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EMPIRE, DISEASES AND THE NUANCES OF MEDICAL RESEARCH IN COLONIAL INDIA

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Abstract: The notion of public health in India emerged from a reformist mode of governance which was part and parcel of British imperialism. With the turn of the nineteenth century, a system of colonial medicine emerged which was different from European medicine of the time, characterized by deep thrust on environmental factors in the causation and transmission of the disease. This paradigm evolved to include social and cultural characteristics as well, which were all thought to account for the distinctive nature of illness in the Indian subcontinent.

Key words- Medicine, Public health, medical research, Colony, Native

Despite India being the 'largest disease laboratory in the British Empire', the colonial government had no specific medical research and medical knowledge gathering policy in the nineteenth century. The lackadaisical attitude of the colonial government towards medical research in India is well documented in the writings and correspondence of Indian Medical Service officials and eminent researchers. During this period, military medical officers took some personal initiatives and carried out medical research without any assistance from the government. Government's role was limited to deputing medical officers to affected areas to investigate on the causation and preventive measures of certain diseases. It was military affairs, not medical research that became the priority of the government. If fact, geological, botanical and geographical surveys received much more priority than medical research throughout nineteenth century colonial India.[1] Medical research was too costly an affair for the colonial government to pay attention to. David Arnold pointed out that by the 1890s, India, was entering a period of severe epidemic mortality' a woeful crescendo of death' caused by successive bouts of Cholera, Plague and Malaria, which pushed the death rate further up. This was attributed to the colonial State's unwillingness to shoulder the financial and political responsibility for wide ranging public health measures.[2] Ira Klein pointed out that imperfect understanding of illness, financial strains, rural poverty and weak municipal laws on sanitation all resulted in a tatterdemalion public health movement in India.[3]

Ronald Ross, the novel laurate, who discovered the malaria vector had to suffer this non-co-operation of the government, which was unwilling to promote medical research in India. Throughout the nineteenth century, medical fraternity in India was unanimous in their opinion on the causation of malaria. Most of them attributed the disease to the 'non-contagious' end of the disease spectrum because of it's apparent dependence on locality.[4]Traditional anti-malarial measures like the destruction of rotting vegetable matters from the immediate vicinity of European settlements formed the basis of preventive measures in India. Back then, Alphonse Laveran's discovery of plasmodium in 1880 was seen as a potential damage to the reputation of European medical men in India. There was widespread disbelief about Laveran's claim among the medical officers in India who continued to ignore Laveran's claim before it was no longer possible to do so following the confirmation by Italian and American scientist in the mid-1880s. Mark Harrison argued that Laveran's emphasis on a specific causal agent was incompatible with the more holistic notions of disease causation associated with the 'natural historical' model, which continued to dominate medical thinking in India.[5]

It was almost a decade and half past Laveran's discovery, the exact mode of transmission of malaria still unclear, that destiny moved to introduce another unsung hero, Surgeon Major Ronald Ross of Indian Medical Service, who devoted all the energy and time he could spare from his regimental medical duties to the research of malarial fever. Ross's was a success story, it was a discovery which in its narrowest application illuminated the field of malariology and by its decisive demonstration of

the sporogonic cycle of plasmodia in mosquitoes clearly indicated the road to control the deadly disease.[6] But in spite of all that, India was a bitter disappointment to Ross as government of India turned a deaf ear to his research and failed to recognise its worth. His research was interrupted at a crucial time by a sudden transfer to another military station before Manson persuaded the Indian government to depute Ross to special research on Malaria in Calcutta.[7] The apathetic and stepmotherly attitude of the government of India to medical research and more so to medical researchers like Laveran, Ross and Donavan is testimonial to the fact that medical research was never the priority of the colonial government. Even the Bhore committee (1943) in its report criticised the government of India for not being kind to the cause of research and scientific discoveries.[8] It was argued that medical research was almost non-existent outside a few big institutions in Calcutta, Delhi, Madras and Kasauli.[9]

Just like malaria, Kala-azar was another epidemic that caused serious public health problem in late nineteenth century India as it depopulated large part of Assam, Bengal and Bihar. Specially in plantations of eastern India, it gave a serious blow to the emerging tea-economy due to it's high mortality rate of more than 98 percent. Kala-azar (visceral leishmaniasis) is an infective as well as fatal disease which is transmitted to the human body by certain species of sandflies. But until 1903, the medical community had no clue about the true nature and causation of this disease. Unfortunately. The colonial government in India did not promote active research on Kala-azar despite the disease being the cause of a vast amount of death in India. It was individuals such as Charles Donavan of Madras Medical College who, along with other researchers such as William Leishman, carried out path breaking systematic research on the aetiology of Kala-azar to discover the causative agent of the disease. But it was all due to Donavan's individual effort, that such a discovery was made possible. He received no academic or administrative help for his research on Kala-azar and its transmission, even after the discovery in 1903.[10]The government was reluctant to finance any such medical research even if the research was associated with a disease as deadly as Kala-azar that caused havoc in India. It's role was limited only to palliative measures whenever epidemics broke out.

Till the nineteenth century, there was hardly any institutional level medical research in India. Institutional medical research in India began to surface from the beginning of twentieth century with the establishment of Indian Research Fund Association (1911), Calcutta School of Tropical Medicine (1920), All India Institute of Public Health and Hygiene (1932) and so on and so forth. These institutions functioned under immense financial hardship and impediment as these institutions were depended on the government aid for smooth conduct of their research work. Medical experts and researchers made repeated requests for the enhancement of the fund for medical research institutes such as The Bombay Bacteriological Laboratory, the King Institute, the Pasteur Institute among others. But these measures were inadequate, and these institutions lacked proper funding to pursue medicinal research. Most of them failed to provide any enduring foundation for the growth of medical science in Colonial India.[11]

The transfer of political power to the royal crown exposed India to direct British scientific scrutiny through closer contacts. In 1859, a Royal Commission was appointed to enquire into the sanitary state of the army in India. In it's report in 1863, the commission recognised the fact that the indigenous population, just like the Europeans, were at equal risk of suffering from the epidemic diseases. The commission was of the opinion that the British being the 'ruling class', had a moral obligation to help it's Indian Subjects by providing them with the benefits of western progress, among which sanitation was the most treasured at that time.[12] The responsibility of sanitary reform in India, subsequently fell on the shoulder of the colonial government. But at the same time, it was an alien government which did not wish to offend the root ideas of its subject. The stunted growth of the public health initiatives and sanitation in India was often attributed to the apathy, ignorance and prejudice of the indigenous population who had little or no idea about the benefits of such schemes, nor the danger which result from its neglect.[13]This assertion of colonial officials often found support in scholarly narratives too. Hugh Tinker, for instance, blamed the indigenous population in India for the relative failure of public health policy. Tinker pointed out that public health services in India were developed only because officials fostered them, because of pressure from British officials, rather than because of the desires of the people. He wrote-***'Public feeling was very seldom in accord with the technical and scientific standards of western social services. The political and economic currents of the age introduced fortuitous elements of discord. The machinery of democracy often showed only it's shortcomings in the hands of novices, the development of services was slow -almost always slower than the growth of people's needs.'***[14] While not denying

the fact that the size of the problem was too large for a speedy solution, there were many who believed that the colonial government was basically uninterested in the health of its subjects. [15]

Mark Harrison is of the opinion that it was not only high mortality rates from diseases such as Cholera, but the persistent incapacitating effects of malaria, typhoid and venereal disease that concerned the colonial government and were a major cause of anxiety well into the twentieth century. [16] Perhaps the moment of transition, in the Indian context, from enclavism to broader public health came towards the end of nineteenth century when emphasis was given towards research on tropical medicine based on the germ theory of diseases.[17] Throughout nineteenth century, shortage of fund, political expediency and fear of social resistance from conservative Indians hindered the process of significant reform in public health and sanitation in India. But by the end of the nineteenth century, with the increased pressure of epidemic devastating both European settlers and the indigenous population, along with newer breakthrough in medical science, plans started to be made, and bills started to be passed to transform sanitary conditions and provide comprehensive public health services.[18] The government of India appointed a Public Health Commissioner in 1869. Consequently, all three presidential medical departments were merged to create the Indian Medical Service (IMS) in 1896. Until 1919, medical departments were under central government's control. The reform of 1919 led to the transfer of public health, sanitation and vital statistics to the provinces and paved the way for decentralization of health administration in India. [19]

Public health initiatives in nineteenth century India needs to be viewed in the context of power relationship between medical knowledge and colonial administration, a relationship that determined the long-term progress of medicine and public health in colonial India. It also demonstrated the complexity of relationships between colonisers and the colonised and the diversity of colonial impacts upon indigenous people who adopted imperial western medicine to their own requirements. [20]Within a couple of decades of transfer of power, official approach to public health and sanitation in India included more and more participation of indigenous elites who began to dominate the local civic bodies from the 1870s.Hugh Tinker questioned the willingness of this native elite class. Writing in the 1950s, Tinker argued that these Indian representatives on municipal and provincial bodies had little interest in matters of public health, only exception being the province of Bengal. Tinker acknowledged the role of British officials in the development of public health and sanitation services in colonial India. [21] This was reiterated by other scholars too. In their study on colonial vaccination policy in British India, Sanjay Bhattacharya, Michel Worboys and others have revealed the existence of the continued provision of central and provincial government funding for vaccine development, it's distribution, and vaccination work, as well as the surprising insight that many municipal and district boards were unwilling to commit funds available to them for the employment and training of vaccinators.[22] Radhika Ramasubban , on the other hand was more critical on the British officials who according to the author, developed a distinctly colonial mode of healthcare system, characterised by residential segregation and neglect of civilian indigenous population. [23]In his 1988 work on the politics of health in colonial India, Roger Jeffery argued that the financial, technical as well as administrative factors restricted the development of sanitary and medical provisions in colonial India to a large extent. Financial constrains put more pressure, particularly on smaller and poorly funded municipalities and district boards as they struggled to provide for basic public health. These municipalities and district boards were primarily responsible for funding most of the hospitals and dispensaries. Neither government nor private individuals were directly accountable to support the hospitals and dispensaries. In spite facing difficulty in raising revenues from local taxes, many municipalities and local bodies were instrumental in raising the number of dispensaries across the country during the last half of nineteenth century. [24] That was in accord with the British policy that existed in Great Britain where the main source of fund for hospitals and dispensaries were local bodies, private subscriptions and charitable donations. In Britain, municipalities played pioneering role in sanitary reforms too. Role of the central government was limited to enactment of legislation thus compelling or enabling local authorities to initiate sanitary reforms and carry out public health policies, both in England and its colonies worldwide. [25]

David Arnold observed that in colonies such as India, this trend was encouraged by the fact that the cities were the main hub of European residence. The trend has been described by Arnold as 'municipalization of public health'. The municipal authorities thus were expected to protect European health by providing them with civic facilities such as filtered water, sewerage and drainage among others. [26]As has already been discussed, the administration of health was devoted to elite indigenous section of Indian population from the very inception of local self-government in India. As time progressed, there was a 'drive towards Indianization' as far as

decision making in matters of medical and sanitary policy in India was concerned.[27]Starting first with local civic bodies in the 1870s and 1880s and then with provincial bodies after 1919 and 1935, India's emerging elites had their own course to steer between 'cosmopolitan science' and subaltern society. As Arnold pointed out that a characteristic feature of colonial medicine in India was that it was always a site of some Indian negotiation and participation. This participation was visible everywhere, from Indian practitioners, participants in state medicine or in private practice.[28] This participation became more sustainable because of the reforms and rejuvenation of local self-government in India during the viceroyalty of Lord Ripon. The most remarkable innovation proposed by the liberal viceroy in 1882 was the establishment of a network of rural local bodies, with district boards and sub district boards based either upon the subdivision or the tehsil. Ripon's plan of including the new western educated middle class in the functioning of local government was vehemently opposed by officials within the administration. In 1888, medical relief and public health were added to the functions of local government. But paucity of fund kept these services down at a very basic level. Municipal and district boards had almost no say in local medical or health services, though these institutions were primarily responsible for these services. As Tinker showed, there were very effective checks and balances on the functioning of local bodies in the early years of the twentieth century.[29]

But in the case of Bengal, there was very little official regulation over the functioning of local bodies, unlike rest of the country. Local bodies enjoyed autonomy in their management of public health services, vaccination etc. [30] The Bengal Local Self Government Act of 1885 required every district board to do the best for the proper sanitation of each district and to provide adequate fund for the same.[31] The law relating to the control of epidemic diseases is contained mainly in the different local self-government acts applicable to municipal and non-municipal areas in the provinces and in an all India enactment, the Epidemic diseases Act, 1897. This act gave emergency power to different governments in their respective jurisdiction to promulgate temporary regulations to deal with an outbreak or a threatened outbreak of infectious diseases. The three epidemic diseases of cholera, small pox and plague were notifiable throughout British India.[32] The act empowered the government to gain the authority and violate manifold personal rights of the common people, forceful quarantine in the suspicion of carrying the disease , destroying the contaminated property of the patients, mandatory checking on the travellers on roads and railways, imprisoning them, inspection of houses and dwellings on the basis of mere suspicion of the disease, forcefully dislodging of the native people from the infected neighbourhoods, even completely destroying their houses etc.[33] So, through the issue of public health and vaccination, the colonial rulers were able to consolidate gradually and enter the socio-economic and cultural sphere, even the mind and body of the oriental mass including women. This hegemony of the colonial rulers over the masses saw a mixed reaction in India. Many accepted it without any hesitation; some accepted with reluctance and of course there were few instances when the British administration had to use force.

The health survey and development committee were appointed by the government of India with the intention to survey the existing health structure in the country and make recommendation for future developments. The committee reviewed matters such as public health, sanitation, medical relief, medical education and research among others and submitted its report to the government of India.[34] Medical opinion which was hitherto divided on the causation and prevention of specific diseases had finally come to consensus, allowing more precise measures to be taken for diseases like cholera, fever and malaria. But it was only in the 1920s and 1930s, when colonial authorities began to really capitalize on the advances of the late 19th and early 20th centuries. Sulaiman Faruqi in his case study of colonial Bengal showed that there was a significant increase in annual public health expenditure from the mid-1920s onwards which further increased in subsequent years. This demonstrated the increased interest of provincial government towards public health initiative.[35] What followed with these administrative changes was the reversal of mortality figures among Indians. As Ira Klein showed in her research, by 1921 death rates per mile had finally dropped below 1880 levels and the consequent years generally saw a decline in deaths and increase in life expectancy. From 42-50 per mile in the decade 1911-1921, the death rate in India fell to 25 per mile in 1941-51. Many scholars attributed this decline in mortality figures to improved standard of living which was characterised by colonial sanitary projects such as waterworks, drainage and sewerage specially in cities and towns of urban India.[36] This study also emphasizes the need of locating the history of medicine in colonial India within a wider framework of investigation that pays close attention to an emerging internationalism in the field of medicine and health. The colonial state was a complex institution, rather a set of institutions with delicately dissimilar priorities that often led to material differences over policy. Medicine too, was a complex field and the interactions between the physicians and patients were also complex. The emphasis on

the broken nature of colonial authority had given important take aways into the process of policy making and it's implementation at the grassroot level.

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