

# The History of Epidemic Disease in India with Special Reference to COVID-19 and the Lesson We can learn from it.

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**Abstract:** An epidemic can affect everyone regardless to the religion, region or country. It revealed that health should be the first priority of a State on which they live. An epidemic always give us a lesson to learn but human being never learn. Its right time to learn, otherwise human civilization may come to an end. After analysis the history of epidemic with special reference to COVID-19 (Corona virus disease December 2019) it revealed that human being are the main threat for human civilization. An Epidemic showed that no country is fully proficient in area of medical science. Therefore, we should share our knowledge regarding any epidemic with other because their experiences may help other to face the challenge. Most of the epidemic occurred due to food habit, life style, unhygienic living condition and lack of awareness. So we should maintain proper food habit, daily hygiene and update ourself with contemporary knowledge. We should stay integrated and united in difficult situation. This phenomenon of COVID-19 provide us concert that human being should save ecosystem and maintain food chain. In this paper researcher have explore the history of Epidemic diseases in India with special reference to COVID-19. Keeping the objective in the mind present study followed exploratory research method (a qualitative research approach), for this purpose researcher collected data from Government and Non-Governmental data base. Result and finding shows that human intervention is the main cause for all the Epidemic diseases.

**Key Words:** Epidemic, COVID-19 disease, Global Cooperation, Ecosystem, Food Chain, Contemporary knowledge.

## 1. INTRODUCTION:

“Health is wealth” this significant statement describe the important of health. At present scenario most of the country in the world are under lockdown due to the pandemic called COVID-19 (Corona virus disease December 2019). Every day thousands of people are dying for this deadlier disease. Human being became helpless and social gathering became crime.

History provide us the knowledge about past events. It also let us to know the past of human civilization. Past events revealed that if we take prevention then the situation might be differ. So in this regards one can say that prevention is necessary and prevention is better than cure. Although India have witnessed widespread illnesses and virus outbreaks, including the SARS (severe acute respiratory syndrome) outbreak in between 2002-2004 and MERS (Middle-east respiratory syndrome) outbreak. Now COVID-19 that has reached almost every part of the country. This virus started from Wuhan city of china and spread almost all the country around the world.

## 2. OPERATIONAL DEFINITION OF TERN USED:

- **Epidemic:** - Epidemics is an illness occur in a community or region, specific health related behaviour, or other health-related events clearly in excess of normal expectancy.
- **COVID-19 Disease:** - COVID-19(Corona virus disease December 2019) is a respiratory organ disease, this virus effects respiratory organ. This disease cause by virus called SARS COV-2 (Severe acute respiratory syndrome corona virus disease vol-2) which can spreads person to person contact. Infected person can show following characteristics like fever, dry cough, tiredness, sore throat.
- **Global Cooperation:** - Global Cooperation means process of worldwide groups of organisms working together for common, mutual or some underlying benefit.
- **Ecosystem:** - Ecosystem is a geographical area where animal, plant, organism, weather and landscape work together in a form of bubble life. Ecosystem contains biotic and abiotic elements.
- **Food Chain:** - Food chain is network that makes food web which is starting from producer and end with decomposer.
- **Contemporary knowledge:** - Contemporary knowledge means knowledge about recent time or phenomenon.

### 3. PURPOSE OF THIS PAPER:

We human being learning from each other's experience and knowledge. So in this context it is very relevant to understand the history of the epidemic diseases in India. History of epidemic disease may provide us a sense of knowledge and awareness about the epidemic. This will help human to tackle with the situation and help to be ready physically and mentally. Because human being can sustain and adapt any situation if they have proper knowledge regarding those. In this paper researcher took all the thing into consideration. So, this paper will help to understand why this kind of epidemic occurs? What measure we need to take for overcoming from this kind of situations? How can we promote awareness and help the people to gain knowledge? Keeping in the view of above point the researcher find it justified to carry out a research on "The history of Epidemic disease in India with special reference to COVID-19 and the lesson we can learn from it". There are many work done in the past but there are limited work in this particular area especially in History of Epidemic disease in India in context to COVID-19.

### 4. OBJECTIVES OF THE RESEARCH PAPER:

The current research paper is undertaken with the following objectives:

- To understand the history of epidemic disease in India.
- To learn lesson from epidemic which occur in past.

### 5. LITERATURE REVIEW:

**Ball and Neal** (2004) proposed a stochastic model for the spread of an epidemic among a population, in which a typical infected individual makes global contacts, with individuals chosen independently and uniformly from the whole population, and local contacts, with individuals chosen independently according to the contact distribution at the points of independent Poisson processes throughout an infectious period that follows an arbitrary but specified distribution. In the study they derived a sufficient condition for the number of individuals who survive the epidemic to converge weakly to a Poisson distribution.

**Kendall's** (1956) paper in which he solved the deterministic differential equations of **Kermack** and **McKendrick**, and in **Whittle's** (1955) paper in which a stochastic threshold theorem was proposed. This result proposed conditions which allowed the calculation of the probability that an epidemic of specific intensity may take place. The theory of chain-binomial models was further enriched by the efforts of **Greenwood** (1946, 1949), **Abbey** (1952), and **Bailey** (1953, 1957).

**Béland et al.** (2020c) discuss heterogeneous effects across occupations and workers in the US. They show that occupations that have a higher share of workers working remotely were less affected by COVID-19. On the other hand, occupations with relatively more workers working in proximity to others were more affected. They also find that occupations classified as 'more exposed to disease' are less affected. This finding is possibly due to the number of essential workers in these occupations. Based on these results, it can be reasonably expected that workers might change (or students might select different) occupations in the short or medium-term.

### 6. METHODOLOGY RESEARCH:

**Method:** - Exploratory research method has been followed for this research paper. After studying the History of Epidemic researcher explained the different aspect of epidemic in the India which occurred previously.

**Data Collection:** - Data are collected from various Governmental and Non-Governmental Sources which were available in the data base.

**Data Analysis:** - Data are analyse and explain in systematic and logical manner for explaining every Phenomenon.

### 7. RESULT AND DISCUSSION:

#### OBJECTIVE 1: TO UNDERSTAND THE HISTORY OF EPIDEMIC DISEASES IN INDIA.

For understanding the history we need to study the history of epidemic disease in India. The history of epidemic are following:

- **Encephalitis Lethargica:-** Encephalitis lethargica, also known as 'Sleeping Sickness' was a type of epidemic encephalitis that spread around the Globe in between 1915 and 1926. This disease attract on brain and effected person shows the following symptoms like increase in languor, apathy, drowsiness and lethargy. This epidemic had spread across Europe, United State, Canada, Central America and India.
- **Spanish Flu:** - In around 1918-1919 a new virus called Spanish flu started showing devastation around the globe before the most of the country had recovered from the spread of Encephalitis lethargica. Spanish flu cause by the H1N1 influenza virus. The name of virus called Spanish flu because Spain was neutral for providing the

information regarding the Epidemic. This virus had largely peaked due to World War I. Because of World War I mass level of troops mobilize in various parts of the world, those travellers helped in spread of this infectious disease. Approximately 50 million people died due to this epidemic.

- **Cholera Epidemic:** - Cholera outbreak occur in 7 different phase. *Vibrio cholerae* is one type of bacteria which is the cause for this disease. Affected person suffer from diarrhoea, dehydration and seizures. This disease usually spreads through water. The first cholera Epidemic outbreak occur in 1817 and first case was reported on 23<sup>rd</sup> August, 1817. The overall estimating mortality data of India is not available because India started data collection much later. Heavy rain help in spreading this disease very quickly and become an Epidemic. Poor villager and slum dweller were affected the most in this Epidemic due to their unhealthy life style.
- **Smallpox Epidemic:** - Smallpox is one of the Epidemic which occur in past and this Epidemic was eradicated in 1980 according to WHO official data. This disease effect on skin. Data suggest that over 15000 people died of this Epidemic some of the survived people went through difficulties in physical condition and most of them ended up with disfigurement and blindness. In March 1977 India became free for smallpox.
- **Plague in Surat:** - The plague Epidemic hit the Surat region and first reported in September, 1994. As always misinformation and rumours led to people Panic. Initially this disease was difficult to handle due to its high fatality rate. In India approximately 1200 people were found positive and this Epidemic lasted for two week. It was also very difficult for the doctor but they work on it and took necessary action to stop its spread.
- **SARS Epidemic:** SARS (severe acute respiratory Syndrome) the name itself suggests that this disease affect respiratory organ. Initially this Epidemic started from Guangdong area of China. SARS outbreak started from April 2003 and quickly spread across the world. This SARS virus was similar as the present COVID-19 virus. This virus spread through person-to-person contact and through coughing and sneezing by infected people.
- **Dengue and Chikungunya Outbreak:** - Both Dengue and Chikungunya was cause in 2006 by Mosquito bite. Several states in India reported simultaneous outbreaks of dengue and Chikungunya virus. This Epidemic occur due to unclear water body on our surrounding.
- **Gujarat Jaundice Outbreak:** - In February, 2009 Modasa town of Gujarat witness the Jaundice outbreak. This disease cause by Hepatitis E virus. This virus affects the liver. The disease was caused due to transmission of infected blood and other body fluids. This was long lasting Epidemic and it was control by taking the proper medical action.
- **Birds Flu Outbreak:** - Avian Influenza (Bird flu) is a highly infectious and severe respiratory disease occur in birds which is caused by the virus called H5N1 influenza virus. This virus generally transmit from bird to bird. In some cases it can infect human being as well. India was declared free from avian influenza in July 2015 after completion of disinfection and post operation surveillance. But still new strain have been found occasionally specially in winter session. The H5N8 strain outbreaks were reported in 2010, in Asia, and was first found in domestic ducks in China. In the last week of December, 2020 and starting of New Year 2021 Birds flu outbreak had been reported. Because of that a large number of migratory birds started dying in the Pong Dam Wildlife Sanctuary, Himachal Pradesh. This was followed by bird deaths in Rajasthan. More than 55 peafowls found dead in Nagaur district, whereas 100+ crows died in Jodhpur district.
- **Odisha Jaundice Outbreak:** - This outbreak began in November 2014 in Kantaibai, remote village in Odisha. Several area of Odisha were witnessed an outbreak of jaundice. District level investigation confirm that this outbreak was cause by the Hepatitis E virus. Poor people affected the most due to their unclean drinking water and sanitation facility. After cleaning the water and sanitation properly the situation came into control.
- **Swine Flu Outbreak:** - This outbreak began in November 2014 in Kantaibai, remote village in Odisha. Several area of Odisha were witnessed an outbreak of jaundice. District level investigation confirm that this outbreak was cause by the Hepatitis E virus. Poor people affected the most due to their unclean drinking water and sanitation facility. After cleaning the water and sanitation properly the situation came into control.
- **Nipah Virus Outbreak:** - Nipah virus first noted in late 1990 in Singapore and Malaysia. The host of this disease was Fruit bat. The Nipah virus breakdown began in May, 2018 in India. The spread of this outbreak remained largely within the state of Kerala, due to efforts by the local government and various community leaders who worked collaboratively to prevent its spread even inside the state.
- **COVID 19 Outbreak:** - The virus responsible for this disease is Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). In the month of November and December this virus showing it presence and it had first reported in Wuhan city of China. On February 11<sup>th</sup>, 2020 WHO announced the name of this new disease as COVID-19. This Virus can be Transmit from Human to Human Very quickly through their droplet and cough. Thousands of people are dying every day for this disease. Most common symptoms of this disease are Fever, Dry Cough, and Tiredness. Serious symptoms are difficulty in breathing or shortness of breathing, Chest Pain or Pressure, Loss of Speech or Movement.

## OBJECTIVE 2: TO LEARN LESSON FROM EPIDEMIC WHICH OCCUR IN PAST.

We learn as long as we live. So, learning is never ending process. We learn through experience and collaboration. Below mention are the learning lesson we can learn from the pass occurrence and present condition-

- **Stay Healthy and Hygiene:** - We should not compromise with our health, it should be kept as our first priority. We should learn from Epidemic and should take proper care of our daily health like sanitation and Hygiene. Immunity play a vital role in overall health and help in fighting with diseases. So we should take care of our health and immune system by taking healthy foods. We should keep our mind alert that most of the Epidemic occurred due to unhygienic condition of our surrounding.
- **Drink Potable Water:** - Water is very essential element for our body. History of Epidemic revealed that number of the epidemic diseases were water born disease. Unhealthy water is one of the reason for many diseases. As we know for maintaining proper Hygiene one's require sufficient water. But usable water are very limited. At the same time providing potable water is one of the great challenge for every state. Unhealthy drinking water brings lots of deadlier diseases in human body as well as in animal. But reality is that most of the people are not receiving proper clean drinking water as result lots of diseases are born which have potential of even ending human civilization. Authorities should take this into consideration. '**Desalination process**' can be implemented to full filling of Potable Water Crisis. 'Desalination' is the process of removing salt from seawater.
- **Be Self-Reliant:** COVID-19 Epidemic situation made us learn that human should to be self-reliant as per our requirements and concern. The pandemic give us a lesson to learn that we should accept the concept of '**Swadesi**'. We should manufactured the goods and consumed the goods of own country. The concept of '**Atmanirvar Bharat**' can be best initiation. During Corona virus outbreak supply chain stopped, in most of the countries import and export cycle got affected. For the reason some country suffered to provide essential goods to their country man. So we should to be self-reliant and self-sufficient.
- **We should save our Wealth for Future:** - Defining the wealth one can explain that Wealth is how many day one can maintain his/her regular life style without any source of income. Economically we learn that we should save some sort of our wealth for future. Because always time are not same. The situation changes according to time. During epidemic we see number of people suffers to manage their food due to loss of their income source. So we should prepare our self for future situation and develop a strong mind to face those situation.
- **Requirement of Global Cooperation:** - Information exchange plays a vital role for any communication process. If proper information exchanging mechanism were developed among the countries then diseases would have fails to become pandemic. The pandemic give us a lesson to learn that we should exchange information among each other. If the china would have properly inform other countries about COVID- 19 disease then the scenario might have been different. We should exchange information regarding public health and related global issues. If we share our experiences to each other, than experience of one country would help other to tackle the situation that other country already faced.
- **Strengthening of Medical Science:** Epidemic or pandemic revealed the weakness or Strength of our medical science. We live in 21st century but still we are not totally capable and competent in the field of medical science. We see most of the powerful country has suffer to control the situation. It reveal that none of the country are totally equip in medical science. It's also true that no organization or state are interested in providing fund for development of new medicine. Even private organization should also come up and contribute on this regards. Government should allocate more money for developing medical facility and medicine for deadlier diseases.
- **Impose the Restriction on Wet Markets:** Wet market are those place where the area remain wet due to flow of animal's blood and water. Usually water is use for washing the blood from meat. This place can bring bacterial and viral diseases. So we should understand that wet market could become reservoir for many diseases. In 2003 SARS (Severe acute respiratory syndrome) and MERS (Middle-east respiratory syndrome) outbreak point out the reason of this disease is unhealthy condition of wet market. So government should put restriction on wet marker and provide guidelines for managing the same.
- **Implementation of One Health Approach** – One health approach should be implemented. Because Zoonotic disease became common phenomenon in 21<sup>st</sup> Century. Zoonotic diseases can be controlled through a coordinated approach from veterinary and health departments. This approach will help us in understanding and controlling Zoonotic Diseases.
- **Cook Food Properly before Eating:** - We should not take raw food. Raw food can cause bacterial or viral infection in the Human body. If we take proper cooked food we can save our self from deadlier disease. Because cooked meat (like chicken) kills the virus, it is able to infect human beings while handling the bird, or washing the raw meat.
- **Promoting Awareness Among the People:** - To deal with any condition we should develop a channel of awareness. Most of the disease outbreak were occur due to lack of awareness about the condition. Same with

COVID-19 people did not follow the guidelines. As they desire to continue their daily life as usual. We should be aware of our people about the situation and provide knowledge to deal with it.

- **Minimize the Use of Anti-Biotic:-** Anti-biotic is not the solution of diseases. Anti-biotic can bring Pandemic in upcoming time. We should minimize the use of Anti-biotic in our daily life. As we see now a day the use of Anti-biotic is very common. Slowly anti-biotic make resistant in human body which is not good sign for our overall health of individual. The list of anti-biotic is limited. Meanwhile if deadlier disease attract in human body then it might be very difficult for individual to survive.
- **We should Control Pollution Level:** Air pollution become a headache for every country. Air pollution directly affects our respiratory organ as well as our overall health. Due to industrialization and rapid increase of private transport which promote this process. Recent data clarified that due to lockdown the pollution level is getting low and air is getting cleaner. So we should make it clear that human being is the main reason for environmental degradation. World is beautiful place to live. We should take care of it.
- **We should Save Our Ecosystem:** - Ecosystem and food chain is the important part of our Environment. If ecosystem and food chain is imbalance then human civilization may get destroy. But history revealed that we always damage the ecosystem by our different activities. China's 4 pests' campaign by Mao Zedong is one of the example. The four pests were eliminated Rats, Flies, Mosquitoes, and Sparrows that leads to imbalance in the Eco-system. Meanwhile food chain got disturb. This event created shortage of foods and number of people stayed without food. For result of that huge number of people died.
- **Measure Take for Migrant Worker:** After analysing the history of epidemic it is clear that daily labours are suffering the most in Epidemic. In COVID-19 Pandemic situation managing the migrant workers became more difficult for government. So Government should develop mechanism to dealing with this problem. To manage the migrant worker government should arrange work for them in their nearby places and implement the scheme which is frame to manage working class.

## 8. FINDINGS:

- Eco-system and food chain has play a vital role in human civilization. Without proper maintenance it will get collapse.
- We need to maintain proper hygiene and should need to take healthy food.
- Human intervention creates deadlier diseases and helps in spreading those diseases.
- Environmental change is a natural process but human with their activities it is changing fast.
- Zoonotic disease became a common phenomenon. Recently we notice that transferring of Zoonotic disease among human being is very high because of their life style and food habit.
- Research show that develop country are spreading disease for their profit.
- Research show that we create an epidemic to become pandemic by our own activity.
- Research also show that nature give us so many thing to survive and adjust in any difficult situation. We can adjust and adapt any situation by our own willingness.

## 9. RECOMMENDATIONS:

- Environmental education should be included as an integral part in education system.
- We should emphasis on achieving sustainable development goal which is set by United Nation.
- We should develop proper mechanism to deal with zoonotic disease.
- Awareness campaign should be organize in large scale.
- Vaccination programme should be improve by providing vaccine to everyone.
- Co-operation mechanism should be improve in national and international level especially in the field of public health.
- Increase employment rate by implementing the Government Scheme properly and arrange work for everyone.

## 10. CONCLUSION:

After analysing the history of Epidemic one can say that health should be the first priority of an individual/Country health plays a major role in achieving our goals and people can sustain for long too. All the epidemic mention in the present paper lets us know that diseases make human suffer most. Epidemic took lot many times till yet and each was different from other the whole responsibility of such diseases are human themself. Human have made many mistakes during past but now they should learn from those mistakes and make some corrections in their life style, If human wants to live peacefully than they themself have to play an active role they should follow the guidelines

provided by Government, both nationally and internationally also human should work on global cooperation and build a positive relationship among all states and build peace and harmony in the world.

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