Details of Module and its Structure

Module Detail	
Subject Name	Sociology
Paper Name	Sociology of Health
Module Name/Title	Health Policies and Specific Disease Programmes in India: Epidemics
Pre-requisites	Concepts of colonial medical supremacy
Objectives	To analyze the health policies and program of Epidemics in India
Keywords	Epidemic, British colonial, outbreak western medicine, vaccination, policy

Structure of Module / Syllabus of a module (Define Topic / Sub-topic of module)	
Health Policies and Specific Disease Programmes in India: Epidemics	Introduction; History of Epidemics in India; Epidemic, Colonization and the Incorporation of Western Medicine; Management, Act and Policy of Epidemic under the British rule; Health and medicine in contemporary India; Conclusion

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15. Health Policies and Specific Disease Programmes in India: Epidemics

Introduction

The outbreak of epidemic in India during the British colonial is one important gateway of India entering scientific medical system and the development of medical knowledge towards western concept. Through the historical background of epidemic cases, this paper will try to reflect on the transition of medical system in India as well as witnessing policy making in terms of health and health education. First, in an attempt to understand between epidemic and pandemic, there is often a confusion and explanation between the two. To clarify the statement, epidemic refers most to an outbreak of a disease to a particular given population over a period of a time. Whereas, by pandemic it means an outbreak of a disease worldwide, transmitting disease person to person, killing millions of world population. Epidemic diseases are generally caused by infectious bacteria through contaminated water, food, fleas and also flu and diseases carried through migration of human population. Records of epidemic cases in India are to be seen widely during the colonial rule. The western medicine took a slow turn among the India population as indigenous medicine was more popular among the people in the 18th century. Various diseases were unknown and treatments for an unknown illness are foreign to the local practitioners. Arnold (1993) mentioned the continuity and changes of medical system in India by overtaking the indigenous medicine with western medicine by 1900s. It was argued that western medicine had reached only a collection of the white residents, ignoring the general population. On one hand the people rely more on religious ritual healing, shaman, local herbs, the hakims and vaidyas. However, Arnold mentioned that it was by the late 19th century when the Anglicists success over the orientalists, the western medicine became widely accepted among the Indian population. The British colonial witnessed the uprising mortality rate among the British and Indian soldiers in the 19th century. The causes of illness and disease were believed to be an environmental force like contaminated water and food, unhealthy living standards and unsanitary rooms. Mortality rate of the British troops was mainly caused by cholera, smallpox, enteric fever, dysentery, diarrhea, alcoholism and respiratory diseases. Eventually, cholera, malaria, smallpox, diarrhea became a familiar words to the people which took many lives by the 19th century in India.

This paper will try to examine the history of epidemic diseases in India, understanding the different outbreaks of epidemic in various geographical lands, the course of treatment and cases. Epidemic in India could be examined in reflecting the political, economic and social contexts of India. It will also try to focus on the health policy and public health regime the government has taken up in attempt to eliminate or decreasing the mortality cases of epidemic diseases in India through ages.

History of Epidemics in India

It was during the rule of the British colonial that most epidemics were largely found existed. Dutta (2008) argue the cases of kala-azar that took place in Bihar, where he stated that some epidemics are introduced by the European who settled in their colonies, highlighting diseases like measles and smallpox as being imported by the Spanish colonials. Not to forget, Dutta stated how the Europeans carry syphilis into the colonies they entered. Arnold (1993) examined the historical cases of diseases in India in the nineteenth century. He has mentioned how the nature of India's environment may be responsible for some epidemic, however, citing his argument that disease in India could not be same with disease in England. Several studies have been done for identifying specific diseases and illness occurring among the British and Indian army troops. The first cases of cholera in India was said to be registered in 1817. And this cholera epidemic was known to be the first prevalent epidemic in India (Rogers: 1926). In 1843 it was found that three big diseases were reigning over the army troops: fever, cholera and dysentery by an army surgeon, W.L. MacGregor. The Royal Sanitary Report in 1863 released that 40 percent of the death causes of the British troops was fever, and three-fourth of the death causes were cholera, dysentery and diarrhea (Kumar: 1998).

One of the oldest destructive epidemic records in India is smallpox. Smallpox is one of the most dreadful epidemics that has swept one-tenth of human races. Holwell (1767) stated that smallpox occurred in Bengal every seventh year, where the cases recurred every March, April and May, but stops when monsoon season comes. In the fifteenth century it was known as a red plaque. Though the first record of smallpox is not recorded, it was believed that smallpox epidemic was introduced in 10,000 BC ago. This dreadful disease left people with skin rash, blisters, boil affecting eyesight and limbs. Those who survived smallpox are slightly intended to have deformed body and eyesight problem as their cornea is severely infected.

Before the British colonial, smallpox may have placed its name among the Indians. Hinduism has goddess called Sitala who is their protector. She is known as goddess of pox, pustules and sores. In the north India, Sitala was worshipped and inoculation of smallpox diseases would be performed by special practitioners who are known as tikadars. Smallpox was regarded more as a possession than a disease where the goddess Sitala entered the body of a person. The religious practice on healing seems to void with no cure and medical knowledge. Cooling drinks were offered and to keep the feverish body cool wetted neem leaves were applied on to the body,

grounded lentils, turmeric and flour were sprinkle on the body (Arnold: 1993). The infected person would be isolated from the rest because of fear of contracting the disease. The story of Sitala and inoculation of smallpox highlighted the social caste context where the physician, nurse, caretaker and priest were handed by the malakars, the attendent of Sitala. The purohit (priest) and vaid (physician) would abandon the person once the disease erupted with dreadful symptoms, when the disease is beyond their control (Kumar: 1998).

Though the mortality rate was not recorded in the earlier smallpox cases, however, as much as 11,000 people were said to be death during 1837-1851 and 9,549 death tolls between 1851 and 1869. Variolation has been conducted among the Indians before the popularity of vaccination. Holwell during his visit to Bengal first made an observation of variolation in India in the mid eighteenth century. By 1870, variolation was witnessed in Bengal, Assam, Bihar and Orissa, and then spread its popularity across the western province. The mortality rate seems to come down with the introduction of vaccination by Edward Jennar in June 1802. The Imperial Gazetteer (1907) shows that from 0.93 deaths per 1,000 populations in 1871-1880, it came down to 0.38 in 1891-1900. Smallpox vaccination was a savior for the British colonial. Taking the scenario of the religious ritual and goddess Sitala context, the western medicine may not have been convincing among the Indian. But the success of vaccination over variolation proofs the colonization of the medical knowledge and the body of the Indian by the British colonial.

Cholera is another epidemic that has taken many lives of the population, especially the Indian sub-continent. Cholera is caused by eating and drinking contaminated food which contains bacteria known as vibrio cholerae. Kumar (1998) defines cholera as morysey, mairtirissa, virucega, mordeyin and mordechien, which is a reference of cholera by different languages of India. The first case of cholera epidemic in India was during 1817-21 and during this period household statistics of Indian population was not done. Hence, the exact number of mortality rate was not known. However, an estimate calculation was being done by a French physician, Moreau de Jonnes in 1831. Moreau in his attempt to calculate cholera mortality rate, he estimated that during the period of 1817-1831 one and a quarter million succumbed to cholera, making it to eighteen million deaths (Arnold:1986).

The high incidence of cholera in India varies with the regional geography and climatic condition. The Brahmaputra and valleys of Assam lower Bengal were the highest incident cases of cholera, followed by the Chittagong and Burdwan divisions of Bengal, then the densely and greatly irrigated of the South east Madras. The dry land areas of Gujarat, Agra had the lowest record of cholera incidence (Roger: 1926). In 1817 cholera outbreak, it was believed that at least 37,000 cases occurred alone in Bengal. Kumar (1998) mentioned that the endemic area of cholera in India is Bengal, where the village and street are filthy and proprietors were negligence towards the sanitary and hygienic livelihood of the tenants. Also the advantages of connectivity and communication through railway system added to the main reason for the outbreak of the disease.

One feature of the causes of mortality due to cholera was the poor living standard and lower economic crisis among the people. Cholera was seen to have affected the lower income class group because of the polluted water supplies and insanitary household. Cholera outbreak clearly pictures the social situation of India under colonialism. The Indian population poor living condition raised the mortality rate. Meanwhile, the white Europeans accessed better material comfort and relatively supply themselves with better nourishment and hygienic food and water consumption. However, the governor of Madras, Sir Thomas Munro succumbed to cholera was a living proof of the impossibility of avoidance of cholera. Adding to poverty, Arnold (1986) brings out the unfortunate coincide of cholera cases and famine. The Guntur famine in Madras Presidency in 1833 led to a high death toll reaching 2 million. However, there is no evidence of the correlation of cholera and famine. But Arnold stated that death toll of cholera reached high where there is a case of famine, especially during the Guntur famine which took place till 1877. Cholera epidemic in India coincides with the colonial conquest and political turmoil adding to scenario of poverty and death.

Another epidemic that cannot be written off from the history of India is kala-azar, malaria and Burdwan fever. Kala-azar was misdiagnosed as malaria before because of the similar fever and symptoms. When was kala-azar found in India was not known. Since many lives were swept away by fever, so the case of kala-zar would be similar with the malarial fever like Burdwan fever in Bengal during 1863-1874. Dutta (2008) has accused the entry of kala-azar into Bihar as the cause of British economic policy. The agricultural failure followed by famine forced the population of Bihar to migrate to neighbor Bengal and Assam as a laborer in plantation. Dutta later mentioned that Assam got laborer from Bihar and in return the Bihar laborers got kala-azar from their workplace.

India witnessed a tremendous mortality rate between 1871-1921 with major epidemics caused by choler, smallpox, plague, malaria and influenza. Malaria alone was believed to have swept 20 million of lives in India till 1930. The epidemics in India contemplate the political intervention of the colonial and pose a question of the medical authority of the western medicine. Anil Kumar (1998) argues the confidence of western medicine during the period of plague in India. The failure to control incidence forced the British colonial to seek answer outside the medical. Kumar argued that India under the Raj lacked to meet the development of medical consciousness disappointing the Indian masses.

Epidemic, colonization and the incorporation of western medicine

Arnold (1993) stated that the western medicine in India is explicitly colonial science. Malarial fever, cholera, smallpox may have occurred even before the arrival of the colonial; however, they were not scientifically proven the causes and cases. India experienced infectious and deathly

diseases largely by the nineteenth century during the British colonization. Silva (2008) has mentioned how the British raj utilized the land and geographical area according to their advantages that contributed to their power and wealth. The British record disease identifying with the regional name, such as Burdwan fever, kala-azar Bihar, Bengal fever and so on. Silva argued that the intention of the British was to determine a healthy and unhealthy region in favoring to them, the British on their economic policies, administration and political development. Endemic region are ignored by the colonial to avoid calamities or disaster that could have adverse effect on their policy and development plan. The epidemic that occurred in India like cholera, malaria, smallpox was seen as the result of dirty livelihood, shabby household, malnourishment, congested neighborhood and poverty. The Annual report of Sanitary of Commissioner (1894) stated that the British in India will never be safe if the native population continue to be unclean, dirty and diseased. The colonial on one hand were not ready to pay in uplifting the town planning, sanitation planning and establishing public health for the people. It has been noted how during the time of cholera epidemic, the colonial practice a different nourishment and livelihood, trying to escape from the frame of infected dirty area as perceived by the colonial. Arnold's "colonizing the body" signifies the colonial subjects who were identified as fragile and disease prone.

Western medicine slowly took its turn to reign in India by 1900. The contest of western medicine and treatment was carried out for the well-being of the British officials and their troops. The British colonial embraced the western scientific medicine over the indigenous medical system and the religious healing rituals for the Indian masses. However, in the beginning the Indian masses were not so much in favor of western medicine. In the scenario of India, the British colonial rule sees the entry of the Christian missionaries. The western medicine enclosing within the reach of the British was over taken by the Anglicists and ended the Orientalists (Arnold: 1993). Basalla (1967) drew that western medicine spread across the world as an observation, dependent and independence questioning the accusation of western medicine as a conquest of other culture.

The western medical practice learns and observed not just the body and disease of the colonial subjects, but they had to adjust with the Indian medical practices. The incorporation of Indian medical knowledge by the western medicine was to understand the Indian medical text, which could be referred to as imperial rule within the medical system. The western physician employed the Indian local as informant in understanding the indigenous medicine, plants, herbs and observing the tropical diseases through indigenous medical knowledge. The western medicine incorporated Indian medical system to acquire the treatment that is unfamiliar for the western medicine. However, Arnold (1986) mentioned the western medical practitioners remained to glorify their medical system as superior over indigenous, in spite of adopting the indigenous knowledge of healing and medical practice.

As said, epidemic in India witnessed different diseases during British colonial. And it was the nineteenth century that western medicine spread its wing across the world. The epidemic diseases, colonial rule and western medicine fall in the same period of time. Western medicine was tested during the cholera, influenza, malaria, smallpox epidemic. Soon enough by 1835 with the establishment of Calcutta Medical College, western medicine reached within the Indian medical education. Western medical education was soon established in Bombay, Madras, then to provincial town of Lahore (Harrison: 2001). Harrison expressed that the medical registration act was passed in 1912 only after seeing the criticism of the government in failing to see the needs of the public during the epidemic. This act was feared by the vaidyas and hakims, the practitioners of Ayurveda and Unani, opposing that this might led to legal and illegal medical practice. The numbers of Indian native acquired western medical knowledge and produces sufficient practitioner, however, during the 1896 plague, the indigenous medical experts help was seek for the control measures (Harrison: 2001).

Management, Act and Policy of Epidemic under the British rule

The epidemic spread in India brings out the nature of medical systems of the world. Seeking religious ritual, herbal medicine, local healers and familiarity with the western science medicine, the government and the people were looking for every possible means. Cholera epidemic had adversely affected the mortality of the British and Indian troops. For the colonial, losing their army from epidemic was a big concerned. It has been reported in 1863 that the British troop were dying more because of cholera, dysentery, and diarrhea rather than in war. The government of India paid heed with the loss of many lives of the soldiers. The government then assigned to research on diseases like cholera, kala-azar, beri beri to T.R. Lewis of Army Medical Department and D.D Cunningham of the Indian Medical Service (Kumar: 1998). The Indian Medical Service was assigned the job to deliver health and medical assistance of the Indian soldiers and the British soldiers were entrusted to the Army Medical Department. The Indian Medical Service (IMS) employed staffs who ran necessary works in attending patients in hospital, asylum, prison and volunteering in sanitary services among the Indian Army. The IMS service reach the layman of the Indian population, however it is argued that the best medical equipment and facilities were the reach of only the Indian army and the colonial officials. The larger Indian population was denied of accessing the resources of western medicine denoting the picture of "colonial mode of health care" (Arnold: 1993).

The measures and precaution of diseases were taken seriously after many soldiers' mortality rate increases due to epidemic. So, the western medicine and colonial conquest introduce most of the measures and policy against epidemic in the nineteenth and early twentieth century. The colonial government is forced to as it involves the health and wellbeing of its own white people. The Royal Sanitary Commission reinforce development in the colonial residence area like the hills,

civil lines which segregate the colonials from the larger population insanitary livelihood, keeping themselves safe zone from diseases. The lack of political will power or economic interest in the market led to fall back of conducting scientific research for the epidemic diseases.

When the epidemic of smallpox largely swept the population of India, it was a big concerned for the government to take immediate necessity. Before Jennar's vaccination was used in 1802, the least the government can propose was variolation. Edward Jennar's work appeared to succeed variolation that the British community in Bengal gave 4,000 pound as gratitude. However, the vaccination did not succeed to fully eradicate the smallpox epidemic, and cases of smallpox were visible especially among the economic weaker section. In 1827, Bombay System of Vaccination was introduced in Bombay under the supervision of European superintendent who carried out his work throughout the district under his supervise and hired vaccinators. Later this system of vaccination is adopted in the other province and areas. In 1839, Bengal launched its own vaccination in dispensaries. Arnold (1993) highlighted that unlike the Bombay and Madras provinces, Bengal were not in direct contact with the rural population. Due to this differences and the popularity of variolation in Bengal, vaccination is far less advanced than Bombay and Madras.

The sanitary and educational background of the vaccinator was often questioned. The vaccinator were mostly low educated and did not earn much respect form the larger population with a small income. The sanitary commissioner of the North-west province raised question on the safety and sanitation of vaccination popularly used in Bombay. Since the Bombay vaccinators were not government employee, it was suggested to adopt the practice of Agra by hiring government trained and paid vaccinator for further safety and precaution.

Mortality rate of smallpox took place even after vaccination system. One reason that slows down the condition was the practice of variolation. In 1804, two years after Edward Jennar smallpox vaccination was introduced, variolation was banned by Lord Wellesley's government. However, it was not successful until it was brought up again by Lord Dalhousie stating that it was not possible to prohibit variolation. The government of Bengal reinforces the compulsory practice of vaccination with the recommendation of the Smallpox Commission 1850 by prohibiting variolation. Failing to obey was punishable with three months' imprisonment or rupees two hundred amount find as penalty. Due to the outbreak of smallpox in the province of Bombay during 1860-70, the government introduced a new Act known as Vaccination Act, 1877. This Act enforces the compulsion of receiving smallpox vaccination to every new born baby within six months. Disobedience may result to six months imprisonment or rupees one thousand fine or both. The compulsion of vaccination brought an opposition from a large number of Indian masses mainly due to ignorance and this led the government only a gradual extension of the 1880 Vaccination Act. The incompetent and inefficiency of police and authority led to the unpopularity of the Vaccination Act.

Treatment and prevention of the cholera epidemic was a headache for the colonial, western medical practitioners and the indigenous medical experts. In 1817, the Bengal government issued instruction for the treatment of cholera outbreak. First was to revive the energy of the patient using alcohol, then concentrating on soothing the stomach ache, helping the laxative with senna, calomel or salt and finally restoring the health of the patient with oil free diet (Arnold: 1993). Arnold also mentioned the adoption of local medical practice y the western medical experts. The vaidya and hakim would treat patient by supplying black pepper, ginger, borax and cloves. Cholera outbreak emphasizes the desperate of healing through western medicine and religious ritual. The Medical Board of Madras met with Hindu priest in attempt to work out alternative healing in collaboration with Ayurveda medicine. The Madras Medical Board as well as the western colonial medicine was skeptical about cooperating with the indigenous medical experts, still hold the superiority of its medical efficacy in spite of not meeting the required medical treatment. Arnold argued that vaccination was supported by the colonial from the beginning through which they can show their superiority over the colonial subjects economically, socially, politically and medically. However, due to political turmoil of the 1857-58, the colonial could not forcefully impose more vaccination in fear of revolt and resistance of the Indian masses.

The Epidemic Disease Act, 1897 was introduced to provide for the better prevention of dangerous epidemic disease. This Act passes that whenever the state is threaten to a particular disease, the government should act responsibly to see measures and precaution. If find the outbreak as threatening, this Act allows to inspect port and ship vessel and can detained any suspect as such. In the case of kala-azar fever, Dutta (2008) exclaimed the insufficiency of treatment until 1920. New found drugs such as urea stibamine and neostibosan were found and the government dispensaries provided good amount of western medical supplies under the government fund and grant. In the scenario of Bihar kala-azar, the government routinely inspect the policy for a decade with as many as 20 centers were set up in North Bihar district alone. Under the provision of the Epidemic Disease Act, 1897, treatment for kala-azar was made compulsory which before was a voluntary of the patients. This new regulation strictly imposed treatment of kala-azar without fail, and those who failed or discontinued taking treatments were reported to the sub-divisional officer. This enforcement of Epidemic Disease Act seems to have positive results which encourage reinforcing to other areas for preventive and treatment measures. However, the insufficient grant for medical expenses for anti-kala –azar was too less. The local people of Bihar ended up seeking help from local medical practitioner like quack for resources. The negligence of the people by the government promotes ill response from the layman as well as the community health welfare. Dutta argued that the people of Bihar were not reluctant to receive medical aid from western medicine, but the unavailability of fund and road connectivity made it not possible for the people to access treatment religiously.

Health and medicine in contemporary India

Post-independent India witnesses the popularity of western medical system where the re-known Indian medical practitioners, committee board members who frame health policies and propaganda belong to the western scientific medical background. This is not surprising with the medical school, research institutions or laboratories being set up during the colonial supremacy in India. The colonial carried out the hegemony of biomedicine over indigenous medicine; however, it is the indigenous who continue to hold medical hegemony and authority of biomedical knowledge in the post-independent.

When the Bhore Committee was set up in 1943 by the government of India, the focus was on the public health care system. This committee is also known as The Health Survey and Development Committee. This Committee Report has recommended the preventive and curative service at all administrative level. Secondly, recommending the development of Primary Health care at two stages- a short term and long term program. And thirdly, Bhore Committee seeks to train medical practitioner both in the preventive and social medicine. Gupta (1962) stated that India has undergoes rapid socio-economic growth and one of the problem and important fact was the growing population of Indian masses. Drug industry and Pharm Company has taking its place within the community health system. The Bhore Committee recommended that the government will be the final responsible in order to meet the medical and supply requirement. The Health Survey Committee on one hand criticizes the Industrial Development and Regulation Act implemented for the drug pharm. The Committee argues that the development of pharmaceutical industry should be based on the consumer rather than the industrial policy of the government.

With the growing population, development and socio-economic change the Indian government in the 21st century is looking for the nationwide program reaching every population for the benefits of health and reducing mortality rate. When the National Health Mission (NHM) was launch, it aims to reduce malaria, leprosy, anemia, infant mortality rate, eliminating kala-zar fever. NHM also target to set up a communicable and non-communicable control at every state level and finance the necessity expenses. Under the NHM, two sub-missions, the National Urban Health Mission and the National Rural Health Mission were launched. The National Rural Health Mission (NHRM) was launched in 2005 by the government of India focusing more on the North East States, Jammu and Kashmir and Himachal Pradesh. National Urban Health Mission (NURM) whereas launched in 2013 aim to see the needs and provide health to the urban population.

The proposal of National Health Mission looks very efficient and responsive to the needs and demand of health care of the people. But the participatory of both the NRHM and NURM needs to reflect on the failure and delimits of the health policy and mission introduced by the government before NRHM and NUHM. Banerji (1984) stated that Indian government has faced both in quantitative and qualitative problem in fulfilling promises made by the leaders after Independence. This has affected the public health policy. Banerji argued that immediately after Indian independence, the leaders failed to provide an alternative mission after the disbandment of

Indian Medical Service. The political leaders were giving the supremacy of power like colonial period to the officers in the Centre of Health both in the state and central, yet failed to assign qualified health administrator. It is argued that the government of India failed to hire good experts in the field of community health services and this brings loophole in the management and administration of public health.

Conclusion

With arguments of Arnold (1986, 1993), Harrison (2001), Kumar (1998), Pati (2001) reflecting on the colonial and western medicine, brings out many debates on power of medical system even today. The debate on the colonial conquest of the colonial subjects, body and health, power and legitimacy of medicine is still determining within contemporary health studies. From the colonial conquest of medical system to post-independent epidemic diseases and communicable diseases is one focus of the health ministry. Research institutions, virology studies, tropical disease school and many others institution has come up in attempt to study, provide cure and treatment to epidemic diseases as well as chronic diseases in India. Public health care policies established by the government require not just qualified experts and administrator, however, a serious debate is required in the field of academics and media. Follow up program of debate and argument is necessary in introspection of the policies of health care by the government for the masses. What emerged with community health care and public health system is the problem of the ignorance and uneducated masses. Health, prevention and treatment do not just meet the necessity of the public health through Acts, Committee or policy, but with the responsibility of the people. The success of health policies and Act and to examine if public health care reaches every citizen relies on the feedback and responsibility of the people, for whom the policies are made.