local resources and indigenous products instead of expensive imported preparations. It could be accomplished by methodically fostering local pharmaceutical development, cultivation, and manufacture. The cost of treating common illnesses, which account for most cases, could be significantly decreased by the local manufacture of effective indigenous medicines.¹⁸⁰

Sir Ram Nath Chopra made an essential contribution to the cause through the Committee on Indigenous Systems of Medicine, which had been set up by the Government of India in 1946 with him as the Chairman. The Committee submitted the report in July 1948.¹⁸¹ There was an intensive study on education and medical institutions, organization of medical aid, state control, research, pharmaceuticals, medicinal preparations, and finance as connected to indigenous systems of medicine. The Committee thought that the integration of Indian and Western Systems of medicine leading to synthesis was not only possible but practicable and recommended that immediate steps should be taken in this direction.¹⁸²

This shows how Ramnath Chopra contributed his life to convince the British authorities convinced and accept the importance and validity of the Indigenous medical system. He tried to combine both approaches meaningfully, which would benefit the British financially, and the Indigenous medical system would receive its due respect.

4.5.f. Achievements of Dr. Chopra -

Colonel Sir Ram Nath Chopra died on 13 June 1973 at his home in Srinagar, Kashmir. Professor Chopra raised himself almost to the status of an 'institution rather than an individual,' a glorious career seldom to be achieved by most medical scientists in India.¹⁸³ The Indian Pharmacological Society, Col. Chopra's founder president (1969), instituted the 'Chopra Memorial Oration' in 1976.¹⁸⁴ In Chopra's commemoration, the Indian Posts and Telegraphs Department issued a commemorative stamp on 17 August 1983.¹⁸⁵ Col. Chopra was honored with the Minto Medal, Mouatt Medal, Coatos Medal, etc. He was awarded the Sc.D. for his contributions to the science of medicine, a degree from Cambridge University. He was chosen as a Fellow of the Royal College of Medicine of London.¹⁸⁶ Col. Chopra was elected honorary member of the Pharmaceutical Society of Great Britain and the American Society for Pharmacology and Experimental Therapeutics in 1940.¹⁸⁷ He was also recognized as a corresponding Belgian Society of Tropical Medicine member. Col. Chopra was given the Knighthood in the 1941 New Year Honours list.¹⁸⁸ It was noted in the annual report "...that Professor Chopra will be long remembered as the 'Father of Indian Pharmacology' and a founder of a School of pharmacologists."¹⁸⁹

Regarding Chopra's preferred field of systematic study of indigenous drugs, it is widely acknowledged that he should be credited for establishing this largely undeveloped area. His study served as the catalyst for research on Indian medicinal plants at many institutes. In the Calcutta School of Tropical Medicine's 1938 annual report, Chopra noted: "Investigations have been started in various universities and colleges in centers such as Calcutta, Bombay, Dacca, Patna, Allahabad, Lahore, Madras, Trivandrum, etc."¹⁹⁰ According to one account, he sparked the movement of scientific inquiry into traditional 'Indian medicine. Col. Chopra made a significant contribution to the promotion of Indian medical systems. The process for the Indian systems' consolidation was sparked by the committee's recommendations, over which he

presided and which focused on the indigenous medical systems. The suggestion to combine Indian with Western systems is still a long way off. Through the corresponding committees he presided over, progress was made towards creating the Ayurvedic and Unani pharmacopeias.

4.5.g. The Impact of Nationalism on Ramnath Chopra -

Perhaps Ramnath Chopra was influenced by the Indian nationalist movement and politics. This is evident from his interest in the indigenous medical system. Although highly educated in Western medical systems, he respected Indian aboriginal systems of medicine. He combined indigenous medicine with Western medicine by preparing medicines from indigenous herbal ingredients. Major Chopra and J. Borland Hook used Indian methods to discover anthelmintics. Kuth root was used to prepare a mixture for treating hookworm, tapeworm, threadworm, etc.; this medicine proved effective. He also found the usefulness of *Telakchu* or *Cephalandra Indica* in diabetes disease. Also, the herbal properties of Asoka, Parrot Tree (Palash), Hogweed (*Punarnabha*), etc., plants and their use in medicinal preparations gained prominence in the field of research. He experimentally proved the utility of cinchona and quinine in treating Malaria. As a result, the practical success of the indigenous drug was realized. Sir Chopra was engrossed in discovering the medicinal properties of the Chandrabhaga tree, Indian aconites, Indian Artemesiaa, Indian chenopodium, Indian ephedra, Indian squill, etc. He also initiated research on the usefulness of *Rauwolfia serpentina* in controlling high blood pressure, which later proved very useful as a medicine for high blood pressure.¹⁹¹

He retired as Principal on 16th November 1941. He was associated with the school for about 20 years. Much of the critical research of his life was done at the Calcutta School of Tropical Medicine. After his retirement, the CSTM also gave him a farewell reception. Dr. Everard Napier gave a touching speech.¹⁹² Such respect for an Indian doctor was rare indeed in Colonial India. But through this, one gets an idea about the school's environment. Even as the school

developed as an imperial institution, it gradually loosened its imperial nature, and Ramnath Chopra's role in bringing about this process was crucial. By fusing conventional Indian medicine with Western medicine, he slowly introduced the Indian system of medicine to the institute from the time he joined. However, it is also worth noting that the other white staff at the school showed neutral respect for the worthy person.

4.6. Nilratan Sarkar (1861 – 1943) -

Dr. Nilratan Sarkar (see Appendix I, Plate 5.6) is a skilled medical scientist who has significantly improved Swadeshi enterprise and medical education in Colonial Bengal. He was an M.D. and topper of his batch in M.Sc in physiology at Calcutta University and later became its vice-chancellor. He established the Bengal Immunity Pharma to manufacture serums and vaccines, the Calcutta Medical School (later R.G. Kar Medical College), the Indian Medical Association, and the Calcutta Medical Club.¹⁹³ He also established an ultra-modern pathological laboratory at his home with imported equipment and an ECG for the first time in Calcutta. He was a pioneer in the treatment of pediatric liver cirrhosis as a medical researcher.

4.6.a. Academic and Professional Career of Nilratan Sarkar -

After completing a certificate program in medicine at a Joynagar Institution with a Bengali medium, he was hired as a sub-assistant surgeon by the State Medical Service. However, he joined Scottish Church College and passed the FA Examination because of his strong desire for higher education. He persisted till he passed the Metropolitan College BA Examination. He had Swami Vivekananda as a classmate in this instance. Sarkar eventually received his preferred topic in 1885. He enrolled in Calcutta Medical College to pursue his M.B. degree, which he completed in 1888 with distinction. He earned a first-class grade in his B.A. and M.A. in physiology exams from Presidency College. Later, in 1890, he earned an M.D. degree. But he declined to join any government service. He established a private practice and quickly

became famous for his work as a doctor. He was appointed Dean of the Faculty of Medicine and a Fellow by Calcutta University in 1893. To build a National Medical College in Belgachia in 1916, he teamed up with Radhagobindo Kar and Suresh Prasad Sarbadhikari out of profound patriotism. Between 1919 and 1921, he served as vice chancellor of Calcutta University. As an Indian representative to the Imperial University Commission, he was allowed to travel to London. His abilities drew the DCL and LLB degrees from Oxford and Cambridge universities.

In addition, he helped to establish the Bengal Technical Institute, which later developed into the College of Engineering and Technology of Jadavpur University, while serving as the Honorary Secretary of the National Council of Education. Later, in medicine, he established the Calcutta Medical Club, where crucial medical research was carried out. He released his renowned “Cirrhosis of Liver in Children” study at the *Calcutta Medical Club*. To determine the richness of the mother's milk, he compared the worth of goat milk, cow milk, and other milk. For better observation, he took his patient to Darjeeling. By changing what children eat and drink and using the proper medications, Nilratan was able to reduce the high death rate of children caused by this disease. He was appointed Director of The Boot & Equipment Company in 1908. He significantly aided Acharya Prafulla Chandra Ray's Bengal Chemical & Pharmaceutical Works and was close friends with Ray. Sarkar received a knighthood from the government in recognition of his many accomplishments, including healing Bengal Governor Lord Carmichael of his carbuncle. Additionally, he served as a trustee for the Indian Museum, Visva Bharati, and The Bose Institute.¹⁹⁴

4.6.b Nationalistic Politics of Bengal and the Involvement of Dr. Sarkar -

Dr. Nilratan Sarkar made a significant contribution to national politics. He joined the Indian National Congress in 1890 and was a part of it till 1919. These were the politically pivotal

years in India. There was a vacuum in national politics due to the split between the Moderates and Extremists. Its sheet anchor was still Dr. Sarkar. Between 1912 to 1927, he served as a member of the Bengal Legislative Assembly. As a doctor, he earned considerable wealth, most of which he contributed to social welfare. He started a medical school that is currently known by his name. The most well-known of his followers was Dr. Bidhan Chandra Roy. He also founded the Indian Medical Association, the first club of physicians, which published the journal of the Indian Medical Association under Sarkar's editorship for 12 years. This evolved into the trustworthy public health Bulletin.¹⁹⁵

Dr. Mahendra Lal Sarkar invited Dr. Nilratan Sarkar to teach biochemistry at the IACS for two years between 1894 and 1896. Dr. Nilratan Sarkar founded the Calcutta Medical School in collaboration with Dr. Radhagobinda Kar and Dr. S. P. Sarbadhikary and was ultimately relocated to Belghachia in 1899. Following the name of the Governor at the time, it was renamed Carmichael Medical School. The first Indian medical college founded by Indians was finally given the name R. G. Kar Medical College after the demise of R. G. Kar. He invested significant money and labor as the college's first president to provide it with a solid foundation. Through the efforts of Dr. B.C. Roy, Nilratan's favorite student, Campbell Medical School, where he studied, was renamed Nilratan Sarkar Medical College following his death.¹⁹⁶

Rabindranath had a close friendship with Neelratan. Both had love and respect for the other. In honor of Nilratan, Rabindranath dedicated the novel *Senjuti* to him. Tagore influenced him to invest money in different Swadeshi industrial projects. The establishment of the Rangamati Tea Company, the National Soap Factory, and the National Tannery Company were just a few of the industrial ventures in which Nilratan invested money out of his concern for the overall growth of his nation. He served as the director of the Boot and Equipment Factory. Nilratan Sarkar did not favor surgery in Rabindranath Tagore's last days. However, his eminent student Radha Govinda Kar and first M.S of Calcutta University Lalit Mohan Bandyopadhyay selected

surgery. Sadly, that surgery didn't work out. Prashanta Chandra portrayed the last moment of Rabindranath with his friend Nilratan Sarkar.¹⁹⁷ In 1939, the wife of Nilratan, Nirmala Devi, died, which made him lonely and sad. At 82, Neelratan died on May 18, 1943, in Giridi.¹⁹⁸ The political ideology of Neel Ratan Sarkar, along with his inclination towards constructive Swadeshi, elevates his status beyond a mere physician.

Conclusion-

These biographies of eminent personalities of colonial Bengal reveal that the nationalist spirit influenced each of them. Some expressed it directly, and some indirectly through their actions. Even though they are associated with imperialist institutions, their patriotism is reflected in their efforts. We learned about the racial discrimination they faced in their work field, the cultural gap between the two races, their political involvement during the Swadeshi movement, etc. One thing they had in common was that they all dreamed of an independent nation and wanted the Indians to thrive. It is evident that perhaps they were influenced by Western culture and science; they adopted Western clothes, language, and habits for better living, but their minds were never colonized. It was free to think of an independent India, and for a greater future, they invested their whole lives and laid a foundation for the future generation. They didn't see Western Medicine as "colonial medicine"; it was Western knowledge. Their political views influenced native people as they were socially famous for their profession. They faced racial discrimination, but that could not demoralize them; they made their way to achieve their due respect. Perhaps their body was in the chain, but their mind was free.

Notes & References -

¹ Peter Robb. 'South Asia and the Concept of Race' in Robb (ed.), *The Concept of Race in South Asia* Delhi: Oxford University Press, 1995, P. 1.

² David Arnold (ed.), *Warm Climate and Western Medicine: The Emergence of Tropical Medicine, 1500-1900*, Amsterdam, Atlanta: Rodopi, 1996, pp. 6-7.

³ Mark Harrison, *Climates and Constitutions: Health, Race, Environment and British Imperialism in India*, New Delhi: Oxford University Press, p. 13.

⁴ *Ibid.*, p. 14.

⁵ C. A. Bayly, *Imperial Meridian: The British Empire and the World 1780-1830*, London: Longman, 1989, p. 109.

⁶ Mark Harrison, *op. cit.*, pp. 16-17.

⁷ Norbert Elias, *The Civilizing Process, I: The History of Manners*, trans. E. Jephcott, Oxford: Blackwell, 1978.

⁸ Mark Harrison, *op. cit.*, p. 9.

⁹ Ishita Pande, *Medicine, Race and Liberalism in British Bengal: Symptoms of Empire*, USA, and Canada: Routledge, 2010, p. 4.

¹⁰ *Ibid.*

¹¹ David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India*, Berkeley: the University of California Press, 1993, pp. 7-10.

¹² Ishita Pande, *op. cit.*, pp. 6-7.

¹³ Andrew Scull, "The Fictions of Foucault's Scholarship," *Times Literary Supplement*, March 21, 2007.

¹⁴ Ishita Pande, *op. cit.*, p. 7.

¹⁵ Partha Chatterjee, *The Nation, and Its Fragments: Colonial and Postcolonial Histories*, Delhi: Oxford University Press, 1994, pp. 14-19.

¹⁶ David Scott, *Refashioning Futures: Criticism after Postcoloniality* Princeton: Princeton University Press, 1999, pp. 29-30.

¹⁷ Ishita Pande, *op. cit.* p. 7.

¹⁸ Amitav Ghosh and Dipesh Chakrabarty, "A Correspondence on Provincializing Europe," *Radical History Review*, vol. 83, 2002, p. 148.

¹⁹ Shula Marks, "What is Colonial about Colonial Medicine? And What Has Happened to Imperialism and Health?" *Social History of Medicine*, vol. 10, 1997, p. 210.

²⁰ Ishita Pande, *op. cit.*, p. 11.

²¹ As a general term, "biosocial" refers to the dynamic, reciprocal interactions between biological phenomena and social environments and relationships, which shape processes of human development throughout a person's lifetime. See more, Kathleen Mullan Harris and Thomas W. McDade, "The

Biosocial Approach to Human Development, Behavior, and Health Across the Life Course,” *National Library of Medicine*, RSF. 2018 Apr;4(4):2-26. doi 10.7758/RSF.2018.4.4.01. PMID: 30923747; PMCID: PMC6434524.

²² David Scott, *Refashioning Futures: Criticism after Postcoloniality*, Princeton: Princeton University Press, 1999, pp. 85-89

²³ BL/IOR/ MIL/7/14471,1907-1909, Collection 323/49 Medical Subordinates for Service in East Africa and Uganda, a letter from Dr. Will, Principal Medical Officer, 28 January 1907.

²⁴ *An Appeal from the Surgeons of the Indian Medical Service*, Royal College of Surgeons of England, India, 1884, p. 7.

²⁵ Ibid.

²⁶ C. H. Joubert de la Ferté, “The Indian Subordinate Medical Department,” *The British Medical Journal*, Aug. 15, 1908, vol. 2, no. 2485, Aug. 15, 1908, p. 386.

²⁷ Ibid., p. 387.

²⁸ Ibid.

²⁹ Ibid., p. 388.

³⁰ Arnab Chakraborty, “Negotiating Medical Services in the Madras Presidency: the Subordinate Perspectives (1882–1935)”, *Medical History*, vol. 65:3, Cambridge University Press, 2021, pp. 247-266.

³¹ Ibid.

³² Anil Seal, *The Emergence of Indian Nationalism: Competition and Collaboration in the Later Nineteenth Century*, Cambridge: Cambridge University Press, 1968, pp. 120-121.

³³ D. G. Crawford, *History of the Indian Medical Service, 1615-1930*, vol. 2, London: Thacker & Co., 1913, p. 505.

³⁴ Roger Jeffery, “Recognizing India's Doctors: The Institutionalization of Medical Dependency, 1918-39”, *Modern Asian Studies*, 1979, vol. 13, no. 2, 1979, pp. 301-326.

³⁵ G.M.C., *Minutes*, 1921, pp. 127-132.

³⁶ N.A.I. (E.H.L.), March 1922, I-2 A and 20-63 A; G.M.C., *Minutes*, 1921, pp. 129-32.

³⁷ G.M.C., *Minutes*, 1927, Report by R. A. Needham; N.A.I. (E.H.L.), February 1925, 3-22A.

³⁸ *Legislative Assembly Debates*, Official Report, 20/3/30, Simla.

³⁹ N.A.I. (E.H.L.), 43-22/34 H and 43-27/34 H; see also the Medical Council of India, *Minutes* (1934-45).

⁴⁰ P. G. Robb, *The Government of India and Reform*, Oxford: Oxford University Press, 1976, pp. 54-55.

⁴¹ Roger Jeffery, op. cit., pp. 308-310.

⁴² D. C. Potter, 'Manpower Shortage and the End of Colonialism,' *Modern Asian Studies*, vol. 7, Pt I, 1973, p. 4

⁴³ I.O.R. L/MIL/7/264

⁴⁴ Robb, op. cit., p. 47.

⁴⁵ Roger Jeffery, op. cit., p. 312.

⁴⁶ I.O.B. L/MIL/7/431.

⁴⁷ Roger Jeffery, op. cit., p. 328.

⁴⁸ But very few Indians opposed the idea of a Medical Council directly. They didn't show their disagreement about the Indian standards, which were decided to be the same as British standards, and didn't express concern about the potential impact these judgments would have on the availability of healthcare in rural areas. Fazl-i-Hussain had noted in 1933 that a medical treatment system that reached the rural areas was "the most essential need of the country" but that a uniformly high standard of medical education could not be integrated with it.

⁴⁹ Soorjo Coomar Goodeve Chukkerbutty, *Popular Lecturers: Subjects of Indian Interest*, Calcutta: Thomas S. Smith, 1870.

⁵⁰ Soorjo Coomar Goodeve Chukkerbutty, op. cit., see Preface.

⁵¹ Ibid.

⁵² Ibid., p. 51.

⁵³ Ibid., p. 52.

⁵⁴ P. C. Sengupta, *Soorjo Coomar Goodeve Chuckerbutty: the first Indian Contributor to Modern Medical Science*, *Med. Hist*, 1970 April, vol. 14, no. 2, pp. 183-191.

⁵⁵ Soorjo Coomar Goodeve Chukkerbutty, see Chapter III.

⁵⁶ Ibid., p. 85.

⁵⁷ P. C. Sen Gupta, op. cit., pp. 183–191.

⁵⁸ Abhiroop Sengupta, "Soorjo Coomar Goodeve Chuckerbutty: Sowing the seeds of Change for generations to come", *Asian Voice*, 12 August 2016. Last edit: 13 June 2023.

⁵⁹ B. K. Sarkar, *Essay on Homeopathy*, Calcutta: Hahnemann Publishing Co. Pvt. Ltd, pp. 4-11.

⁶⁰ Ajoy Kumar Ghosh, "History Development of Homeopathy in India," *Indian Journal of History of Science*, vol. 53.1, Cambridge: Cambridge University Press, 2018, pp. 76-83.

⁶¹ Chittabrata Palit, "Sircar, Mahindralal" in Sirajul Islam, Ajamal Ahamed (ed.), *Banglapedia: National Encyclopedia of Bangladesh*, Asiatic Society of Bangladesh, 2012.

⁶² Sumathi Ramanath, 'Indian Association for the Cultivation of Science: Mahendra Lal Sircar and His Science, Morality, and Nationalism,' Ph.D. Dissertation, Texas: University of Texas at Dallas, P.53.

⁶¹ Ibid., p. 55.

⁶⁴ Ajoy Kumar Ghosh, op. cit., p. 76.

⁶⁵ Recharad Haehl, *Samuel Hahnemann: His Life and Work; Based on recently discovered state papers, Documents, Letters, etc.*, Translated from Germany into English by Marie L. Wheeler, New Delhi: B. Jain Publishers Pvt. Ltd., 2003.

⁶⁶ Ibid.

⁶⁷ Shibnath Shastri, *Ramtanu Lahiri o Tatkalin Banga samaj*, ed. Baridbaran Ghosh, Calcutta: New Age Publishers Pvt. Ltd., 2009, p. 134.

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- ⁶⁸ The First Meeting of the Subscribers to the Projected Science Association,” In the *Collected Works of Mahendralal Sircar, Eugene Lafont, and the science movement: 1860-1910*, Arun Kumar Biswas, ed., Calcutta: Asiatic Society, 2003, pp. 6-11.
- ⁶⁴ Ibid., p.5.
- ⁷⁰Shibnath Shastri, op. cit., pp. 194-196.
- ⁷¹ Arun Kuumar Biswas, ed., op. cit., p. 6.
- ⁷² Ibid., p. 7.
- ⁷³ Sumathi Ramanath, op. cit., p. 67.
- ⁷⁴ ed. Arun Kuumar Biswas, op. cit., p. 9.
- ⁷⁵ Ibid., p. 10.
- ⁷⁶ Sumathi Ramanath, op. cit., pp. 75-77.
- ⁷⁷ Ibid., pp. 86-95.
- ⁷⁸ Sumathi Ramanath, op. cit., p. 122.
- ⁷⁹ Indo-European Correspondence, April 13, 1872, pp. 200-201.
- ⁸⁰ Ed. Arun Biswas, op. cit., pp. 108-111.
- ⁸¹ J. Lourdasamy, ‘The Indian Association for the Cultivation of Science: A torturous tryst with modern science,” in *Journal of Science Education and Technology*, vol. 12, no. 4, 2003, p 396.
- ⁸² Ed. Arun Biswas, op. cit., pp. 218-225.
- ⁸³ Sumathi Ramanath, op. cit., p. 171.
- ⁸⁴ Pratik Chakrabarti, *Western Science in Modern India: Metropolitan Methods, Colonial Practices*, New Delhi: Permanent Black, 2004, p.12.
- ⁸⁵ Anil Seal, *The Emergence of Indian Nationalism: Competition and Collaboration in the Later Nineteenth Century*, London: Cambridge University Press, 1968, pp. 194-5.
- ⁸⁶ Obituary,” *The Indian Medical Gazette*, April 1927; 62(4), p. 235.
- ⁸⁷ Ibid., p. 236.
- ⁸⁸ Ibid.
- ⁸⁹ Ibid., pp. 235-237.
- ⁹⁰ Ibid.
- ⁹¹ “Sir Kailas Chandra Bose, C.I.E.,” *The British Medical Journal*, vol. 1, no. 3451, Feb. 26, 1927, p. 405.
- ⁹² Dirom Grey Crawford, *A History of the Indian Medical Service, 1600-1913*, London: W. Thacker, 1914.
- ⁹³ David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India*, O.U.P., Delhi, 1993, p. 55.
- ⁹⁴ Patterson T. “The interaction of Indian medicine and modern medicine (colonial period),” in B. V. Subbarayappa edited. *Medicine and Life Sciences in India*. New Delhi: Centre for Studies in

Civilizations; 2001. pp. 574–605. See also D. P. Chattopadhyay, general editor. *History of Science, Philosophy and Culture in Indian Civilization*; Part 2. vol. IV.

⁹⁵ Poonam Bala, *Medicine and Medical Policies in India: Social and Historical Perspectives*. Chapter 1, Lanham: Lexington Books, 2007.

⁹⁶ David Omissi, *Indian Voices of the Great War. Soldiers' Letters, 1914–18*, London: Penguin Books Limited, 1999, p. 4; F.W. Perry, *The Commonwealth Armies. Manpower and Organisation in Two World Wars*, Manchester: Manchester University Press, 1988, pp. 96–7.

⁹⁷ F.W. Perry, *The Commonwealth Armies. Manpower and Organisation in Two World Wars*, Manchester: Manchester University Press, 1988, p. 116.

⁹⁸ Pradeep P. Barua, *Gentlemen of the Raj. The Indian Army Officer Corps, 1817–1949*, Westport, CT: Praeger, 2003, p. 130; Apurba Kundu, *Militarism in India. The Army and Civil Society in Consensus*, London: I.B. Tauris, 1998, p. 50; Lt. Col. Gautam Sharma, *Nationalisation of the Indian Army (1885–1947)*, New Delhi: Allied Publishers Pvt. Ltd., 1997, pp. 174, 184.

⁹⁹ “Burma 1930-1947: Overview Burma Campaign”, British Indian Army and Britain’s Allies, *British Military History*, Url. <https://www.britishmilitaryhistory.co.uk/docs-burma-1930-1947-overview-burma-campaign/>

¹⁰⁰ Nelson D. Lankford, ‘The Victorian Medical Profession and Military Practice: Army Doctors and National Origins’, *Bulletin of the History of Medicine*, vol. 54, no. 4, winter, 1980, pp. 511-528, The Johns Hopkins University Press.

¹⁰¹ Jeremy Black, *Rethinking Military History*, London: Routledge, 2004, chap. 3.

¹⁰² Jeremy Black, *War and the World*, New Haven, CT: Yale University Press, 1998; Timothy Parsons, *The African Rank-and-File: (Social History of Africa)*, Portsmouth: Heinemann, 1999.

¹⁰³ Shantilal Roy, *Arakan Fronte*, Kolkata: Bengal Publishers, 1946.

¹⁰⁴ *Ibid.*, p. II.

¹⁰⁵ *Ibid.*, p. 2.

¹⁰⁶ *Ibid.*, pp. 2-5.

¹⁰⁷ *Ibid.*, p. 6.

¹⁰⁸ *Ibid.*, p. 8.

¹⁰⁹ *Ibid.*, In every war operation theatre, tiny- mobile surgical units deployed flexibly based on the nature of the battle and operated closely behind the fighting. They performed abdominal, thoracic, head and neck, and limb surgery in tents, bunkers, and requisitioned buildings using equipment transported by truck, van, or mule. They had two responsibilities: saving lives and ensuring injured soldiers were stable enough to be transported back to a base hospital.

¹¹⁰ *Ibid.*, P. 9.

¹¹¹ *Ibid.*, pp. 10-11.

¹¹² *Ibid.*, pp. 14-17.

¹¹³ *Ibid.*, p. 18.

¹¹⁴ Ibid., pp. 18-19.

¹¹⁵ Ibid., p. 20.

¹¹⁶ The soldiers in the rear party were assigned to all the menial tasks and are constantly on alert. The worst part is that they were abandoned at the camp while the rest of the regiment engages in what we refer to as the "real work" of combat in deadly war zones.

¹¹⁷ Ibid., p. 22-24.

¹¹⁸ Ibid., pp. 23-25.

¹¹⁹ Ibid., p. 27.

¹²⁰ Ibid., p. 27-28. The Indian Red Cross Society (IRCS) was founded in 1920 as a result of the passage of Parliament Act XV and became incorporated under that Act.

¹²¹ Ibid., pp. 29-31.

¹²² Ibid., p. 37. Developed from the commercial Douglas DC-3 airliner, the Douglas C-47 Skytrain or Dakota (RAF, RAAF, RCAF, RNZAF, and SAAF name) is a military transport aircraft. During World War II, the Allies made great use of it, and for many years afterward, different military operators employed it in combat. These aircrafts were used to send aid to the camp area of the battlefield.

¹²³ Ibid., pp. 40-42.

¹²⁴ Ibid., p. 46.

¹²⁵ Ibid., pp. 47-49.

¹²⁶ Ibid., p. 48.

¹²⁷ Ibid., pp. 50-57.

¹²⁸ Ibid., pp. 92-94.

¹²⁹ Ibid., pp. 98-101.

¹³⁰ Ibid., p. 102.

¹³¹ Ibid.

¹³² Ibid., p. 103.

¹³³ Ibid.

¹³⁴ Ibid., pp. 103-104.

¹³⁵ Ibid., p. 104.

¹³⁶ Ibid., p. 104.

¹³⁷ Ibid., pp. 57-61.

¹³⁸ Ibid., pp. 63-65.

¹³⁹ Ibid., p. 66. Also see, Alan Jeffreys, *The British Army in the Far East 1941–45*, Oxford: Osprey Publishing, 2005, p.33. From February 5 to February 23, 1944, on the southern front of the Burma campaign, in the South-East Asian Theatre of World War II, took place the Battle of the Admin Box (also known as the Battle of Ngakyedauk or the Battle of Sinzweya). The fight is named after the "administrative area" of the 7th Division of the Indian Army, which served as Major-General Frank

Messervy and his staff's temporary defensive position when their divisional headquarters was captured on February 7.

¹⁴⁰ Shantilal Roy, *op. cit.*, p. 66.

¹⁴¹ *Ibid.*, p. 78.

¹⁴² *Ibid.*, pp. 87-91.

¹⁴³ *Ibid.*, pp. 115-123.

¹⁴⁴ John W. Dower, *War Without Mercy. Race and Power in the Pacific War*, London: Pantheon, 1987.

¹⁴⁵ Tarak Barkawi, "Culture and Combat in the Colonies: The Indian Army in the Second World War", *Journal of Contemporary History*, London, Thousand Oaks, CA, and New Delhi: SAGE Publications, vol. 41(2), 2006, pp. 325–355.

¹⁴⁶ B. Mukerji, "Sir Ram Nath Chopra," *Biographical Memoirs of Fellows of the Indian National Science Academy*, vol. 4, 1976, pp. 171-185.

¹⁴⁷ A. J. C., in an obituary notice, "Walter Earnest Dixon – 1871-1931," *Proceedings of the Royal Society of London*, Series B, 110, 1932, pp xxix-xxxii.

¹⁴⁸ In an obituary notice, *British Medical Journal*, vol. 3, 1973, p. 547.

¹⁴⁹ R. N. Chopra, "Problems and Prospects of a Pharmacological Career in India," *Annual Review of Pharmacology*, 1965, pp. 1-8.

¹⁵⁰ G. C. Cook, 'Leonard Rogers KCSI FRCP FRS (1868-1962) and the Founding of the Calcutta School of Tropical Medicine', *Notes & Records of The Royal Society*, Notes Rec. R. Soc, 2006, pp. 171-181, Published online 21 April, 2006.

¹⁵¹ *Annual Report of the Calcutta School of Tropical Medicine and the Carmicheal Hospital for Tropical Diseases, 1935*, Superintendent, Government Printing, West Bengal Government Press, Alipore, West Bengal, 1936. pp. 13-32.

¹⁵² *Annual Report of the Calcutta School of Tropical Medicine and the Carmicheal Hospital for Tropical Diseases, 1941*, Superintendent, Government Printing, West Bengal Government Press, 1943, pp. 15-17.

¹⁵³ *Ibid.*, 1927.

¹⁵⁴ *Ibid.*, 1933, p 13.

¹⁵⁵ *Ibid.*, 1936, p 12.

¹⁵⁶ B. Mukherjee, *op. cit.*

¹⁵⁷ Harkishan Singh, "Ramnath Chopra (1882-1973), - A Visionary in Pharmaceutical Science", *Indian Journal of History of Science*, Vol. 43.2, 2008, P. 237.

¹⁵⁸ *Annual Reports of the Calcutta School of Tropical Medicine*, Institute of Hygiene and the Carmichael Hospital for Tropical Diseases. 1940, pp. 76-77.

¹⁵⁹ *Annual Reports of the Calcutta School of Tropical Medicine*, Institute of Hygiene and the Carmichael Hospital for Tropical Diseases. 1938, pp. 23-27.

¹⁶⁰ R. N. Chopra, *op. cit.*

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- ¹⁶¹ R. N. Chopra, *Indigenous Drugs of India: Their Medical and Economic Aspects*, The Art Press Calcutta, 1933, pp 655. Reviewed in the *Indian Medical Gazette*, vol. 68, 1933, p. 51.
- ¹⁶² R. N. Chopra and R. L. Badhwar, "Poisonous Plants in India," *Indian Journal of Agricultural Science*, vol. 10, Part I, 1940, pp. 1-44.
- ¹⁶³ *Report of the Drugs Enquiry Committee 1930-31*, Government of India Central Publication Branch, Calcutta, 1931. pp. vi and 436.
- ¹⁶⁴ R. N. Chopra, "Drug Adulteration and Spurious Drugs in India," *Indian Medical Gazette*, Vol. 70, 1935, pp. 693-696.
- ¹⁶⁵ H. Singh, "History of Drugs and Pharmacy Statutes," *Eastern Pharmacist*, Vol. 42, November 1999, pp. 31-37.
- ¹⁶⁶ R. N. Chopra, *Report of the Bio-chemical Standardisation Laboratory 1937-1940*, Government of India Press, Calcutta, 1941. pp 1-2, 22, 55.
- ¹⁶⁷ B. Mukerji, *Report of the Bio-chemical Standardisation Laboratory, 1940-1943*, Government of India Press, Calcutta, 1950. p 1.
- ¹⁶⁸ B. Mukerji, *Report of the Bio-chemical Standardisation Laboratory (1946-1947) and the Central Drugs Laboratory (1947-1949)*, Government of India Press, Calcutta, 1952. pp 1-2.
- ¹⁶⁹ *The Indian Pharmacopoeial List 1946*, Department of Health, Government of India Press, Calcutta, 1946.
- ¹⁷⁰ R. N. Chopra, "Presidential Address to the Bengal Pharmaceutical Association," *Indian Medical Gazette*, vol. 72, 1937, pp. 101-103; *Indian and Eastern Chemist*, vol. 19, 1938, pp. 313- 317.
- ¹⁷¹ H. Singh, "The Indian and Eastern Druggist/Chemist," *Eastern Pharmacist*, vol. 39, Calcutta, November 1996, pp. 45-48.
- ¹⁷² Editorial, "The Bengal Pharmaceutical Association," *Indian and Eastern Chemist*, vol. 19, 1938, P. 117; R. N. Chopra, "A Message to the members from the President", *Ibid.*, vol. 19, 1938, pp. 118-119.
- ¹⁷³ *Report of the College of Pharmacy Committee 1938-39*, Government of Bengal, Department of Public Health and Local Self Government, Bengal Government Press, Alipore, 1941.
- ¹⁷⁴ 'Proceedings of the Meeting of the IPA Council', 24 August 1945, item 7; *Indian Journal of Pharmacy*, vol. 7, 1945, P. 80.
- ¹⁷⁵ Harkishan Singh, *op. cit.*, pp. 249-50.
- ¹⁷⁶ R. N. Chopra, S. L. Nayar and I. C. Chopra, 'Glossary of Indian Medicinal Plants', *Council of Scientific & Industrial Research*, New Delhi, 1956. pp xx+330; reviewed in the *Indian Journal of Pharmacy*, vol. 19, 1957, p. 126.
- ¹⁷⁷ R. N. Chopra, I. C. Chopra, K. L. Handa, and L. D. Kapoor, *Chopra's Indigenous Drugs, Second Edition*, Calcutta: U. N. Dhur and Sons (Private) Limited, 1958. pp. xxxii+816; reviewed by S. R., *Indian Journal of Pharmacy*, vol. 21, 1959, pp. 122-123.
- ¹⁷⁸ *Annual Reports of the Calcutta School of Tropical Medicine*, Institute of Hygiene and the Carmichael Hospital for Tropical Diseases, 1921, p .27, and for the year 1923, p 71.

-
- ¹⁷⁹ *Report of the Drugs Enquiry Committee 1930-31*, Calcutta: Government of India Central Publication Branch, 1931, p. 169.
- ¹⁸⁰ R. N. Chopra, "Some Problems of Medical and General Interest," *Indian Medical Gazette*, vol. 81, 1946, pp. 143-147. Inaugural address to the 22nd All-India Medical Conference, Amritsar, December 1945.
- ¹⁸¹ *Report of the Committee on Indigenous Systems of Medicines*, Vol. I: Recommendations; vol. II, Appendices, Ministry of Health, Government of India, 1948.
- ¹⁸² "Need for Research in Indian Medical Science: Proposed Integration of Indigenous and Western Systems," Chopra Committee's Recommendations, *Indian Medical Gazette*, vol. 84, 1949, pp. 107-110.
- ¹⁸³ B. Mukerji, "Obituary Note," *Pharma Times*, vol. 5 (7), 1973, pp. 12-14.
- ¹⁸⁴ Directory of Members, *Indian Pharmacological Society*, 1993, compiled by P. V. Dewan.
- ¹⁸⁵ Harkishan Singh, op. cit., p. 253.
- ¹⁸⁶ *Annual Reports of the Calcutta School of Tropical Medicine*, Institute of Hygiene and the Carmichael Hospital for Tropical Diseases. 1937, p. 11.
- ¹⁸⁷ *The Pharmaceutical Society of Great Britain Calendar*, 1954-55. P. 9.
- ¹⁸⁸ *Annual Reports of the Calcutta School of Tropical Medicine*, Institute of Hygiene and the Carmichael Hospital for Tropical Diseases, 1940, p. 14; *Indian and Eastern Chemist*, vol. 22, 1941, P. 36.
- ¹⁸⁹ P. N. Patil, O. D. Gulati and R. Balaraman (Eds.), *Topics in the History of Pharmacology*; Publication Editor: R. K. Goyal, Ahmedabad: B. S. Shah Prakashan, 2004.
- ¹⁹⁰ *Annual Reports of the Calcutta School of Tropical Medicine*, Institute of Hygiene and the Carmichael Hospital for Tropical Diseases, 1938, p. 27.
- ¹⁹¹ R. N. Chopra, and R. L. Badhwar, "Poisonous Plants in India," *Indian Journal of Agricultural Science*, vol. 10, Part I, New Delhi: Indian Council of Agricultural Research, 1940, pp. 1-44.
- ¹⁹² *Annual Report of the Calcutta School of Tropical Medicine and the Carmichael Hospital for Tropical Diseases, 1940*, Superintendent, Alipore: Government Printing, West Bengal Government Press, 1941, pp. 15-17.
- ¹⁹³ Chittabrata Palit, "Dr. Nilratan Sarkar: A Legendary Medical Scientist", *Propagation: A Journal of Science Communication*, Kolkata: National Council of Science Museums, 2015, p. 69.
- ¹⁹⁴ *Ibid.*, p. 70.
- ¹⁹⁵ B. C. Roy, "Nilratan Sarkar", *Modern Review*, 1976.
- ¹⁹⁶ Arun Kumar Chakraborty, *Chikitsa-Vijnane Bangali*, Kolkata: Signate Bookshop, 1960, pp. 93-100.
- ¹⁹⁷ *Ibid.*, pp. 99-100.
- ¹⁹⁸ "Nilratan Sarkar", *Ananda Bazar Patrika*, 1943.

Conclusion

The term "colonial medicine" has evolved beyond its original meaning of referring to medical practices introduced to colonies by imperial powers or before the development of "national" medicine in these areas. The term "colonial medicine" pertains to using medical practices to impose colonial authority within a colonial context. The definition of race varies based on the specific situation and time period, and it cannot be simplistically characterized as a linear concept. The ethnic identification of individuals significantly influences their self-perception. The emergence of certain practices is often influenced by established traditions, sometimes influenced by religious beliefs, cultural norms, rituals, and methods of sustenance. In the contemporary history of South Asia, the concept of "race" has been defined as the process of essentializing groupings of individuals, attributing to them inherent, enduring, or predictive traits. This definition of race is perhaps the most precise and reliable one currently accessible since some subsequent definitions have shown excessive ambiguity and included notions of 'racial' identity mostly rooted in religious and cultural aspects.

During the seventeenth and eighteenth centuries, authors who sought to elucidate the distinctions between Indian and European political systems never used the word "race." The individuals in question did not often see physical and mental characteristics as innate and permanent. The prevailing belief was that the perceived "lethargy" or "timidity" among Indians resulted from prolonged exposure to hot weather rather than an inherent and unchanging tendency. The advent of British colonial power in India during the late eighteenth century exacerbated the perception of 'racial' disparities by promoting the notion of British superiority over their Indian people.

There was a prevailing belief that the extended presence of Europeans in India would lead to the emergence of a hybrid race that would be considered inferior to the imperial race. The

presence of health dangers was a significant obstacle for the foreign rulers of India since they were required to meet their imperial demands with a limited number of British troops. The previously mentioned occurrence significantly influenced the fundamental structure of the Raj, as it resulted in the "de-masculinization" of the British soldiers and ultimately rendered them ill-suited for their duties. Furthermore, it impeded the British's perception as a racially superior group. The worry of deterioration prompted the search for geographically suitable regions in India that offered relatively good health conditions. The production of several topographical works in India, commencing in the 1820s, promoted the development of a discerning comprehension of the areas where Europeans and their enterprises were inclined to flourish. Simultaneously, Europeans saw a newfound awareness and adoption of hygienic practices and sanitary habits. Over time, Europeans progressively assimilated the aristocratic standards of personal cleanliness, leading to a growing tendency to scrutinize and evaluate Indian sanitation methods.

Colonized people engaged in a multifaceted array of resistance, bargaining, and accommodation while encountering Western biomedicine. Moreover, non-Western medical systems such as Ayurveda and Unani-Tibb have exhibited a greater degree of openness and adaptability towards new knowledge of science and medicine than Western medicine. By the end of the nineteenth century, Western medicine displayed limited tolerance for alternative approaches. From a political and economic perspective, the British strategically used Western medicine in a manner that exhibited both oppressive and advantageous outcomes. Concurrently, the British government's endeavor to enhance public health awareness had favorable outcomes for the health of Indians. Bengalis who have received higher education in Western institutions are significantly attracted to the Western medical system in terms of career opportunities.

During the late nineteenth century in India, many significant events took place, including the advent of feminism in the Western world, the missionary activity in India, the advancement of biomedicine in Europe, its subsequent dissemination in colonial nations, and notably, the formation of a social reform movement with an emphasis on women. Various theoretical perspectives might be explored to comprehend the British government's approach to women's medical education. The British government's approach to Indian women's medical education in the late nineteenth century was shaped by the influence of modern European societal ideals, which emphasized women's right to pursue economic independence. Additionally, the British government was concerned for the poor health conditions of Indian women, often attributed to prevailing superstitions and prejudices. Consequently, the British government took the initiative to promote women's medical education in India.

Additionally, the British had a political motive aimed at challenging the prevailing societal norms of Indian culture, namely the notions of 'Andar Mahal' and 'Bahir Mahal', by advocating for the inclusion of Indian women in professional spheres alongside their male counterparts. The concept of dominance arises from the intricate interplay between economic freedom and reliance. The British sought to undermine male dominance and patriarchal attitudes towards women in India by promoting economic self-sufficiency among Indian women. The internal setting of an Indian household was traditionally regarded as a repository of Indian culture and customs. The inner place of an Indian household was widely regarded as the ultimate stronghold of indigenous cultural existence, impervious to the intrusion of colonial forces. The British Government's involvement in women's medical education in India may be seen as driven by both a humanitarian desire to improve healthcare access for Indian women and a political intention to penetrate the traditionally secluded realm of Indian culture and society.

The colonial authorities and nationalists expressed concern about the elevated infant death rate and limited access to medical care for Purdah women. The proponents of nationalism held the

view that the advancement and well-being of Indian women were of utmost importance for the overall advancement and development of the nation. The emergence of women seeking medical education and venturing outside the confines of their protected Andar Mahal (domestic realm) might be seen as equivalent to Indians joining the British workplace, aligning with the aspirations of nationalist movements. The inclusion of women was pivotal in the successful accomplishment of this objective. Undoubtedly, Indian women found studying medicine a very fulfilling pursuit due to its wide array of professional prospects. In theory, women physicians in the first category, possessing equivalent degrees, were considered equal to their male counterparts. However, no significant progress was made regarding equalizing medical opportunities and facilities in the colonial domain.

The male counterparts within the medical profession strongly opposed the notion of providing incentives to female physicians. Indian women have also encountered racial prejudice in their respective professions space. In their discourse, D. Engle alluded to a report in a Calcutta newspaper in 1923, highlighting the disparate treatment of Indian women patients, particularly those from the middle class, at the Dufferin hospital. While Europeans and Eurasians were given proper care. The Bengal Exchange Gazette also articulated the concern. It voiced concern that, despite the majority of Indian investors in the fund, the Dufferin Fund would serve the interests of European women and be governed by them. Interestingly, it was noted in the reports of the Dufferin Fund that they closed their door to Eurasian and European patients to attract more Indian patients to the hospital. These two references were dichotomous to characterize the Dufferin Fund as an organization that exhibits racial bias. Indeed, it is a verifiable fact that a considerable number of Indian women were granted financial support to pursue medical education and afterward secured positions in hospitals with respectable remuneration. Nevertheless, some women reported racial prejudice encountered during their tenure as medical professionals, a matter that should not be disregarded. It might be argued that these

imperial institutions operated with the British medical policy, which was driven by political and economic considerations. So, the Dufferin fund was indeed a significant step to institutionalizing medical education for Indian women, and it was not totally free from its political and racial partialities.

Detailed data analysis found that the Westernization of the Ayurvedic medical system made Indian students more interested in directly adopting Western medical systems instead of Ayurveda. Firstly, government patronage of Western medicine, and secondly, financial success, social fame, and respect due to the extensive market demand. Thirdly, caste-based and family-based education systems in Ayurveda eliminated a large section of Indian students from getting admission into Ayurvedic schools or colleges. Modern-aged Indian students naturally tend towards the Western medical system more than the old traditional indigenous system. The main drawback of the indigenous and homeopathic medical systems is that they were trying to compete with Western medicine and unknowingly accepted their superiority. Indians were given lower posts despite their talent, and Indian patients were not given their basic hospital facilities. Vaccination drives often create a terrible situation because of their inhumane treatment of native people.

We can highlight the significant findings of this prolonged investigation of various sources -

This racial discrimination can be seen in the writings of Indian doctors in colonial India. The biographies of Indian doctors in colonial Bengal reveal that the nationalist spirit influenced each of them in various ways. Some expressed their antagonism directly against this, and some indirectly through their actions. Even though they were associated with imperialist institutions, their patriotism is reflected in their activities. Nationalism greatly impacted the Indian doctors who worked in those imperial organizations. They had a shared vision of a self-dependent India. They dreamed of an independent nation and wanted the Indians to thrive. They were

influenced by Western science and medicine. They adopted Western culture for professional pursuits, but their minds were not colonized, and they were free to cherish Indian culture in their personal space. It was free to think of an independent India, and for a more fantastic future, they invested their whole lives and laid a foundation for the future generation. They didn't see Western medicine as "colonial medicine." For them, it was Western knowledge, which can be seen as a modern affirmative approach towards an alien medical science. The political views of the socially famous Indian doctors influenced native people. They tried encouraging new generations to engage in science and medicine to prove their intellect and talent. While the British administration focused on controlling the Indian body to fulfill their imperial agenda, Indian minds were free to think. An external force can conquer the body but not the mind.

The Western medical system changed into "colonial medicine" with the changing political notions of the British Government. They marginalized the indigenous medical system, which was popular in India for a long time. They worked alongside Western medicine in the early phases of English Company rule. Even though Ayurvedic treatment has a glorious history of surgery and simple, effective medication, the British government stopped patronizing the indigenous medical system. Another reason for that was to control the medical market in colonial Calcutta.

The English women, missionaries, and high political power holders, white female doctors contributed to the Indian women's medical education. Indian men, the British government, and Indian nationalistic leaders had different perspectives. However, they agreed with the fact that Indian women should get an education and join the medical profession for the benefit of the vast section of females and child health of colonial India.

Indians like Gopaul Chunder Roy and Ramnath Chopra did their best to introduce indigenous medical therapy or pharmaceuticals into the Western medical system, showing the usefulness

of Indigenous drugs to the British authorities. It should be noted that although the dominance of Western medicine was established in urban areas by the native doctors who had a good connection with the rural people. However, the indigenous medical system had a greater opportunity at the rural level. Native doctors used to follow both indigenous and Western medical systems in rural dispensaries to make patients comfortable with an unknown treatment procedure. To make Western medicine acceptable to the rural people, the doctors at the dispensary used a combination of indigenous and Western drugs to treat the patients. The rural people Indianized the word 'Doctor' by addressing the dispensary pharmacists as "*dactar babu*." In many cases, these doctors at the dispensary followed the local medical system to cure the disease. This led to a combination of Western medical techniques and indigenous medical methods.

Numerous renowned academics and professors have already explored the social aspect of the history of medicine. This research paper has concentrated chiefly on the political part of medical history. This research focuses on the experiences of Indian physicians within the colonial medical profession and their association with Indian nationalist movements. The Indigenous medical practitioners and homeopathic physicians were motivated to express their opposition to the marginalization they experienced at the workplace. Their frustrations encouraged them to seek political help from nationalist parties. The nationalist parties had reasons to support the legalization of other alternative indigenous medical practice. It became part of the political agendas raised by the Indian National Congress. Krishak Praja Party had their interpretation of the issue. The newspaper played a vital role in popularizing Western medicine in India. Numerous reports and editorials have shown India's skepticism towards indigenous doctors. However, indigenous medical practitioners were often called fraudulent and demanded a ban on them. Bengali physicians who were politically engaged, whether practicing inside Western medical schools or in alternative disciplines of medicine,

were subjected to mistreatment by the British colonial authorities, resulting in a lack of recognition and respect for their contributions. The growing popularity of Western medicine posed challenges for indigenous and homeopathic practitioners in their quest for acknowledgment and acceptance.

Many big, reputed families in Calcutta were famous for their Ayurvedic treatment and had a huge market for their medicine. Homeopathic practitioners also had a family-based medical practice and were well connected with the influential Bengali intelligentsia, who promoted homeopathy as a reliable, effective alternative medical system. Homeopathy was incorporated with the Swadeshi movement and during the Gandhian movements. Indian nationalists politicized the issue of homeopaths and other indigenous medical systems. They believed the indigenous medical system needed legitimacy if the Indian race wanted to regain its prestige. According to the nationalistic belief, just as the British marginalized Indians economically and culturally, they showed their arrogance by declaring India's ancient indigenous medicine illegal. They considered it their political responsibility to restore the diminished prestige of the indigenous and homeopathic medical system, which the British vehemently marginalized.

In this work, the concept of colonizing or nationalizing the Indian body, investigated by many scholars, has shifted to the theory of the “un-colonized mind”. A mind cannot be colonized, and it's free to think. Thorough research on the lives of Bengali doctors in the colonial framework shows that their mind was always free. The annual report of hospitals shows the number of Indian patients always fluctuated. Indian patients were free to choose their desirable medical system for treatment. Even though the indigenous medical system was legally banned, it was always available in the market. It was likely a commercial antagonism to popularize Western medicine, which encouraged the British to marginalize other potent alternative medical systems to lessen the market competition. The political power made it easy for the

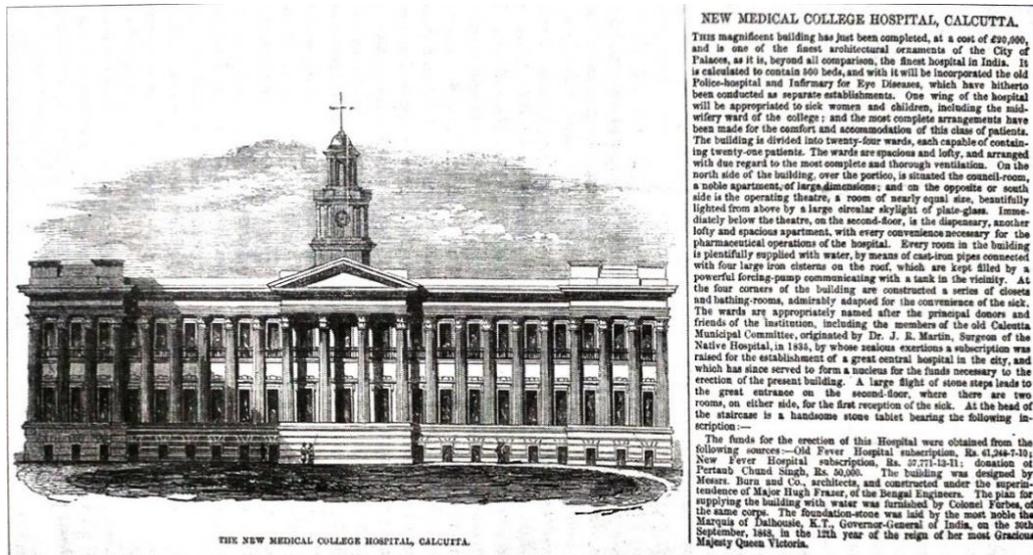
British and consequently raised the objections of the Indians, who were then subjects of the British authority with no political power. That engaged the political notion to legitimize the indigenous medical system, closely connected with Indian culture and heritage. Not only the indigenous physicians and Homeopathy practitioners had their grievances, but those who adopted Western medicine as a profession had many grievances against the British authorities. Indian Doctors employed in colonial hospitals actively opposed the racial prejudices in the colonial system. They diligently worked to get the recognition and admiration that they rightfully deserved. The Indian nationalists and the Bengali intelligentsia never ignored the theory of Western medical knowledge and its effectiveness. They opposed the dominance of the British over other alternative medical schools. They opposed the hegemonic nature of British rule, which tried to marginalize indigenous and homeopathy medical systems with their legal power. Thus became a battleground for the Indians to achieve legitimacy within colonial settings.

The information for this current study has been collected by visiting medical institutions in Kolkata. Research in the sanitary improvements in colonial Bengal or the public health movement in 19th-century India can be included in the study, but considering the fact that Tinni Goswami, Kabita Ray, Sandeep Sinha have already provided extensive details on the particular topic, these parts were slightly touched here. Also, extensive detailed research on public health has been very well covered by Mark Harrison's *Public Health in British India*. A discussion on this issue is not possible in short. This demands a complete examination. Nevertheless, David Arnold, Arvinda Samanta, and other eminent historians and scholars have already dedicated immense attention to it. Information regarding the treatment of freedom fighters in imperial institutions could not be obtained in the libraries. If documents on that issue could be unearthed, it would be an excellent chance for researchers of the history of medicine in colonial Calcutta.

APPENDIX I

Gallery

PLATE. 1.1: The Medical College Hospital, Calcutta



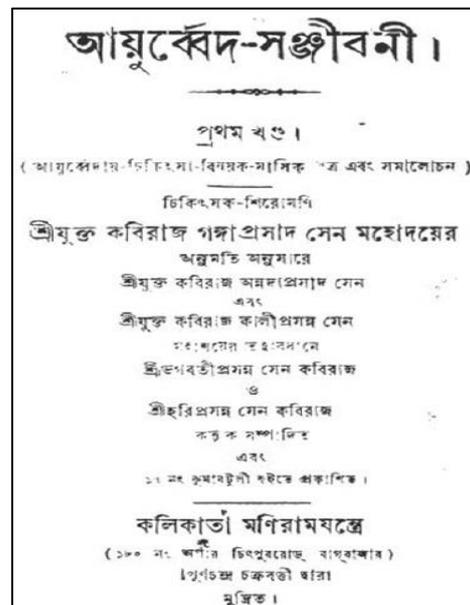
Source: Welcome Trust Library, London, computed by Srilata Chatterjee, *Western Medicine and Colonial Society: Hospitals of Calcutta, c.1757-1860*, New Delhi: Primus Books, 2017, p. 170.

PLATE 3.1: Hakeem Ajmal Khan (1868-1927)



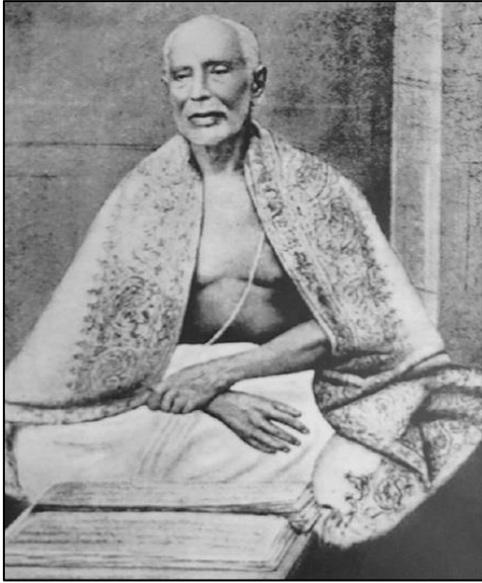
Source: Open public domain

PLATE 3.2: Ayurved Sanjivni Journal



Source: Contribution of Bengal School for the Protection of traditional Ayurvedic knowledge in colonial India *International Journal of Ayurveda Research*, vol. 3(2), Jul-Dec 2022. pp. 102-117

**PLATE 3.3: Kaviraja Gangadhar Ray
(1789-1885)**



Source: Contribution of Bengal School for the Protection of traditional Ayurvedic knowledge in colonial India
International Journal of Ayurveda Research, vol.3(2), Jul-Dec 2022. pp. 102-117.

**PLATE 3.4: Kaviraja Bijayratna Sen
(1858-1911)**



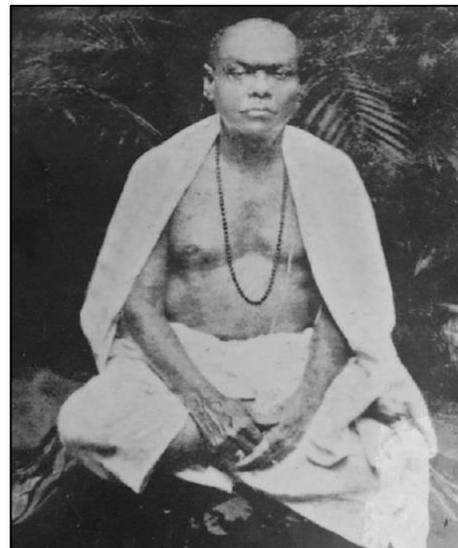
Source: Contribution of Bengal School for the Protection of traditional Ayurvedic knowledge in colonial India
International Journal of Ayurveda Research, vol.3(2), Jul-Dec 2022. pp. 102-117

**PLATE 3.5: Kaviraja Jamini Bhushan
Ray (1889-1925)**



Source: Contribution of Bengal School for the Protection of traditional Ayurvedic knowledge in colonial India
International Journal of Ayurveda Research, vol.3(2), Jul-Dec 2022. pp. 102-117.

**PLATE 3.6: Kaviraja Shyamadas
Vachaspati (1876-1934)**



Source: Contribution of Bengal School for the Protection of traditional Ayurvedic knowledge in colonial India
International Journal of Ayurveda Research, vol.3(2), Jul-Dec 2022. pp. 102-117.

**PLATE 3.7: Kaviraja Gananath Sen
(1877-1944)**



Source: Contribution of Bengal School for the Protection of traditional Ayurvedic knowledge in colonial India
International Journal of Ayurveda Research, vol.3(2), Jul-Dec 2022. pp. 102-117.

**PLATE 3.8: Babu Rajendra Lal Dutta
(1818 – 1889)**



Source: Open Web Source
Dilli Homoeopathic Anusandhan Parishad

PLATE 3.9: Calcutta Homoeopathic Medical College and Hospital



Source: Hospitals and Sanatoriums of the Homsopathic School of Medicine, by the American Institute of Homsopathy, Presented by Francis Treuherz & Sylvain Cazalet

PLATE 4.1: F. E. Hoggan (1843-1927)



Source: *The Western Mail*, 21 January 2016

PLATE 4.2 Edith Pechey (1845-1908)



Source: Open web Domain

PLATE 4.3: Abala Bose (1865-1951)



Source: Open Web Domain

PLATE: 4.4. Lady Dufferin (1807-1867)



Source: Open Web Domain

PLATE 4.5. Dufferin Hospital in Calcutta



Source: Open Web Domain

PLATE 4.6: Campbell Medical School



Source: Official website of Nilratan Sarkar Medical College

PLATE 4.7: Haimabati Sen (1866-1933)



Source: Geraldine Forbes and Tapan Roychoudhury, eds., *The Memoir of Haimabati Sen*, Lotus Collection/Roli Books, 2019

PLATE 4.8: Kadambini Ganguly



(1861-1923)

PLATE 4.9: Bidhumukhi Basu (1866 -)



PLATE 4.10: Virginia Mary Mitra (1865 -)



PLATE 4.11: Jamini Sen (1871-1932)



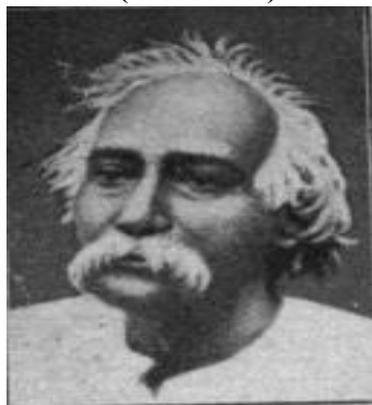
Source for Plate No. 4.8, 4.9, 4.10, 4.11: Soma Biswas, *Unish Shotoke Bangladeshe Chikitacharcha: Pathikrit Char Bangali Mahila Doktor*, Kolkata: K. P. Bagchi, 2015.

PLATE 5.1: Soorjo Coomar Goodeve Chuckerbutty (first on right) (1826-1874)



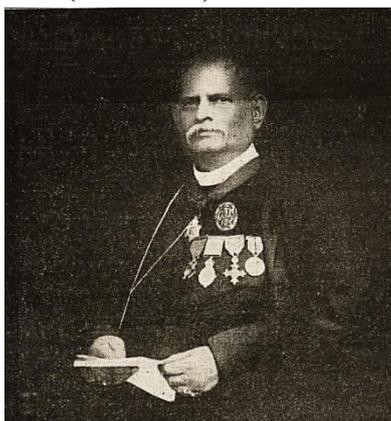
Source: Open Web Domain

PLATE 5.2: Mahendra Lal Sircar (1833-1904)



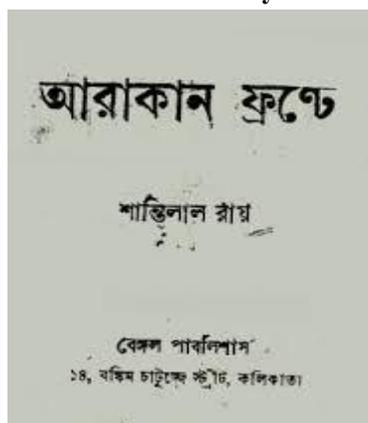
Source: Dr. Arun Kumar Chakraborty, *Chikita Vijnane Bangali*, Kolkata: Aruna Prakashani, 1960

PLATE 5.3: Sir Kailash Chandra Bose (1850-1927)



Source: Open Web Domain

PLATE 5.4: *Arakan Fronte* by Shantilal Roy



Source: Shantilal Roy, *Arakan Fronte*, Bengal Publishers, 1946

PLATE 5.5: Ramnath Chopra (1882-1973)



Source: Harkishan Singh, “Ramnath Chopra (1882-1973), - A Visionary in Pharmaceutical Science”, *Indian Journal of History of Science*, Vol. 43.2, 2008.

PLATE 5.6 Nilratan Sarkar (1861-1943)



Source: Open Web Domain

APPENDIX II

List of Students at Calcutta Medical College in 1847-48

The following is a list of the pupils in the English class at the close of the session :

Stipendiary Students,	39
Robertson Scholar,	1
Free and Ceylon Students,	35
Subordinate Medical Department,	2
	<hr style="width: 10%; margin: 0 auto;"/>
Total	77

Of the natives seven are Mahomedans, the remainder Hindus.

Of the latter there are	{	14 <i>Brahmins.</i>
		4 <i>Boidos.</i>
		16 <i>Coistos.</i>
		2 <i>Weavers.</i>
		1 <i>Barber.</i>

In the Military Class there are ninety-nine pupils upon the full pay of five rupees per mensem, and nine pupils from Assam, making in all one hundred and eight.

Of these ninety-two are Mahomedans, and sixteen Hindus.

Of the Hindu Students there are ...	{	2 <i>Brahmins.</i>
		10 <i>Chuttries.</i>
		4 <i>Kahars.</i>

Eighty of the pupils are natives of the North Western Provinces, and 28 of Bengal.

Source: Annual Report of the Medical College of Bengal, Thirteenth year, Session 1847-48, Calcutta: W. Ridsdale, Military Orphan Press 1948, p. 2.

APPENDIX III

Dietary differences between Indian and European Patients in 1842-43

Table of Diet for Native Patents in Calcutta

HINDOOS.	MAHOMEDANS.
<i>Breakfast 8 A. M.</i>	<i>Breakfast 9 A. M.</i>
Rice 5 chittaks. Dholl 1 chittack.	Rice 3½ chittacks. Dholl 1 chittack.
<i>Dinner 4 P. M.</i>	<i>Dinner 3 P. M.</i>
Rice 5 chittacks. Fish Curry and Vegetables.	Rice 3½ chittacks. Meat Curry and Vegetables.
	<i>Supper 7 P. M.</i>
	Rice 3½ chittacks. Meat Curry and Vegetables.

The Mahomedan patients get meat curry three times a week, and fish curry on the intermediate days. The extras are pigeons curried or boiled, chuppatties or flour cakes, &c. Those on milk diet have one seer of milk, with the usual allowance of rice made into congee or gruel, with one ounce of sugar. Those on spoon diet have 4 ounces of sago, with one ounce of sugar and a pint of milk.

Each patient is allowed ½ an ounce of tobacco daily and one seer of firewood for cooking.

Source: Collected from General Report on Public Instruction in the Bengali Presidency for 1842-43, Calcutta, 1843, Appendix L, p. cxii.

Table of Diet for European Patients in Calcutta

BREAKFAST.

<i>Full Diet.</i>	<i>Milk Diet.</i>	<i>Low Diet.</i>	<i>Spoon Diet.</i>
Tea $\frac{1}{2}$ ounce. Bread 1 lb. Butter 1 ounce. Sugar $\frac{1}{2}$ ounce. Milk $\frac{1}{2}$ measure (2 dr.)	Tea $\frac{1}{2}$ ounce. Bread 1 lb. Sugar $\frac{1}{2}$ ounce. Milk $\frac{1}{2}$ measure.	Tea $\frac{1}{2}$ ounce. Bread 8 ounces. Sugar $\frac{1}{2}$ ounce. Milk $\frac{1}{2}$ measure.	Tea $\frac{1}{2}$ ounce. Sugar $\frac{1}{2}$ ounce. Milk $\frac{1}{2}$ measure.

DINNER.

<i>Full Diet.</i>	<i>Milk Diet.</i>	<i>Low Diet.</i>	<i>Spoon Diet.</i>
A pint of broth, with barley grains and onions, mutton one pound, salt $\frac{1}{2}$ ounce, pepper for soup 1 drachm.	2 pints of milk, with or without rice.	A pint of broth, 8 ounces of mutton or 1 chicken.	4 ounces of sago, with $\frac{1}{2}$ an ounce of sugar.

SUPPER.

<i>Full Diet.</i>	<i>Milk Diet.</i>	<i>Low Diet.</i>	<i>Spoon Diet.</i>
Tea $\frac{1}{2}$ ounce. Sugar $\frac{1}{2}$ ounce. Milk $\frac{1}{2}$ measure.			

ARTICLES COMPOSING THE DIFFERENT HEADS OF DIET PER DIEM.

<i>Full.</i>	<i>Milk.</i>	<i>Low.</i>	<i>Spoon.</i>
Meat one pound. Bread one pound. Butter one ounce. Milk one measure. Sugar one ounce. Tea $\frac{1}{2}$ an ounce. Rice 2 ounce, 1 for congee. Salt $\frac{1}{2}$ an ounce. Onions one ounce for soup. Pepper 1 drachm for ditto. Barley $\frac{1}{2}$ an ounce for ditto. Flour $\frac{1}{2}$ an ounce for ditto. Fire Wood 2 seers.	Bread one pound. Milk 2 pints. Do. 1 measure for Tea. Sugar 1 ounce. Tea $\frac{1}{2}$ an ounce. Rice 2 ounces. Firewood 2 seers.	Meat 8 ounces. Bread 8 ounces. Milk 1 measure. Sugar 1 ounce. Tea $\frac{1}{2}$ ounce. Rice 2 ounces. Salt $\frac{1}{2}$ an ounce. Onions 1 ounce. Pepper 1 drachm. Barley $\frac{1}{2}$ ounce. Flour $\frac{1}{2}$ ounce. Firewood 2 seers.	Bread 8 ounces. Sago 4 ounces. Sugar 1 $\frac{1}{2}$ ounce. Tea $\frac{1}{2}$ ounce. Milk 1 measure. Rice 2 ounces. Firewood 2 seers.

Extras, such as Rice, Puddings, Eggs, Fish, Vegetables, Beefsteaks, Mutton Chops, Beer, Wine, Jelly, Arrow Root, &c when ordered.

Source: Collected from General Report on Public Instruction in the Bengali Presidency for 1842-43, Calcutta, 1843, Appendix L, p. cxiii.

APPENDIX IV

Medical Women for India Fund

MEDICAL WOMEN FOR INDIA.

It is proposed to raise by public subscription, to be supplemented, it is hoped, by a Government contribution, a sum of money sufficient to permit of bringing to Bombay, for medical practice, two or three English ladies possessed of a thorough medical training and experience.

The high position gained by female doctors in England and in America is sufficient proof of their ability, learning, and skill, as well as of the need of their services. Such need exists in much greater force here in India, where the secluded habits of the female portion of society make them very reluctant to accept the services of doctors of the other sex, even in the most serious cases; while the neglect to take medical advice in apparently trifling matters often leads to serious illness.

It would be premature to lay down all the details of such a scheme, as it will depend largely upon the amount of subscriptions raised. It is proposed, however, that an arrangement be made to give two or three ladies cost of passage out and home, free rent, and moderate salaries for a term of three years, leaving them to supplement these by moderate fees for visits to patients. In such a case a small dispensary would be proposed, where women and children could receive advice and medicine for a trifling charge. It may also be thought best to ask Government to give the ladies some official connection with the hospitals; and from this might grow a medical school where female students could receive instruction in medicine and surgery from competent teachers of their own sex.

Further matters of detail are necessarily left to the future. To carry out the scheme Rs. 30,000 to Rs. 35,000 are necessary, and we can then go to Government for their support and assistance. It is hoped that this sum may be contributed, and then a Committee will be formed to lay the matter before Government and arrange the details of the scheme.

All those interested in this object are requested to communicate with the undersigned.

GEO. A. KITTREDGE.
SORABJEE S. BENGALLEE.

Bombay, 25th January, 1883.

APPENDIX V

Proceedings of the Inaugural Meeting of the Indian Association for
the Cultivation of Science

THE
CALCUTTA JOURNAL
OF
MEDICINE

VOL. VIII.] August 1876. [NO. 2.

PROCEEDINGS OF THE INAUGURAL MEETING OF
THE INDIAN ASSOCIATION FOR THE
CULTIVATION OF SCIENCE.*

The Inaugural Meeting of this Association (founded by resolution of subscribers in meeting assembled on the 15th January last) was held on Saturday, the 29th July 1876, at the new house given to it by Government, "under the presidency of Sir Richard Temple, and in the presence of the *elite* of Native

* Our readers will no doubt be gratified to see that the idea of a Science Association for the Natives of India, first started in this Journal in 1869, has, though after the lapse of half a dozen years, become embodied in reality. We publish the proceedings of the Inaugural Meeting here out of regard for the fact that this Journal ~~was~~ the first vehicle of the project, and also as a homage to Homœopathy which we look upon as the latest and the most glorious discovery of the noblest of sciences, the due appreciation of which is inevitably to follow the thorough cultivation of Science. For it is our belief that before the mind is conversant with the subtle forces of nature, and with the ultimate structure of bodies, the distinction of great and small sinks into utter insignificance. It is the aggregation of the small that constitutes the great, and an entity, however small, is an entity still, and exerts its forces upon all other entities, and therefore is not to be ignored or despised.

Source: *The Calcutta Journal of Medicine*, vol.3, no.2, August 1876

GLOSSARY

<i>Andar Mahal</i>	Inner space of the home
<i>Asthi</i>	Bone
<i>Bahir Jagat</i>	Outside of the home
<i>Bhadralok</i>	Bengali intelligentsia
<i>Daktar</i>	Doctor
<i>Dai</i>	Indian local midwife without medical training
<i>Dawakhanas</i>	Dispensaries
<i>Dosas</i>	Fluids
<i>Hakim</i>	Physicians
<i>Ilaj-bil-Hawa</i>	Atmospheric treatment
<i>Ilaj-bit-Tadbir</i>	Cavalry therapy
<i>Jagirdar</i>	Mughal officer given land as jagir
<i>Kapha</i>	Mucus
<i>Kaviraja</i>	Ayurvedic Doctors
<i>Kosa</i>	Sheaths
<i>Maharani</i>	Queen
<i>Majja</i>	Marrow
<i>Mamsa</i>	Flash
<i>Meda</i>	Tissue
<i>Memsahib</i>	White European women
<i>Mansabdar</i>	Mughal officer with jagir land and army
<i>Mizaj</i>	Temperament
<i>Na-tabib</i>	Quack
<i>Panchabhutas</i>	Water, fire, air, earth, and ether
<i>Paschata Karma</i>	Post-operative treatments are all accurately defined
<i>Pitta</i>	Gall

<i>Pradhana Karma</i>	Main work or surgical procedure
<i>Purba Karma</i>	Preparatory work or pre-operative steps
<i>Purdah</i>	Veil
<i>Purdahnashin</i>	Veiled women
<i>Raj-bil-Ghiza</i>	Dietary therapy
<i>Rakta</i>	Blood
<i>Rasa</i>	Plasma
<i>Saramad-i-abba</i> or <i>Saramad-i-hakama</i>	Chief Physician in Mughal India
<i>Sepoy</i>	Indian soldiers in the British army
<i>Shukra</i>	Reproductive Cells
<i>Shastras</i>	Hindu religious book
<i>Sharbathanas</i>	Sirup houses/distilleries
<i>Sicca</i>	Rupees, currency during colonial period
<i>Vaidya</i>	Indigenous medical practitioner
<i>Vata</i>	Wind

BIBLIOGRAPHY

Primary Sources :

Published Reports and Letters –

- *A letter to the Secretary of State for India on the past, present, and future of the Indian Medical Service*, by a “Surgeon-Major,” Madras: Lawrence Asylum Press, 1879.
- *A Proceedings of the Government of India in the Department of Agriculture, Revenue and Commerce*, Simla, 31st October, 1871, Memo. No. 440.
- *Annual Report of the Calcutta School of Tropical Medicine and the Carmicheal Hospital for Tropical Diseases, 1960-61*, Calcutta: Lal Chand Roy & Co. Private Ltd., 1922.
- *Annual Report of the Calcutta School of Tropical Medicine and the Carmicheal Hospital for Tropical Diseases, 1935*, Superintendent, Government Printing, West Bengal Government Press, Alipore, West Bengal, 1936.
- *Annual Reports of the Calcutta School of Tropical Medicine*, Institute of Hygiene and the Carmichael Hospital for Tropical Diseases. 1940
- *Annual Report of the Calcutta School of Tropical Medicine and the Carmicheal Hospital for Tropical Diseases, 1941*, Superintendent, Government Printing, West Bengal Government Press, 1943.
- *Annual Report of the Calcutta School of Tropical Medicine and the Carmicheal Hospital for Tropical Diseases, 1964*, Superintendent, Alipore, West Bengal: Government Printing, West Bengal Government Press, 1965.
- *An Appeal; on Behalf of the Calcutta School of Tropical Medicine and Hygiene and the Carmichael Hospital for Tropical Diseases, 1920*, Calcutta: The Bengal Secretariat Press, 1920.
- *An Appeal from the Surgeons of the Indian Medical Service*, Royal College of Surgeons of England, India, 1884.
- *Appendix to the report from the Select Committee of the House of Commons on the Affairs of the East India Company, 16th August 1832 and Minutes of Evidence*, London: J. L. Cox and Sons, 1833.
- *Appendix to the Report of the Selection Committee*, London, 1833, vol. 1, p. 270.

- *Calcutta University Commission Report, vol. 2, part 1, Chapter 14, Calcutta: Superintendent of Government Printing Press, 1919.*
- Croft, Sir Alfred, *Review of Education in India, 1886 with special reference to 'The Report of the Education Commissioner'*, Calcutta: Office of the Superintendent of Government Printing, 1888.
- Beverley, H., *Report on the Census of Bengal*, Calcutta: Bengal Secretariat Press, 1872.
- 'Dr. Bepin Behari Ghosh', *The British Medical Journal*, vol. 1, no. 3573, London: BMJ, June. 29, 1929, p. 1183.
- G.C.P.I.: Copy Book of Letters received and issued by the Committee, 1st January, 28th December, 1830.
- G.C.P.I., 1st January to 27th December, 1831.
- G.C.P.I., May 1838 to December 1841.
- *General Report on Public Instruction in Bengal for the year 1876-77*, Calcutta: Bengal Secretariat Press, 1877, p. 74-77.
- General Department, Education Branch, B Proceedings nos. 1-5, January 1875. (WBSA)
- General Department, Education Branch, Proceedings of the Lieutenant Governor of Bengal, July 1883, December 1884, April 1887. (WBSA)
- General Department, Medical Branch, B Proceedings no. 21, December 1887. (WBSA)
- General Department, Education Branch, File B 4C/20 Proceedings no. 33, September 1897. (WBSA)
- *General Department, Education Branch, Proceedings of the Lieutenant Governor of Bengal, To: The DPI, From: Mr A. Mackenzie, Secretary to the Government of Bengal*, file nos. 37-2, February 1879. (WBSA).
- G.M.C., Minutes, 1927, Report by R. A. Needham; N.A.I. (E.H.L.), February 1925, 3-22A.
- *GoB General Department, Medical Board Proceedings, 1835-58.*
- Gopaul Chunder Roy, "On the Past and Present State of Medicine in India," paper read at The Medico Chirurgical Society, 3rd February 1871, *Glasgow Medical Journal*, Vol. 3, 1871, Welcome Library.

- *Half Yearly report of the Government Charitable Dispensaries established in the Bengal and North Western Provinces*, year ending from 1 October 1851 to 31 March 1852, From Medical Board to the Governor General Marquis of Dalhousie dated 22 January 1853.
- Home Medical Board, 1858-9, 9 September to 2 May, *Letter from the Principle of the Medical College Calcutta to the Secretary Director General Medical Department*, West Bengal State Archives.
- Home/Medical proceedings, July 1916, A, 38–50, progs 41, p 127, National Archives of India.
- Hume, A.O., Secretary to the Government of India, Memorandum No. 623, Department of Agriculture, Revenue and Commerce, 1st August, 1873.
- India and Bengal Despatches, IOLR, E/4/766, 2 July 1841
- *Indian Education Policy, 1913*, Calcutta: Office of the Superintendent of Government printing, 1915.
- *Indian Medical Proceedings, 1873-75*, pp. 507-08, and 521-30, India Office Library.
- India Public Consultations, IOLR, P/186/75, 1 February 1837, no. 1.
- IOR/V/27/851/1, Rules and Regulations of the Medical College of Bengal, 1849, British Library.
- K. Macleod, "Medical Education in India," *Caledonian Medical Journal*, January 1908.
- Lanchester, H. V, 'Calcutta Improvement Trust: Précis of Mr. E. P. Richards' Report on the City of Calcutta Part I,' *The Town Planning Review*, Vol. 5, No. 2, July 1914, Liverpool University Press, pp. 115-130.
- Letter from the Court of Directors to Madras, 21 September 1785, cited in Dirom Gray Crawford, *A History of the Indian Medical Service 1600-1913*, California: W. Thacker, 1914 (digitized 2012). pp. 36-40.
- Latter dated 30th May, 1822, *PMB*, National Archives, New Delhi.
- Letter dated April 20, 1826 from P. Breton to Dr. Adam, Secretary of the Medical Board, giving an account of the work of the School for Native Doctors, *PMB*, National Archives, New Delhi.
- Latter dated January 25, 1827, from P. Breton to Captain Ruddell, *PGCPI*, (WBSA).

- Letter dated April 11, 1832 from Tytler to James Hutchison, *PMB*, National Archives, New Delhi.
- L.S.S. O'Malley, "The Hindu Social System," in L.S.S. O'Malley (ed.), *Modern India and the West* (London: Oxford University Press, 1941, pp. 366-6.
- *Manual of Rules for the Management of Charitable Hospitals and Dispensaries under the Government of Bengal, 1837*, NL.
- Medical, A proceedings, nos. 107-108, January 1911. (NAI)
- 'Medical Education in Lower Bengal', *IMG*, Vol. 20, No. 3, March 1885.
- Medical, Home Department Proceedings nos. 84-85, April 1897. (NAI)
- Municipal Department, Proceedings of the Lieutenant Governor of Bengal, September 1898. (WBSA)
- Municipal Department, Proceedings No.425-426,13 May 1899. (WBSA).
- MacNamara, C., McLeod, R., 'Reviewed Work: *The Indian Medical Gazette*,' *The British Medical Journal*, Vol. 1, No. 703, London: *BMJ*, June 20, 1874, pp. 808-809.
- *NAI/GOI, Home /Medical*, 4 February, Bombay, 1888.
- *NAI/GOI, Medical—A*, January 1911, Nos, 107-108. P. 1-5.
- N.A.I. (E.H.L.), March 1922, I-2 A and 20-63 A; G.M.C., *Minutes*, 1921.
- "Need for Research in Indian Medical Science: Proposed Integration of Indigenous and Western Systems," Chopra Committee's Recommendations, *Indian Medical Gazette*, vol. 84, 1949, pp. 107-110.
- 'Prize Day at the Calcutta Medical College', in *IMG*, vol. 26, no. 8, August 1891,
- Proceedings of the Home Department, 'Annual Reports on the Working of Medical Schools in Bengal for 1906-07, Proceedings no. 29, October 1907, and 1907-08, Proceedings no. 95, August 1908.
- 'Proceedings of the Meeting of the IPA Council', 24 August 1945, item 7; *Indian Journal of Pharmacy*, vol. 7, 1945.
- "Regulation Of Fees" By Government,' *The British Medical Journal*, vol. 1, no. 1469, London: *BMJ*, Feb. 23, 1889, pp. 426-427.
- Report dated May 20, 1828, of W. Price, Annual Examination for the year, submitted to the sub-committee of the Hindu College, *Minute Book of the Sanskrit College*.

- Report of the Committee on Sanitary Conditions of Railway Stations, Feb. 7, 1865, *Railway Letters*.
- *Report of the Drugs Enquiry Committee 1930-31*, Calcutta: Government of India Central Publication Branch, 1931.
- *Science Progress in the Twentieth Century (1919-1933)*, Vol. 21, No. 82, London: BMJ, October 1926, Science Reviews 2000 Ltd_p. 323.
- ‘Science Notes and News,’ *Science, New Series*, vol 45, no. 1168, May 18, 1917, pp. 476-479.
- ‘Seventy-Fifth Anniversary Of The "Indian Medical Gazette,”’ *The British Medical Journal*, Vol. 1, No. 4191, London: BMJ, May 3, 1941, p. 679.
- ‘Sir Kailas Chandra Bose, C.I.E.,’ *The British Medical Journal*, vol. 1, No. 3451, London: BMJ, Feb. 26, 1927, p. 405.
- ‘Satyendra Krishna Sarkar, MB, DIH, DCH, Sankar Das Sarkar,’ *British Medical Journal*, Vol. 306, No. 6875, London: BMJ, (Feb. 13, 1993), p. 453.
- *Subordinate Medical Education," IMG*, Mar 1869, p, 59.
- *Tenth Annual Report of the National Association for Supplying Medical Aid to the Women of India*, For the Year 1894, Calcutta: Office of the Superintendent of Government Printing, 1895.
- *Twelfth Report of the Bengal Branch of the Countess of Dufferin Fund for the Year Ending 30 November 1896*.
- ‘The British Medical Association And Its Colonial Branches,’ *The British Medical Journal*, Vol. 1, No. 1943, London: BMJ, Mar. 26, 1898, p. 840.
- ‘The State Of The Gaols In Bengal,’ *The British Medical Journal*, Vol. 2, No. 1853, London: BMJ, July. 4, 1896, p. 27.
- ‘The Indian Medical Congress’, *BMJ*, vol. 2, no. 1762, London: BMJ, October. 6, 1894, p. 784.
- ‘The Calcutta Medical College Hospital,’ *BMJ*, Vol. 2, No. 354, London: BMJ, Oct. 12, 1867, p. 317.
- *The Countess of Dufferin’s Fund: First Annual Report of The National Association for Supplying Female Medical Aid to the Women of India*, 1886.

- *The Fifth Annual Report of the National Association for Supplying Medical Aid to the Women of India for the year 1889*, Calcutta: Office of the Superintendent of Government Printing, 1890.
- *The Ninth Annual Report of the National Association for Supplying Medical Aid to the Women of India for the year 1893*, Calcutta: Office of the Superintendent of Government Printing, 1894.
- *The Twelfth Annual Report of the National Association for Supplying Medical Aid to the Women of India for the year 1896*, Calcutta: Office of the Superintendent of Government Printing, 1897.
- ‘The Indian Medical Board,’ *BMJ*, vol. 2, no. 1698, London: BMJ, Jul. 15, 1893, p. 140.
- *The Indian Magazine* September 1886, No. 189, PP. 474-478, May 1887, no. 197, pp. 245-247, June 1887, no. 198, pp. 341-346.
- *The Calcutta Monthly Journal*, vol. 3, 1837.
- *The Reports on the Working of Municipalities in Bengal 1888 - 1889*, Calcutta: Bengal Secretariate Press, November 1889.
- *The Reports on the Working of Municipalities in Bengal 1894 - 1895*, Calcutta: Bengal Secretariate Press, December 1895.
- Report on the Committee upon the Fever Hospital and Municipal Improvement for the Town of Calcutta (Fever Hospital Committee report), 1835 – 42, (WBSA).
- Report on the Expenditure of the Calcutta Hospitals, 1878, Calcutta, (NL).
- Rules and Regulations of the Medical College of Bengal, 1849, (IOR).
- *University Commission Report, 1917-1919*, vol. 3, part 1, Calcutta: Superintendent Government Printing, 1919.

Books and Articles –

- Armstrong-Hopkins, S., *Within the Purdah: In the Zenana and homes of Indian Princes and Heroes and Heroines of Zion*, New York: Eaton & Mains, 1898.
- Balfour, M. and R. Young, *The Work of Medical Women in India*, Oxford: Oxford University Press, 1929.
- Barnes, H. E., *The New History and the Social Studies*. New York: Century, 1925.

- Basu, Chunilal, *Village Sanitation and a Manual of Hygiene*, Calcutta: NP, 1931.
- Brett, J. H., *A Practical Essay on Some of the Principle Diseases of India*, London: W. Thacker and Co., 1840.
- Buchanan, W. J., “The First Hospital in Calcutta’, *Bengal, Past and Present*, July – December 1907.
- Carpenter, Mary, *Six Months in India*, Vol 2, London: Longmans, Green and Co., 1868, P. 14.
- *Centenary Volume of the Calcutta Medical College*, Calcutta, 1935.
- Chukkerbutty, Soorjo Coomar Goodeve, *Popular Lecturers: Subjects of Indian Interest*, Calcutta: Thomas S. Smith, 1870.
- Chopra, R. N., “Drug Adulteration and Spurious Drugs in India,” *Indian Medical Gazette*, Vol. 70, 1935.
- , “Presidential Address to the Bengal Pharmaceutical Association,” *Indian Medical Gazette*, Vol. 72, 1937.
- , *Report of the Bio-chemical Standardisation Laboratory 1937-1940*, Government of India Press, Calcutta, 1941.
- , “Problems and Prospects of a Pharmacological Career in India,” *Annual Review of Pharmacology*, 1965.
- Chopra, R. N., S. L. Nayar and I. C. Chopra, ‘Glossary of Indian Medicinal Plants’, *Council of Scientific & Industrial Research*, New Delhi, 1956.
- Chopra, R. N., and R. L. Badhawar, “Poisonous Plants in India,” *Indian Journal of Agricultural Science*, vol. 10, Part I, New Delhi: Indian Council of Agricultural Research, 1940.
- Crawford, D. G., *A History of the Indian Medical Services: 1600-1913*, vol. 2, London: Thacker & Co., 1913.
- Chiplunkar, G. M., *The Scientific Basis of Woman’s Education*. Poona: S.B. Hudlikar, 1930.
- Crawford, D. G., *History of the Indian Medical Service*, 1615-1930, vol. 2, London: Thacker& Co., 1913
- Dey, Purnachandra, ‘Kaliakta Medical College’, See *Bangashree*, Bengali Year 1342, Year 3, Vol.1, No. 5, pp. 568-569.

- Dufferin, Harriet, *The National Association for Supplying Medical Aid to Women of India*. Patron, Her Most Gracious Majesty Queen Empress, Simla, 1888.
- Eatwell, W.C.B., *On the rise and progress of rational medical education in Bengal*, Calcutta, 1860.
- Esdaile, James, *Mesmerism in India, and Its Practical Application in Surgery and Medicine*, London: A. Spottiswoode, 1846.
- Farr, William, “History of the Medical profession and Its Influence on Public Health in England”, in *British Medical Almanac*, London, 1839.
- Ferté, C. H. Joubert de la, “The Indian Subordinate Medical Department,” *The British Medical Journal*, Aug. 15, 1908, vol. 2, no. 2485, Aug. 15, 1908.
- Fleming, John, *A Catalogue of Indian Medicinal Plants and Drugs: With Their Names in the Hindustani and Sanscrit Languages*, Vol. 11, Calcutta: Hindustani Press, 1810, *Asiatick Researches*, 1812, pp. 153-96.
- Finch, Cuthbert, “Vital Statistics of Calcutta”, *Journal of the Statistical Society of London*, London: Wiley for the Royal Statistical Society, May 1850, vol. 13, no.2, pp. 168-182.
- Garrison, F. H., *An Introduction to the History of Medicine*. Philadelphia: Saunders, 1914.
- Ghosh, S. C., ‘Dr T. Berigny’, *Hahnemann*, vol.22, no.4, 1939.
- Goodeve, H. H., ‘A Sketch on the Progress of European Medicine in the East’, *The Quarterly Journal of the Calcutta Medical and Physical Society*, vol. 2, 1837.
- Holwell, A. P., *Note on the State of Education in India During 1866-67*, Calcutta: Superintendent Government Printing, 1868.
- Hoggan, Frances Elizabeth, M.D, “Medical Women for India”, Reprinted from *The Contemporary Review*, August 1882 in *Journal of the National Indian Association*, no. 133, October 1882, Bristol: J.W. Arrowsmith Printer, Quay Street, 1882.
- Johnson, James, *The Influence of Tropical Climates, more especially of the Climate of India on European constitution and the Principal Effects and Disease thereby Induced their Prevention, Removal and Means of Preserving Health in Hot Climates Rendered Obvious to Europeans of Every Capacity*, London: J. Callow, 1815.
- Kerr, J., *A Review of Public Instruction in the Bengal Presidency from 1835-1851*, 2 vols., Calcutta, I, 1852, II, 1853.

- Kittredge, George A., *A short history of the Medical women for India* fund of Bombay, Bombay: Education Society's Press, Byculla, 1889.
- Long, J., 'Vernacular education in Bengal', *Calcutta Review*, 1854, vol. 22, p. 329.
- Lushington, Charles, *The History, Design and Present State of the Religious, Benevolent and Charitable Institution, Founded by the British in Calcutta and in Vincy*, Calcutta: Hindustanee Press, 1824.
- Macleod, K., "Medical Education in India," *Caledonian Medical Journal*, January 1908, p. 184.
- Macpherson, John, *Annals of Cholera: from the Earliest periods to the year 1817*, London: H. K. Lewis, 1884.
- Mill, James, *The History of British India*, vol. 1, London: Baldwin, Cradock, and Joy, 1817.
- Moir, D. M., 'Notes on the Origin of the Old Presidency General Hospital Calcutta', Bengal, Past and Present, nos. 12-13, July – December 1910.
- Monserrat, Anthony de, *The Commentary of Father Monserrate, S. J., On his Journey to the Court of Akbar*, translated by J. S. Hoyland, annotated by S. N. Banerjee, London: Oxford University Editions 1922.
- Moore, W. J., *A Manual for Family Medicine of India*, London: J. & A. Churchill, 1874
- Mukhopadhyay, Girindranath, *History of Indian Medicine*, vol. 2, Calcutta: University of Calcutta Press 1926,
- Neuburger, M., *History of Medicine*. London: Oxford, 1910.
- Nurullah, Syed and J. P. Naik, *A History of Education in India: During British Rule*, India: MacMillan & Co. Pvt. Ltd., 1943.
- O'Malley, L.S.S., "The Hindu Social System," in L.S.S. O'Malley (ed.), *Modern India and the West*, London: Oxford University Press, 1941, pp. 366-6.
- Pringle, Patrick, *The Romance of Medical Science*, Great Britain, Bombay: George G, Harrap & Co. Ltd., 1818.
- Rogers, Leonard, *Happy Toil: fifty-five years of tropical medicine*, London: Frederick Muller, 1950.
- Rosen, George, "A Theory of Medical Historiography", *Bulletin of the History of Medicine*. vol. 8, US: Johns Hopkins University Press, 5 May 1940.

- Royle, J. Forbes, *An Essay on the Antiquity of Hindoo Medicine*, London: W. H. Allen & Co., 1837.
- Roy, Dr. K. K., and Dr. A. S. Dey (Eds), *The Servant of Homeopathy*, Calcutta: The Homeopathy Serving Society (India), Year 3, No.4, July 1929, pp. 150-155.
- Roy, Gopaul Chunder, "On the Past and Present State of Medicine in India," paper read at *The Medico Chirurgical Society*, Seventh Meeting, 1870-71 Session, 3rd February 1871, *Glasgow Medical Journal*, vol. 3, 1871
- Sircar, Mahendralal, *On the Supposed Uncertainty in Medical Science and on the Relation between Diseases and their Remedial Agents*, Calcutta: Anglo Sanskrit Press, pp. 62- 67. 1903.
- Sigerist, H. E., *Civilization and Disease*, Ithaca: Cornell University Press, 1944.
- , *American Medicine*. Vol. 67, No. 5, September-October 1991, New York: Norton, 1934.
- Scott, H. Harold, *A History of Tropical Medicine: based on the Fitzpatrick lectures delivered before Royal College of Physicians of London, 1937-38*, Great Britain: Baltimore, William & Wilkins, 1939.
- Susrutacharya, *Susruta Samhita*, ed. Vaidyacharya Kalikinkar Sensharma, Ayurvedacharya Satyasekhar Bhattacharya, Jasodananda Sarkar, vols. 1-3, Chaitra 1406.
- *The Indian Pharmacopoeial List 1946*, Department of Health, Government of India Press, Calcutta, 1946.
- Urquhart, Margaret, *Home of Bengal, A Study of the Hindu Pardanasins of Calcutta*, Calcutta: YMCA Association Press, 1927.
- , *Women of Bengal: A Study of the Hindu Pardanasins of Calcutta*, Calcutta: YMCA Association Press, 1927.
- Verchere, Surgeon –Major Albert M ., "Report on the Epidemic of Dengue of 1872, as It Appeared in Fort William, Calcutta", *Indian Medical Gazette: A Monthly Record of Medicine, Surgery, Obstetrics, Hygiene, Jurisprud*
- *ence, and the Collateral Sciences*, vol. 14(4); April 1, 1879, pp. 91-95.
- Wise, T. A., *Commentary on the Hindu System of Medicine*, Calcutta: Baptist Mission Press, 1845.

Bengali Book and Article –

- Mukhopadhyay, Dr. Amulyadhan, (ed.), “Upendranath Brahmachari,” *Chikitsa Jagat*, Vol. 30, Kolkata, 1958.
- Haldar, Dharendra Nath (ed.), ‘Allopathy and Homeopathy Chikitsa Sambandhiyo Masik Patra o Samalochok,’ *Chikitsa Prakash*, 36th year, vol. 1, Calcutta: Gobardhan Press, B.S. 1350.
- Roy, Shantilal *Arakan Fronte*, Kolkata: Bengal Publishers, 1946.

Journals –

- Asiatick Research
- Bengal, Past and Present
- *British Medical Almanac*
- *British Medical Journal*
- *Brahmo Public Opinion*
- *Calcutta Medical News*
- *Calcutta Medical Journal*
- *Calcutta Review*, October 1887, Vol. 85, P. 238.
- *India and Bengal Despatches*, IOLR, E/4/766, 2 July 1841, p. 1035.
- *Indian Lancet*
- *The Indian Magazine*
- *Indian Medical Gazette*
- *Indian Messenger*
- *Indian Medical Research Memoirs*
- *Journal of a Residence in India*, Maria Graham, Edinburgh: George Ramsay and Company, 1812.
- *Journal of the Association of Medical Women*
- *Modern Review*.
- *The Quarterly Journal of the Calcutta Medical and Physical Society*, vols. 1-6

Bengali Magazines –

- *Antahpur*
- *Arogya*
- *Banga Mahila*
- *Bamabodhini Patrika*
- *Banglalakshmi*
- *Chikitsa Darpan*
- *Chikitsa Darshan*
- *Chikitsa Jagat*
- *Chikitsa Prokash: A Monthly Magazine of Medical Science in Bengal*, Dr. Dharendra nath Haldar, Nadia: Andulbari Medical Store, 1915-1920.
- *Chikitsa o Somalochok*
- *Chikitsa Sangraha*
- *Desh Patrika*
- *Prabartak*
- *Swasthya, D. D. Gupta (1889-1901)*
- *Swasthya Samachar*
- *Vishak Darpan: A Monthly Magazine of Medicine in Bengali*, Ed. Girish Chandra Bagchi, Calcutta: Sanyal and Co., January 1911- April 1924.

Secondary Sources –

Books –

- Amin, Sonia, *The World of Muslim Women in Colonial Bengal 1876–1939*. Leiden: Brill, 1996.
- Antoinette, Burton, *Dwelling in the Archive, Women Writing House, Home, and History in Late Colonial India*. New Delhi: Oxford University Press, 2003.
- Arnold, David, *Science, Technology and Medicine in Colonial India*, Cambridge: Cambridge University Press, 2000.

- , *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India*, Berkeley, Los Angeles, and Oxford: University of California Press, 1993.
- , *Imperial Medicine and Indigenous Society*, Manchester: Manchester University Press, 1988.
- Arnold, David, and Ramchandra Guha (ed.), *Nature, Culture, Imperialism: Essays on the Environmental History of South Asia*, New York: Oxford University Press, 1995.
 - Attewell, Guy N.A., *Refiguring Unani Tibb: Plural Healing in Late Colonial India*, London: Orient Longman, 2007.
 - Bagal, J. C., *Women's Education in Eastern Bengal, The First Phase*. Calcutta: The World Press Pvt Ltd, 1956.
 - Bala, Poonam, *Imperialism and Medicine in Bengal: A Socio-historical Perspective*, New Delhi: Sage Publication, 1991.
- , (ed.), *Contesting Colonial Authority: Medicine and Indigenous Response in Nineteenth and Twentieth-Century India*, Delhi: Primus Books, 2016.
- Bandyopadhyay, Mousumi, *Kadambini Ganguly, The Archetypal Women of Nineteenth Century Bengal*, New Delhi: Manohar, 2010.
 - Banerji, Nripendra Chandra, *At the Cross-roads, 1885–1946: The Autobiography of Nripendra Chandra Banerji*, Calcutta: Jignasa, 1974.
 - Barraclough, G., *Main Trends in History*. New York: Holmes and Meier, 1979.
 - Bayly, C. A., *Imperial Meridian: The British Empire and the World 1780-1830*, London: Longman, 1989.
 - Barua, Pradeep P., *Gentlemen of the Raj. The Indian Army Officer Corps, 1817–1949*, Westport, CT: Praeger, 2003.
 - Bhattacharya, Sabyasachi, Joseph Bara, Chitma Rao Yagati, BM. Sandhkar (eds.), *Development of Women's Education in India 1850-1920*, New Delhi: Kanishka Publishers, 2001.
 - Black, *War and the World*, New Haven, CT: Yale University Press, 1998.
- , Jeremy, *Rethinking Military History*, London: Routledge, 2004.
- Borthwick, Meredith, *The Changing Role of Women in Bengal, 1849-1905*, Princeton: Princeton University Press, 1984.

- Bose, Pradip Kumar, (ed.), *Health and Society in Bengal: A Selection from Late 19th Century Bengali Periodicals*, New Delhi: Sage, 2006.
- Burckhardt, J., *Reflections on History*. Indianapolis: Liberty Classics, 1979.
- Burton, Antoinette, *Dwelling in the Archive, Women Writing House, Home, and History in Late Colonial India*. New Delhi: Oxford University Press, 2003.
- , *At the Heart of the Empire: Indians and the Colonial Encounter in Late Victorian Britain*, California: University of California Press, 1998,
- *Calcutta Medical College Commemorative Volume 1835-1984*, Calcutta, 1984.
- Cant, S., and U. Sharma, *A New Medical Pluralism?* London: UCL Press, 1999.
- Chakraborty, Pratik, *Medicine and Empire 1600-1960*, UK: The Palgrave MacMillian, 2014.
- , *Bacteriology in British India: Laboratory Medicine and the Tropics*, Rochester, N.Y.: Boydell & Power, University of Rochester Press, 2012.
- , *Materials and Medicine: Trade, Conquest and Therapeutics in the Eighteenth Century*, Manchester: Manchester University Press, 2010.
- , *Western Science in Modern India: Metropolitan Methods, Colonial Practices*, New Delhi: Permanent Black, 2004.
- Chanana, Karuna, *Interrogating Women's Education: Bounded Visions, Expanding Horizons*, Michigan: Rawat Publications, 2001.
- Chandra, B. A., and B. De Tripathi, *Freedom Struggle*, Delhi: National Book Trust, 1972
- Chatterjee, Partha, *The Nation, and Its Fragments: Colonial and Postcolonial Histories*, Delhi: Oxford University Press, 1994.
- Chatterjee, Srilata, *Western Medicine, and Colonial Society: Hospitals of Calcutta, C. 1757-1860*, Delhi: Primus Books, 2017.
- Chattopadhyay, D. P., (ed.), *History of Science, Philosophy, and Culture in Indian Civilization*, Vol. XV, Delhi: Pearson Education India, 2011, pp. 477-521.
- Chattopadhyay, Swati, *Representing Calcutta: Modernity, Nationalism and the Colonial Uncanny*, London and New York: Routledge, 2005.
- Datta, Partho, *Planning the City: Urbanization and Reform in Calcutta c.1800-c.1940*, New Delhi: Tulika Books, 2012.

- Dey, Sharmistha, *Marginal Europeans in Colonial India: 1860-1920*, Kolkata: Thema Publication, 2008,
 - Elias, Norbert, *The Civilizing Process, I: The History of Manners*, trans. E. Jephcott, Oxford: Blackwell, 1978.
 - Forbes, Geraldine, *Women in Colonial India: Essays on Politics, Medicine and Historiography*, New Delhi: Chronicle Books, 2005.
 - Foucault, Michel, *The Birth of the Clinic: Archaeology of Medical Perception*, London: Routledge, 1997.
 - Gourlay, Jharna, *Piety, Profession and Sisterhood: Medical Women and Female Medical Education in Nineteenth-Century India*, Kolkata: K. P. Bagchi & Company, 2017.
- , *Florence Nightingale and the Health of the Raj*, Alderson, UK: Ashgate publishing, 2003.
- Goswami, Tinni, *Sanitising Society: Public Health and Sanitisation in Colonial Bengal 1880-1947*, Delhi: B. R. Publishing Corporation, 2011.
 - Gooptu, Supana, *Cornelia Sorabjee; India's Pioneering Woman Lawyer*, New Delhi: Oxford University Press, 2005.
 - Guha, Ambalika, 'Colonial Modernities: Midwifery in Bengal 1860- 1947', (The Social Health and Medicine in South Asia), London: Routledge, 2018.
 - Haehl, Rechar, *Samuel Hahnemann: His Life and Work; Based on recently discovered state papers, Documents, Letters, etc.*, Translated from Germany into English by Marie L. Wheeler, New Delhi: B. Jain Publishers Pvt. Ltd., 2003
 - Harrison, Mark, *Public Health in British India: Anglo-Indian Preventive Medicine 1859-1914*, New York: Cambridge University Press, 1994.
- , *Climates and Constitutions: Health, Race, Environment and British Imperialism in India 1600-1850*, Oxford: Oxford University Press, 2002.
- , ed. *From Western Medicine to Global Medicine: The Hospital Beyond the West*, New Delhi: Orient BlackSwan, 2009.
- , *Medicine in an Age of Commerce and Empire: Britain and its Tropical Colonies*, Oxford: Oxford University Press, 2010.
- Hassan, Narin, *Diagnosing Empire: Women, Medical Knowledge, and Colonial Mobility*, USA: Ashgate Publishing Limited, 1969.

- Headrick, Daniel, *The Tools of Empire: Technology and European Imperialism in the Nineteenth Century*, Oxford: Oxford University Press, 1981.
- Iggers, G., *The German Conception of History: The National Tradition of Historical Thought from Herder to the Present*, Rev. Ed. Middleton, N.Y.: Wesleyan, 1983
- Jaggi, Om Prakash, *Medicine in Medieval India*, Delhi: Atma Ram, 1977.
- James, Long, Rev., *Calcutta in the Olden Times: Its Locality and its People*, Calcutta: Sanskrit Pustak Bhandar, 1974.
- Karlekar, Malavika, *Voices from Within, Early Personal Narratives of Bengali Women*, London: Oxford University Press, 1991.
- Kundu, Apurba, *Militarism in India. The Army and Civil Society in Consensus*, London: I.B. Tauris, 1998,
- Kanungo, N. N., *Nineteenth Century Bengal, Some Patterns of Education, 1833-1886*. Lucknow: Qanungo, 1977.
- Krishnaraj, Maithreyi, *Women and Science, Selected Essays*, Michigan: Himalaya Publishing House, University of Michigan, 1991.
- Kosambi, M., *At the Intersection of Gender Reform and Religious Belief: Pandita Ramabai's Contribution and the Age of Consent Controversy*, Bombay: Research Centre for Women's Studies, 1993.
- Krishnaraj, Maithreyi, *Women and Science, Selected Essays*, Michigan: Himalaya Publishing House, University of Michigan, 1991.
- Kumar, Anil, *Medicine, and the Raj: British Medical Policy in India 1835-1911*, New Delhi: Sage Publications, 1998.
- Kumar, Deepak, and Raj Sekhar Basu, (ed.), *Medical Encounters in British India*, New Delhi: Oxford University Press, 2013.
- Kumar, Deepak, *Science, and Empire: Essays in Indian Context, 1700- 1947*, New Delhi: Anamika Prakashan, 1991.
- , *Science and Raj, 1857-1905*, New Delhi: Oxford University Press, 1995.
- , (ed.), *Disease and Medicine in India: A Historical Overview*, New Delhi: Tulika Publications, 2001.
- , *The Trishanku Nation: Memory, Self, and Society in Contemporary India*, New Delhi: Oxford University Press, 2016.

- Kumar, Sudit Krishna, and Suvobrata Sarkar (eds.), *Contextualizing the Body: An Indian Experience*, New Delhi: Manohar Publishers & Distributors, 2021.
- Lahiri, K., *Beyond and Barriers: Education of Women in Bengal 1800-1900*, India: Bhumika Creations, 2021
- Laird, M.A., *Missionaries and Education in Bengal, 1793-1837*, Oxford: Clarendon Press, 1972.
- Leslie, Charles, (ed), *Asian Medical System: A Comparative Study*, London: University of California Press, 1976.
- Lind, M.A., *The Companionate Memshahibs: Welfare Activities of British Women in India 1900-1947*, New York, London: Greenwood Press, 1988.
- MacMillan, M., *Women of the Raj*, London: Thames & Hudson, 1996.
- Majir-Poetzl, P., *Michael Foucault's Archaeology of Western Culture*. Chapel Hill: University of North Carolina Press, 1983.
- Marti-Ibanez, F., *Introduction to Henry E. Sigerist: On the History of Medicine*, New York: MD Publications, 1960.
- Mukerji, B., *Report of the Bio-chemical Standardisation Laboratory, 1940-1943*, Government of India Press, Calcutta, 1950.
- , *Report of the Bio-chemical Standardisation Laboratory (1946-1947) and the Central Drugs Laboratory (1947-1949)*, Government of India Press, Calcutta, 1952.
- Mukherjee, Projit Bihari, *Nationalizing the Body: The Medical Market, Print and Dakari Medicine*, London: Anthem Press, 2009.
- Mukherjee, Sujata, *Gender, Medicine, and Society in Colonial India: Women's Health Care in Nineteenth and Early Twentieth Century Bengal*, New Delhi: Oxford University Press, 2017.
- Mukherjee, Susmita, *Women and Medical Profession in Colonial Bengal 1883- 1947*, Delhi: Primus, 2022.
- Nurulla, S., and J.P. Naik, *A History of Education in India*, Bombay: Macmillan, 1951.
- Palit, Chittabrata, *Scientific Bengal: Science, Technology, Medicine, and Environment Under the Raj*, Delhi: Kalpaz Publications, 2006.
- Pande, Ishita, *Medicine, Race and Liberalism in British Bengal: Symptoms of Empire*, USA, and Canada: Routledge, 2010.

- Pati, Biswamoy and Mark Harrison, ed., *The Social History of Health and Medicine in Colonial India*, Delhi: Primus Books, 2011.
 - Pati, Biswamoy, and Mark Harrison, *Health, Medicine, and Empire: Perspectives on Colonial India*, Hyderabad: 2001.
 - Patil, P. N., O. D. Gulati and R. Balaraman, Eds., *Topics in the History of Pharmacology*; Publication Editor: R. K. Goyal, Ahmedabad: B. S. Shah Prakashan, 2004.
 - Perry, F.W., *The Commonwealth Armies. Manpower and Organisation in Two World Wars*, Manchester: Manchester University Press, 1988
 - Prakash, Satya, *Founders of Ancient Indian Science*, New Delhi: Research Institute of Ancient Scientific Studies, 1965.
 - Porter, Dorothy, *Health, Civilization and the State: A History of Public Health from Ancient to Modern Times*, London: Routledge, 1999.
 - Prakash, Gyan, *Another Reason: Science and the Imagination of Modern India*, Princeton, NJ: Princeton University Press, 1999.
 - Rabinow, P., *The Foucault Reader*. New York: Pantheon, 1984.
 - Ramanna, Mridula, *Western Medicine and Public Health in Colonial Bombay, 1845 – 1895*, New Delhi: Orient Longman, 2002.
- , *Health Care in Bombay Presidency, 1896-1930*, Delhi: Primus Books, 2012.
- Ranke, L. von, *The Theory and Practice of History*. Indianapolis: Bobbs-Merrill, 1973.
 - Ray, Kabita, *History of Public Health: Colonial Bengal 1921-1947*, Calcutta: K. P. Bagchi, 1998
 - Ramasubba, Radhika, *Public Health and Medical Research in India: Their Origins under the Impact of British Colonial Policy*, Stockholm: Swedish Agency for Research Cooperation with Developing Countries, 1982.
 - Robb, Peter *Sentiment and Self: Richard Blechynden's Calcutta Diaries, 1791 – 1822*, New Delhi: Oxford University Press, 2011.
 - Saha, Mridula, (ed.), *History of Indian Medicine: Based on the Vedic Literature: Satapatha Brahmana*, Kolkata: The Asiatic Society, 2015.
 - Sampath, C K, 'Evolution and Development of Siddha medicine in *Siddha Medicine*, eds. S.V. Subramanian and V.R. Madhavan, Madras: IITS, 1983.

- Sarkar, B. K., *Essay on Homeopathy*, Calcutta: Hahnemann Publishing Co. Private Ltd., 1968.
- Scott, David, *Refashioning Futures: Criticism after Postcoloniality* Princeton: Princeton University Press, 1999.
- Seal, Anil, *The Emergence of Indian Nationalism: Competition and Collaboration in the Later Nineteenth Century*, Cambridge: Cambridge University Press, 1968.
- Sehrawat, Samiksha, *Colonial Medical care in North India: Gender, State, and Society, 1840-1920*, New Delhi: Oxford University Press, 2014.
- Sen, Ashok, *Ishwar Chandra Vidyasagar and His Elusive Milestones*. Calcutta: Riddhi, 1977.
- Sen, Indrani, *Memsahib's Writings: Colonial Narratives on Indian Women*, New Delhi: Orient Longman, 2008.
- Sen, S. N., *Science and Technical Education in India, 1700 – 1900*, New Delhi: Indian National Science Academy, 1991.
- Sengupta, Chandan, *The Ray's Before Satyajit, Creativity and Modernity in Colonial India*, New Delhi: Oxford University Press, 2016.
- Sharma, Gautam, *Nationalisation of the Indian Army (1885–1947)*, New Delhi: Allied Publishers Pvt. Ltd., 1997.
- Sharma, Madhuri, *Indigenous and Western Medicine in Colonial India*, Delhi: Foundation Books, 2012.
- Sigerist, H. E., *The Social History of Medicine. In: On the History of Medicine*. New York: M.D. Publication, 1960.
- Sinha, Sandip, *Public Health Policy and the Indian Public: Bengal 1850-1920*, Calcutta: Vision Publication, 1998.
- Singh, Harkishan, “Ramnath Chopra (1882-1973), - A Visionary in Pharmaceutical Science”, *Indian Journal of History of Science*, vol. 43.2, 2008.
- Southard, Barbara, *The Woman's Movement and Colonial Politics in Bengal, The Quest for Political Rights, Education and Social Reform Legislature, 1921-1936*. New Delhi: Manohar, 1995.
- Stokes, Eric, *The English Utilitarians and India*, Oxford: Clarendon Press, 1959.

- Sujatha, V. and Leena Abraham, *Medical Pluralism in Contemporary India*, Delhi: Oriental Blackswan Pvt. Ltd., 2012.
- Temkin, O., *The Usefulness of Medical History for Medicine. In: The Double Face of Janus and Other Essays in the History of Medicine*. Baltimore: Johns Hopkins University Press, 1977.
- Thomson, J. D., and G. Golding, *The Hospital: A Social and Architectural History*, New Haven: Yale University Press, 1975.
- Parsons, Timothy, *The African Rank-and-File: (Social History of Africa)*, Portsmouth: Heinemann, 1999.

Articles -

- Ackerknecht, E.H., “A plea for a "behaviorist" approach in writing the history of medicine”, *Journal of History of Medicine*, vol. 22, London: Oxford University Press, 1967.
- Arnold, David, ‘Dietetics, mimesis and Alterity: Food in Asian medical Traditions and East West Exchanges’, in *Medical Encounters in British India*, ed. Deepak Kumar and Rajsekhar Basu, New Delhi: orient BlackSwan, 2009.
- Arnold, David, and Sumit Sarkar, ‘In search of rational remedies: homeopathy in nineteenth-century Bengal,’ in *Plural Medicine, Tradition and Modernity, 1800–2000*, ed. W. Ernst, London and New York: Routledge, 2002.
- Bala, Poonam, ‘State Policy towards Indigenous Drugs in British Bengal’, *Journal of the European Ayurvedic Society*, vol. 1, 1990.
- ---, Poonam Bala, “Medical Revivalism and the National Movement in British India”, *Ancient Science of Life*, Vol. X, No. 1, July 1990, pp. 1-5.
- Basalla, George, “The Spread of Western Science.” *Science* 156, no. 3775, 1967, pp. 611–22.
- Basu, Aparna, “The Indian response to scientific and technical education in the colonial era, 1820-1920, in *Science and empire: an essay in Indian context 1700-1947*, ed. Deepak Kumar Delhi: Anamika Prakashan, 1991, pp. 126-138.
- Bailyn, B., “The challenge of modern historiography”. *The American Historical Review*, U.S., American Historical Association, vol. 87, Issue 5, 1982.

- Bose, Debasis, ‘Madhusudan Gupta’, *Indian Journal of History of Science*, vol. 29, no. 1, 1994.
- Brass, P., “The Politics of Ayurvedic Education: A Case Study of Revivalism and Modernization in India” in S.H. Rudolph and L.I. Rudolph (eds.) *Education and Politics in India*, Oxford University Press, Oxford, 1972.
- Chatterjee, Prabhakar, “Kaviraj Gangadhar Roy Kaviratna”, *Nagarjun*, vol. 7, June 1959.
- , “Contents of Ayurvedic Encyclopaedia – IV”, *Nagarjun*, May 1960.
- , “Mahamahopadhyay Kaviraja Bijoy Ratna Sen: His Life and Technique of Treatment,” *Nagarjun*, vol. 15, February 1967.
- Chatterjee, P., ‘The Nationalists’ Resolution of Women’s Question,’ in *Recasting Women: Essays in Colonial History*, eds. K. Sangari and S. Vaid, Delhi: Kali for Women, 1989, pp. 233-253.
- Chatterjee, Sandip, ‘Occupational Disease, Miners’ Dhowrahs, and Migration: Coal miners of eastern India Collieries, the 1900s-1940s’, in *The Quarterly Review of Historical Studies*, ed. S. P. Sen, Institute of Historical Studies, vol. LVI, Nos. 3 & 4, October 2016 - March 2017, Kolkata, pp. 5-22.
- Chakraborty, Arnab, “Negotiating Medical Services in the Madras Presidency: the Subordinate Perspectives (1882–1935)”, *Medical History*, vol. 65:3, Cambridge University Press, 2021, pp. 247–266.
- Palit, Chittabrata, “Dr. Nilratan Sarkar: A Legendary Medical Scientist”, *Propagation: A Journal of Science Communication*, Kolkata: National Council of Science Museums, 2015.
- Cook, G. C., ‘Leonard Rogers KCSI FRCP FRS (1868-1962) and the Founding of the Calcutta School of Tropical Medicine’, *Notes and Records of the Royal Society of London*, Vol. 60, No. 2, May 22, 2006, London: Royal Society, pp. 171-181.
- Crawford, D.G., ‘A History of the Indian Medical Service’, vol. II, London, 1914, p.43, cited in Anil Kumar, *Medicine, and the Raj British Medicinal Policy in India, 1835 - 1911*, New Delhi: Sage, 1998
- Das, Shinjini, “Debating Scientific Medicine: Homoeopathy and Allopathy in Late Nineteenth-century Medical Print in Bengal,” in *Medical History*. ed. Sanjoy Bhattacharya, vol. 56(4), Cambridge: Cambridge University Press, 2012.

- Doglus, M. Pears, 'Soldiers, Surgeons and the Campaigns to combat sexual transmitted diseases in colonial India 1805- 1860', *Medical History*, 1998.
- Engels, D., 'The Politics of Child Birth: British and Bengali Women in Contest, 1890-1930', in P. Robb (ed.) in collaboration with K.N Chaudhuri, Avril Powell, *Society and Ideology: Essays in South Asian History*, Delhi: OUP, 1993.
- Fanon, F., 'Medicine and Colonialism' in *The Cultural Crisis of Modern Medicine*, ed. J. Ehrenreich, New York, pp. 229-51.
- Forbes, Geraldine, 'Education for Women' in *Women and Social Reform Movement in India, A Reader* eds. Sumit Sarkar and Tanika Sarkar, Volume, 1, 2008.
- , 'Managing Midwifery in India', in *Contesting Colonial Hegemony: State and Society in Africa and India*, ed. Dagmar Engels and Shula Marks, London and New York: I.B. Tauris, 1994, pp. 515-30.
- , 'Medical Careers and Health Care for Indian Women: Patterns of Control', *Women's History*, vol. 3, no. 4, 1994, pp. 515-30.
- Ghosh, Ajoy Kumar, 'History of Development of Homeopathy in India', in *Indian Journal of History of Science*, vol. 53.1, 2018, pp. 76-83.
- Ghosh, Amitav, and Dipesh Chakrabarty, "A Correspondence on Provincializing Europe," *Radical History Review*, vol. 83, 2002
- Guha, Supriya, 'The Best Swadeshi': Reproductive Health in Bengal, 1840-1940' in, *Reproductive Health in India: History, Politics, and Controversies*, ed. S. Hodges, Hyderabad: *Orient Longman*, 2006.
- Gupta, Brahmananda, "Indigenous Medicine in Nineteenth – and Twentieth–Century Bengal," In *Asian Medical Systems: A Comparative Study*, ed. Charles Leslie California: California University Press, 1976.
- Harrison, Mark, "Science and the British Empire," *Chicago Journal*, History of Science Society, Vol. 96, No. 1 (March 2005), Chicago: The University of Chicago Press, pp. 56-63.
- Hochmuth, Christian, 'Patterns of Medical Culture in Colonial Bengal, 1835 – 1880', *Bulletin of the History of Medicine*, vol. 80, no. 1, 2006, pp. 39-72.
- Jeffery, Roger, "Recognizing India's Doctors: The Institutionalization of Medical Dependency, 1918-39", *Modern Asian Studies*, 1979, vol. 13, no. 2, 1979.

- Lal, Maneesha, 'The Politics of Gender and Medicine in Colonial India: The Countess of Duflerin's Fund, 1885-1888', in Neelam Kumar (ed.), *Women and Science in India, A Reader*. New Delhi: Oxford University Press, 2009.
- Lankford, Nelson D., 'The Victorian Medical Profession and Military Practice: Army Doctors and National Origins', *Bulletin of the History of Medicine*, vol. 54, no. 4, winter, 1980.
- Lourdasamy, J., 'The Indian Association for the Cultivation of Science: A torturous tryst with modern science,' in *Journal of Science Education and Technology*, vol. 12, no. 4, 2003.
- Marks, Shula, "What is Colonial about Colonial Medicine? And What Has Happened to Imperialism and Health?" *Social History of Medicine*, vol. 10, 1997,
- MacLeod, Roy, "On visiting the 'moving metropolis: Reflections on the Architecture of Imperial Science", Nathan Reingold and Marc Rothenberg, eds., *Scientific Colonialism: A Cross-Cultural Comparison*, Washington.: Smithsonian Institution Press, 1987.
- Metcalf, B. D., "Nationalist Muslims in British India: The Case of Hakim Ajmal Khan", *Modern Asian Studies*, Vol 19, No. 1, 1985, pp. 1-28.
- Mukerji, B., "Obituary Note," *Pharma Times*, vol. 5 (7), 1973.
- Mukherjee, Projit Bihari, 'Structuring Plurality: Locality, Caste, Class and Ethnicity in Nineteenth – Century Bengali Dispensaries', *Health and History*, vol. 9, no. 1, 2007.
- Mukherjee, Sujata, 'Disciplining the Body? Health Care for Women and Children in Early Twentieth Century Bengal', Deepak Kumar (ed.), *Disease and Medicine in India: A Historical Overview*, New Delhi: Tulika, Indian History Congress, 2012
- Mushtaq, Muhammad Umair, 'Public Health in British India: A Brief Account of the History of Medical Services and Disease Prevention in Colonial India', *Indian Journal of Community Medicine*, vol 34, Issue 1, Gujrat: Med know Publications, Indian Association of Preventive and Social Medicine, January 2009
- Nandy, Kaberi, 'Sanitation, Disease and Death in Colonial Cities: A Case Study of Calcutta (1860-1947)', Ph.D. Thesis, New Delhi: Centre for the Study of Regional Development, School of Social Sciences, Jawaharlal Nehru University, 2004.

- Palit, Chittabrata, “Mahendra Lal Sircar, 1833-1904: The Quest for National Science.” in *Science and Empire: Essays in Indian Context, 1700-1947*, ed. Deepak Kumar, Delhi: Anamika Prakashan, 1991.
- Power, Helen J., ‘Calcutta School of Tropical Medicine: Institutionalising Medical Research on the Periphery’, *Cambridge Journal Medical History*, Cambridge University Press, 1996, Apr. 40 (2), pp. 197-214.
- Potter, D. C., ‘Manpower Shortage and the End of Colonialism,’ *Modern Asian Studies*, vol. 7, Pt I, 1973.
- Rai, Sourav Kumar, “Nationalisation of the Indian Medical Service, c. 1890s-1930s”, *Proceedings of the Indian History Congress*, Vol. 75, Platinum Jubilee, 2014, Indian History Congress, pp. 826-832.
- Ramanna, Mridula, ‘Gauging Indian Responses to Western Medicine: Hospitals and Dispensaries, Bombay Presidency, 1900 – 20’, in *Disease and Medicine in India, A Historical Overview*, ed., Deepak Kumar, New Delhi: Tulika, 2001.
- Ramasubba, Radhika, ‘Imperial Health in British India, 1857 – 1900’, in *Disease, Medicine and Empire: Perspectives on Western Medicine and the Experience of European expansion*, ed. Roy MacLeod and Martin Lewis, London and New York: Routledge, 1988.
- Ray, Sharmita, ‘Women Doctors’, *Masterful Maneuverings: Colonial Bengal, Late Nineteenth and Early Twentieth Centuries*, in *Social Scientist*, vol. 42, nos. 3-4, March-April 2014.
- Robb. Peter, ‘South Asia and the Concept of Race’ in Robb (ed.), *The Concept of Race in South Asia* Delhi: Oxford University Press, 1995
- Roy, Dr. Nihar Ranjan, ‘The Formative Years, 1857-82’, in *Hundred Years of the University of Calcutta*. University of Calcutta, 1957
- Rosselli, John, ‘Lord William Bentinck and His Age,’ *Bengal Past and Present*, Kolkata: Journal of the Calcutta Historical Society, vol. 94, 1975, pp. 68- 88.
- Roy, B. C., “Nilratan Sarkar”, *Modern Review*, 1976.
- Scull, Andrew, “The Fictions of Foucault’s Scholarship,” *Times Literary Supplement*, March 21, 2007.
- Sehrawat, Shamiksha, ‘Foundations of the Lady Hardinge Medical College and Hospital for Women at Delhi: Issues in Women’s Medical Education and Imperial

Government', in *Exploring Gender: Colonial and Post Colonial India*, ed. S. Kak and Biswamoy Pati, New Delhi: Nehru Memorial Museum and Library, 2005.

- Sen, Indrani, 'Resisting Patriarchy: Complexities and Conflicts in the Memoir of Haimabati Sen', *Economic and Political Weekly*, vol. XI.VII, no. 12, March 24, 2012
- Sen, Samita, and Anirban Das, "A History of the Calcutta Medical College and Hospital, 1835- 1936", in *Science and Modern India: An Institutional History, 1784-1947: Project of History of Science, Philosophy, and Culture in Indian Civilization*, Volume XV, Part 4, ed. Uma Dasgupta, Delhi: Longman Pearson Education, 2011.
- Sengupta, P. C., *Soorjo Coomar Goodeve Chuckerbutty: the first Indian Contributor to Modern Medical Science*, *Med. Hist*, 1970 April, vol. 14, no. 2, pp. 183-191.
- Sengupta, Susmita, 'Women and the Medical Profession in Colonial Bengal, Mid-Nineteenth Century to Mid-Twentieth Century', Ph.D. thesis, Calcutta: University of Calcutta, Dept. of History, 2011
- Shortt, S.E.D., "Clinical practice and the social history of medicine: A theoretical accord", *Bulletin of History of Medicine*, vol. 55, US: Johns Hopkins University Press, 1981.
- Sigerist, H. E., "History of Medicine", vol. I. *Primitive and Archaic Medicine*, New York: Oxford University Press, 1951.
- Singh, H. , "History of Drugs and Pharmacy Statutes," *Eastern Pharmacist*, Vol. 42, November 1999.
- , "The Indian and Eastern Druggist/Chemist," *Eastern Pharmacist*, Vol. 39, Calcutta, November 1996.
- Sinha, Savitri Das, 'Medical Thought and Practice in Colonial India: A Study of the *Indian Medical Gazette* (1866-1947),' Ph.D. Thesis, Chapter IV, Zakir Husain Centre for Educational Studies, School of Social Sciences, New Delhi: Jawaharlal Nehru University, 2011.
- Smith, Peter, "B.T. McCully, English Education and the Origins of Indian Nationalism", Gloucester, 1966.
- Smith, T., 'Daily Life of a Sahib in Calcutta', in *Calcutta People and Empire*, ed. Pradip Chaudhury and Abhijeet Mukhopadhyay, Calcutta: India Book Exchange, 1975.
- Singh, Harikishan, "Ramnath Chopra (1882-197333) – A Visionary in Pharmaceutical Science", *Indian Journal of History of Science*, vol 43. Issue 2, 2008.

- Stevens, Rosemary, “‘A Poor Sort of Memory’: Voluntary Hospitals and Government before the Depression’, *The Milbank Memorial Quarterly, Health and Society*, vol. 60, no. 4, Autumn 1984.
- Temkin, O., “History and prophecy: Meditations in a medical library”. *Bulletin of History of Medicine*, Vol. 49, US: Johns Hopkins University Press, 1975.
- Upadhyay, S., ‘Hospitals in Old Calcutta’, *Calcutta Municipal Gazette*, 21 April 1951.
- White, Hayden. V., *Foucault decoded: Notes from underground*. In *History and Theory: Studies in the Philosophy of History*, Los Angeles: University of California, 1973.
- Witz, Anne, "Colonising Women’: Female Medical Practice in Colonial India," 1880-1890" in Lawrence Conrad and Anne Hardy (eds.), *Women and Modern Medicine*, Amsterdam and Atlanta: Brill Rodopi, Volume Series 61, 2001.
- Worboys, Michael, ‘The Emergence of Tropical Medicine: A Study in the Establishment of a Scientific Specialty,’ in *Perspectives on the Emergence of Scientific Disciplines*, eds. G. Lemaine, R. Macleod, M. Mulkay, and P. Weingart, The Hague: Mouton, pp. 76-78.
- , ‘The Spread of Western Medicine’, in *Western Medicine: An Illustrated History*, ed. Irvine Loudon, Oxford and New York: Oxford University Press, 1997, pp. 249 – 63.

Bengali Books and Articles –

- Basu, Debashish, ‘Madhusudan Gupto, Ek Bismrita Bigyan Pathik’, *Ekshan*, vol. XVII, 1986, p. 5.
- ‘Kadambini Gangopadhyay’ Murshid, Brajendranath, ed., *Sambadpatre Sekaler Kotha, Vol. 1, 1818-1830*, Kolkata: Bangiya Sahitya Parishat, Bengali era 1344.
- , *Sambadpatre Sekaler Kotha, Vol. 2, 1830-1840*, Kolkata: Bangiya Sahitya Parishat, 1825.
- Bhattacharya, Jayanta, ed., *Bharater Patabhumite Chikitsa Bigganer Itihas Songkhipta Parjaloyona*, Kolkata: Ababhas, March 2009.
- Bhattacharya, Vijoykali, *Ayurveder Itihas* (in Bengali), Calcutta: Bangkim Press, Bengali year. 1361, Translated by S.C. Mitra, *History of Ayurveda*, Calcutta: Bangkim Press, 1960.
- Bhowmick, Haripada, ed., *Sekaler Sangbadpatre Kolkata*, vol. I, Calcutta: Loknath printers, 1988.

- *Sekaler Sangbadpatre Kolkata*, vol. II, Calcutta: Loknath printers, 1989.
- Biswas, Soma, *Unish shotoke Bangladeshe CHikitsaCharcha: Pothikrit char Bangali Mohila Daktar*, Kolkata: K. P. Bagchi and Co., 2015.
- Chakraborty, Dr. Arun Kumar, *Chikitsa Vijanane Bangali*, Kolkata: Signate Book Shop, 1960.
- , *Chikitsa Biggane Abiskar o Kolkata*, Kolkata: Baulmon Prakashan, September 1989.
- Chattopadhyay, Debiprasad, *Prachin Bharote Chikitsa Biggan*, Kolkata: Paschimbanga Bangla Academy, February 1992.
- Deb, Chitra, *Mahila Daktar: Bhin Graher Basinda*, Kolkata: Ananda, 1994, p. 103.
- Dutta Roy, Mala, *Kadambini Gangopadhyay, Prothom Bangali Mohila Chikitsak*, Kolkata: Signet Press, 2015.
- Ghoshal, Dhananjoy, (ed.), *Bangalir Bijnancharcha: Prak-Swadhinata Parba*, Kolkata: Ashadwip, 2018.
- Haldar, Dharendra Nath, (ed.), “Allopathy and Homeopathy Chikitsa Sambandhiyo Masik Patra o Samalochok,” *Chikitsa Prakash*, 36th year, Vol. 1, Calcutta: Gobardhan Press, Bengali Year 1350.
- Murshid, Ghulam, *Nari Pragati: Adhunikatar Abhigate Bangaramani*, Dacca: Naya Udyog, 2008.
- Nath, Dr. Shankar, *Calcutta Medical Colleger Gorar Kotha o Pundit Madhusudan Gupta*, Kolkata: ahitya Sangsad, January 2014.
- Nath, Shankar Kr. , *Unish Shataker Kayekjon Bangali Gobeshok-Chikitsok*, (Some Bengali researchers-physicians of the 19th century), Kolkata: Bangiya Biggyan Parishad, 2019,
- Pahari, Subrata, *Unish Shataker Banglay Sanatani Chikitsa Bybosthar Swarup*, Kolkata: Progressive Publishers, July 1997.
- Palit, Chittabrata, *Ouponibeshik Banglar Samaj Chitra*, Kolkata: Dej Publishing, 2007.
- Roy, Binoybhusan, ‘Native Haspatal theke Fever Haspatal’, in *Kolkatar Purakatha*, ed. Debashis Basu, Calcutta: Calcutta Pustak Bipani, 1990.
- *Chikitsa Bijnaner Itihas: Unis Satake Banglay Paschatya Sikshar Prabhab*, Kolkata: Sahityalok, 2005.

- Samanta, Arabinda, *Rog, Rogi o Rastra: Unish Shataker Bangla*, Kolkata: Progressive Publishers, 2004.
- Shastri, Shibnath, *Ramtanu Lahiri o Tatkalin Banga samaj*, ed. Baridbaran Ghosh, Calcutta: New Age Publishers Pvt. Ltd., 2009.
- Quadir, Abdul, ed., *Rokeya Rachanabali*, (Complete Works of Begum Rokeya Sakhawat Hossain), Dacca: Bangla Academy, 2015.

Journals –

- *Ananda Bazar Patrika*
- *Indian Journal of History of Science*
- *Rogi Chikitsa: Homeopathic Masik Patrika*, Calcutta, 1981.
- *Homeopathic Chikitsa*, Ed. Satyendranath Roy, Calcutta, 1951-52.
- *Hahnemann*, ed. Bijoy Kumar Basu, and Gourinath Mukhopadhyay, Vol 70-75, 1980-1985.
- *The Indian Journal of Homeopathy*, The Homeopathic Medical Association of India, Vol. VI, 1958.
- “Kadambini o Tar Biliti Degree”, *Desh Patrika*, 14 March 1987,
- Malavika Karlekar, ‘Anatomy of a Change-Kadambini Ganguly and the Seven before her’, *Telegraph*, 8 July 2007.

E- Sources –

- Anderson, Stuart, ‘Pharmacy and Empire: The “British Pharmacopoeia” as an Instrument of Imperialism 1864 to 1932’, *Pharmacy in History*, vol. 52, no. 3/ 4, 2010, Madison: The University of Wisconsin Press, Journals Division, pp. 112-121, Web Link. <https://www.jstor.org/stable/41112471>
- “Burma 1930-1947: Overview Burma Campaign”, British Indian Army and Britain’s Allies, *British Military History*, Web Link. <https://www.britishmilitaryhistory.co.uk/docs-burma-1930-1947-overview-burma-campaign/>

- Chakrabarty, Pratik, ‘Science, Morality and Nationalism: The Multifaceted project of Mahendra Lal Sircar’, *Studies in History*, Volume 17, Issue 2, Delhi: Sage Publication, Last edit 17. 2. 2001, pp. 245-274, Web Link.
<https://doi.org/10.1177/025764300101700204>
- Gorman, Mel, “Introduction of Western Science into Colonial India: Role of the Calcutta Medical College,” *Proceedings of the American Philosophical Society*, Vol. 132, No. 3, Sep. 1988, Independence Square: Philadelphia, American Philosophical Society, pp. 276-298. JSTOR, <http://www.jstor.org/stable/3143855>.
- Minutes on Indian Education, by the Hon'ble Lord T. B. Macaulay, dated the 2nd February 1835, Archive.org, Web Link -
https://archive.org/details/Minutes_201311/page/n11/mode/2up