Social History of Medicine in Colonial India

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Lecture 01

Cholera and Plague

Hello and welcome again. In this lecture number 16, we will be dealing with two more diseases cholera and plague - very deadly ones. We will start with cholera. cholera also known - rightly or wrongly - as the Indian or Asiatic cholera, was yet another deadly disease and a public health challenge in the colonial context in 19th century India. Its deadliness can be seen from these figures. It cost around 15 million deaths between 1817 and 1865. At least before 1817 the disease was by and large, confined to rural Bengal and its sporadic outbreaks among the rural population - which meant that European enclaves in towns and the military were not affected in any serious way - there was not much to be worried.

As I was indicating in earlier lectures, the real worry starts, the real concern starts when white lives or especially something wrong is happening to military lives which is what we will see happening. In due course it spread and afflicted not only thousands of Indians elsewhere but also Europeans and in the northern, eastern parts of India and the rest of India too. Particularly this is what something we had to wait, the huge number of casualties especially among the British troops and in fact the mortality rate when cholera came, the mortality rate was more among the British troops as you can see here. for every thousand, 14 fell among the British troops whereas on the part of the Indian troops it was only 3 per thousand. This is the statistics from the 1867 cholera epidemic.

And in course of time, the annual mortality rate among white troops rose up to 69 per thousand due to repeated outbreaks of the cholera epidemic. Therefore the authorities now took this very seriously considering this rate of mortality especially among white troops. Cholera was particularly a challenging disease because it was very confusing in the way it came, the way it spread and the quickness with which it killed hundreds and thousands of people. The origins for a long time, remained quite hazy - there was no clear understanding of the actual causes. But as per the largely prevailing trend, the

environmental paradigm, the colonial medical establishment related the incidence of this disease to the peculiarities of Indian climate, geography and topography. Cholera was linked to the vagaries of the weather, the atmospheric vicissitudes and other 'miasmatic' factors like rotting vegetation, crowded habitation and human filth.

It was also linked by some medical investigators to the soil and the soil in turn also influenced by the same kind of climatic factors like rain and monsoon and humidity. While all this was happening, John Snow in London around the 1850s figured out that cholera was transmitted through contaminated water. While this was the case, as early as the 1850s, the local medical establishment persisted in its attribution of cholera to air, soil, winds and the passage of monsoon. In fact they worked very hard to produce statistical evidence to prove and support the above kind of causalities. And also, they, as on many other occasions, played up what is called the localist argument that is, whatever you may find in London, whatever may be the kind of the decisions you arrive at, all said and done, disease in India is not the same as disease in Britain and 'we being here, we know better'. This is something which is not just related to the disease and its causality alone, it is also about their relationship with the doctors back home in Britain - what we would call the doctors at the metropolis or at the center, whereas these in the colonies these doctors were deemed to be at the periphery. There is always this center-periphery tension or metropolis-periphery tension. Those in the metropolis - at the center, the doctors or scientists or others, they had the tendency to look down very patronizingly on their own here - we are talking about Englishmen only - Englishmen there in the metropolis and Englishmen here at the periphery. There was a tendency of men in the metropolis looking down very patronizingly upon the Englishmen here - sometimes very sympathetic to the very difficult conditions in which they were working, and all that. There was naturally a complex, and an urge, among those in the periphery, to assert themselves whenever an occasion arose. This was one such occasion where they touted this idea of disease in India is not the same as disease in Britain and we being here, we know better - the theories that we come with are better fit to explain the kinds of symptoms and the way the disease unfolds itself where we are. That is something also we should keep in mind - generally, this is an attitude which will occur in other contexts too. Therefore they downplayed the safe water-supply aspect and insisted more, as usual, on general sanitation, removal of filth, addressing miasmas and other such things. They also made correlations - correlations between cholera and regular Hindu festivals, pilgrimages, gatherings and the particular routes through which some of these pilgrimages happened. In a way then this meant that it was acknowledged that humans had some role in it - but not clear about what exactly was the connection. Human connection - but contagionism should never come to the forefront because as I have been saying in a couple of other lectures, they held anti-contagionism very sacred and Cunningham who was the Government of India Sanitary Commissioner, was a great

advocate of it and he steadfastly defended to the very end. He believed in local causes of cholera outbreaks though human beings were involved. We already know the reason for this, why he was not only advocating this but also suppressing contagionist views or anyone who was opposed to anti-contagionist views. The reason for that was the fear of interfering too much for he felt that if he made too much of human connection and contagion connection, then there would be need for too much of interference and control of pilgrimages and fairs - that was the reason why he steadfastly espoused (ant-contagionist view) - at least one of the main reasons. Even when this connection - human connection - was made - as it was very visible there was some connection between these pilgrimage activities and Hindu festivals and cholera - he had an explanation. He attributed these correlations to the fatigue level of the people. It was not that they carried contagion. But there were other factors there - the excessive fatigue and the privation, the separation from family which made them more vulnerable. It's not that they were responsible in any direct way as carrying some kind of a contagion and therefore he was against any intrusive measures to control fairs and pilgrimages.

Famine was also presented as one of the crucial factors in the spread of the disease because famine had its own attributes which could be correlated to this - factors like malnourishment which made them physically vulnerable. Also famine affected people who were kept in relief camps due to their crowded presence in such camps with the unsanitary conditions. These are the kinds of connections that were made between famine and cholera. Another important, significant development in this fight against cholera was the coming of the Cholera Commission. Someone as big and as famous as Robert Koch himself came as part of the Cholera Commission. Robert Koch as you know, was very instrumental in what would become the new aetiology at that time – for all times to come - which is the germ theory of disease to which we subscribe to in a big way now. He was one of those who were instrumental (in the coming of) the germ theory of disease. That's one thing we have to constantly keep in mind - whether we are discussing about cholera or malaria or smallpox. Before the 1880s there was no idea of the role of germs and pathogens - that is something we should constantly keep in mind and it's generally a point in history we should keep in mind. We should not insert into the past some of the insights we have now, with the benefit of hindsight - the past should be seen in its own light and without any kind of anachronism - that is inserting into it aspects of the present – so this is a good example. When we think of smallpox at that time say in 1810 or 1830 we should totally clear out of our mind all the ideas about germs and how they are transmitted and other such things. That will help us better understand the challenges.

We are now on our way to the germ theory. Koch himself identified the coma basillus which caused the cholera. He identified it in 1884 and he located the traces of them in a reservoir/tank right at the heart of the British Empire in India, right in Calcutta - its

capital city. But all said and done, the local establishment was too entrenched in its own theories which were by and large related to the environmental paradigm and it was reluctant to accept. But as I said, cholera was becoming a huge challenge especially to white lives and whatever theories that are in favour, whatever theories are accepted or not accepted, some action had to be initiated on the ground given the seriousness of the challenges posed. And of course special interest was manifested in setting up of several inquiries and commissions as part of moving forward. While the meteorological - that is weather-related, environmental-paradigm related - theories, and bias towards those theories continued, there was some gradual seeping in of the contagionist perspective. Apart from the usual sanitary measures like sanitary cordons, there were also new voices which advocated the regulation of water supply and restriction of movement of people. As we just saw, Robert Koch had identified contaminated water as a problem. There was some insistence on supplying pure - reasonably purified – water. Even with regard to pilgrims, there were plans to keep them in special camps where they had proper water supply - rather than they drinking from some wayside stream or lake or pond. These camps had the pure water supply within places where they were properly accommodated (there were) not only accommodation but also hospitals along their path - all this means that now, they are being seen as carriers of contagions and advisable to keep them away from the main areas, towns by providing these things as much as possible along their usual routes - the accommodation and the pure water supply or reasonably pure water supply and hospitals along those routes - they prevented from entering the main towns in search of accommodation on their pilgrimage routes. But, as usual, cost /finance will be one of the factors which whould stand on the way. All of these involved lot of costs - accommodation, provision of pure water and hospitals and other such things - many different pilgrimage routes, many different pilgrimage centers, and the number of people doing them - considering all that it was a costly affair. But the sanitary measures did provide some results - this we saw even when we were talking about sanitary measures generally - now we are talking about cholera in particular - the troop mortality - because it all started with concern about troop mortality and that particularly saw some good results - that domain saw some good results. There was a considerable reduction of mortality through relocation troops or barracks to healthier locations and through provision of sanitary apparatus. That way, we can see an interesting point here : how sometimes even the wrong theories can lead to right or very useful measures. They did not believe in in the particular aetiology proposed by Robert Koch. But now we know for instance, (talking about the correlation between sanitary measures and how it reduced cholera now we know), in retrospect - that very causative germ is spread through faeces. And that faeces, when it gets mixed with water, then that's one of the ways in which it's transmitted. Now without knowing that connection they were concentrating on it: a part of, one of the aspect of, sanitary measures would, as you can imagine, involve the proper disposal of faeces. Such sanitary measures

though it was done for other reasons - generally coming under the environmental paradigm - just trying to create the keep the atmosphere clean so that miasmas are minimized – that was the theory and because of that they did introduce some kinds of measures which resulted in the coming down of cholera deaths. This can happen in life also sometimes - you may not understand or we may have a wrong understanding of the problem but still we can end up doing the right things.

Now moving on to plague, plague again as a long global history and in the Indian context, in the Indian colonial context it particularly shot up with the deadly outbreak of the disease in Bombay in 1896-97. More than 400 deaths were recorded India-wide by the end of the centuries in about three-four years and again another 8 million by the time the world war started. Another important aspect of plague, like cholera, was the danger that it had in spreading to other countries - we'll have a separate lecture on epidemics and the international dimensions and challenges and compulsions. Apart from whatever was happening to the Indians and to the British lives there was also this danger of spread and the related thread of the international community of imposing embargo against the ships from Indian ports - especially at the International Sanitary Conference at Venice in February 1897. Again will be discussing this in detail in that lecture on the international dimensions. One point we have to notice is that especially now in the current context we are hearing a lot about WHO - the World Health Organization and the international collaboration, cooperation, concern about health - all these have their beginnings in the later half of the 19th century - even health became a international issue. And one such manifestation of it was this periodic conferences - sanitary conferences in this case. In such for a, there was this constant raking up of the dangers from India through cholera or plague. Therefore earlier as we saw the danger to British lives or troops within India was all one of main propelling factors - now there's a new dimension - danger to their own trade international trade - there is also the international pressure. All of these result in the introduction of the Epidemic Diseases Act in 1897. This authorized the compulsory hospitalization of plague suspects - because plague was something which could very easily spread and so much so that even the households or the buildings had to be destroyed. This act provided for that and also for the examination of people/ passengers in trains and banning of fares and pilgrimages where there was increased livelihood of the spread. Plague Committees were formed to implement some of these and the even Municipal Acts were changed in 1888 to permit disinfection of - if not destroying of - the whole household. But it is compulsorily going and disinfecting infected buildings, destruction of suspected goods, not only buildings but suspected goods and the compulsory removal of persons to hospitals and also isolation of infected houses and their inhabitants as long as it was considered necessary. The Municipal Plague committees were sometimes replaced by bodies which were headed by military

men with hardly any medical representative or just one representative. This also shows the kind of direction that these measures took - more militaristic disciplining, repressive and which will have its own repercussions as we will see later. They had the power, these bodies had the power to segregate people in special camps and again, there were cultural factors. People couldn't be just like that put together - and even in isolation - they couldn't be put together. There were these issues of caste and religion according to which they had to be divided - again the kind of allowance to local sensitivities.

These bodies were empowered to inspect and detain railway passengers that's not only check them but they could be detained from further travel or from going home if they were suspected of having plague. One of the symptoms of plague was kind of a swelling in the groins and the armpit. People in public places had their armpits checked and this was particularly sensitive when it came to women. Unlike the kinds of screens, protections we have for instance in the airport now when ladies are checked ..such things were not there in the railway station. They are just like that .. in the open their armpits were examined - which again had local cultural repercussions. The international community which was calling for some kind of measures for which it was putting pressure were assuaged by these measures. But among the local populace, as you would have guessed by now, by the kinds of things I was saying you would have guessed, that there were a lot of negative feelings and discontent which provoked widespread protests and resistance - a lot of social unrest and thousands of people feared and actually left their places - something which we saw also during the COVID pandemic especially workers rushing to railway stations to catch the earliest train to go back home because of panic that was created. Here the reason was the fear of compulsory hospitalization or compulsory cordoning off. Also apart from the provisions (of the Act), the way that they were implemented was a problem - because many of these plague offices were in authoritarian frame of mind – comparatively, relatively young officers who favored compulsory segregation implemented very strictly rather than expecting voluntary cooperation from the people. And in the IMS too, the dominant opinion was that the only practical method of preventing and controlling plague was to evacuate the houses or other buildings in which plague appeared. But slowly for various reasons, it was realized that segregation, evacuation and disinfection was impractical and ineffective. It was also seen as something very difficult because of the indifference, carelessness and non-cooperation of people who would particularly not listen to any advice and that's something I think which many of us would have also seen during the COVID pandemic - people are itching to come out while the government kept pleading not to come out, not to go on the streets - that is even with the case of educated and reasonably well off people. Here you find the indifference attributed to especially the poor people who would not respect advices. The railway companies also were concerned about unrest at stations for the kinds of things I mentioned - the way the people were checked. They were really already worried about unrest and disruption of services - both passenger and

freight services. This forced the plague committee to have some kind of reconsideration of its approach. And also the Indian Plague Commission was appointed in 1898 and based on its recommendations, the Government of India liberalized some of its plague policies. In the place of detention camps, surveillance system was introduced - people being watched and not immediately rushed to detention camps. And now with the advance of science and understanding of the disease and its aetiology - now it was clearly understood that it was caused by a flea which was carried by a rat - one could now focus more on them - the flea and the rat - rather than evacuating people or houses and areas wholesale, they could have a very targeted approach. And of course, in this case also as in smallpox, inoculation was a very viable option. The pioneer here was Hafffkine – who was already in India. In fact, he developed the plague vaccine within India. This is something we have to note especially again in the context of COVID when we are talking about production - large-scale production of vaccine within India itself. Here it's even one step further - the vaccine itself was actually invented here unlike the COVID case where the particular vaccine was invented elsewhere - in Oxford - and was produced in a huge quantity here. In terms of center-periphery relationship this is of considerable significance - here in the **periphery** the vaccine was **invented** and was also produced. Therefore given that this was now available, this facility was available, inoculation was proactively encouraged both at the level of the central government and the provincial and local governments. There was a call for universal vaccination - vaccinating everyone through various propaganda like reaching out to the people through vernacular language newspapers. Also government even came forward to provide subsistence allowance for three days - because as all of us know vaccination could have some effect for two three days which might prevent us from doing our normal duty - for that there was a subsistence allowance for three days - all that, as early as that period and there were also other goodies announced for people who went for vaccinations. They would be exempted (people who had the vaccine in the previous six months would be exempted) from any kind of segregation unless they're newly infected. Therefore inoculation was quickly adopted not only because of the government proactive propaganda but also because of the efficacy that was very evident. Therefore there was even more production of anti-plague vaccines and interestingly not only for usage here in India but also it was being made for use in other British possessions elsewhere. And this is also something which we can correlate to what we have seen recently - how India has been a supplier - vaccine supplier - for considerable part of the world these are some of the connections. In fact we will have a separate lecture - a tutorial in fact - on some of the parallels between some of these epidemics and the kinds of things which we ourselves witnessed in our own lifetime during a huge pandemic – Covid. That is for another day. We'll close here today in this lecture. Thank you