HISTORY OF EPIDEMICS: WORLD AND INDIA

An **epidemic** is the rapid spread of disease to a large number of people in a given population within a short period of time. It is often referred as an outbreak of a disease that occurs over a wide geographic area and affects an exceptionally high proportion of the population. An epidemic may be restricted to one location; however, if it spreads to other countries or continents and affects a substantial number of people, it may be termed a pandemic.

List of some epidemics that shocked the world

The Black Death

Responsible for the death of one-third of the world population, this second large outbreak of the bubonic plague possibly started in Asia and moved westwards. Dead bodies became so prevalent that many remained rotting on the ground and created a constant stench in cities. England and France were so incapacitated by the plague that the countries called a truce to their war.

The Great Plague of London

The bubonic plague led to the deaths of 20 percent of London's population. As human death tolls mounted and mass graves appeared, hundreds of thousands of cats and dogs were slaughtered as the possible cause and the disease spread through ports along the Thames. The worst of the outbreak tapered off in the fall of 1666.The first of seven pandemics over the next 150 years, this wave of the small intestine infection originated in Russia, where one million people died. Spreading through faeces-infected water and food, the bacterium was passed along to British soldiers who brought it to India where millions more died. The reach of the British Empire and its navy spread cholera to Spain, Africa, Indonesia, China, Japan, Italy, Germany and America, where it killed 150,000 people. A vaccine was created in 1885, but pandemics continued.

The Third Plague Pandemic

Starting in China and moving to India and Hong Kong, the bubonic plague claimed 15 million victims. Initially spread by fleas during a mining boom in Yunnan, it resulted in substantial casualties

Fiji Measles Pandemic

After Fiji ceded to the British Empire, a royal party visited Australia. Arriving during a measles outbreak, the royal party brought the disease back to their island, and it was spread further by the tribal heads and police who met with them upon their return.

Spreading quickly, the island was littered with corpses that were scavenged by wild animals, and entire villagers died and were burned down, sometimes with the sick trapped inside the fires. One-third of Fiji's population, a total of 40,000 people, died.

Russian Flu

The first significant flu pandemic started in Siberia and Kazakhstan in1889, travelled to Moscow, and made its way into Finland and then Poland, where it moved into the rest of Europe. By the following year, it had crossed the ocean into North America and Africa. By the end of 1890, 360,000 had died. The **1889–1890 flu pandemic**, also known as the "**Asiatic flu**"or "**Russian flu**", was a pandemic that killed about 1 million people worldwide, out of a population of about 1.5 billion. It was the last great pandemic of the 19th century, and is among the deadliest pandemics in history.

It is not known for certain what agent was responsible for the pandemic. Since the 1950s it has been conjectured to be Influenza A virus subtype H2N2. A 2005 genomic virological study says that "it is tempting to speculate" that the virus might not have been an influenza virus, but human coronavirus OC43. Danish researchers reached a similar conclusion in 2020. They described the symptoms as very like those of COVID-19.

Spanish Flu

The avian-borne flu that resulted in 50 million deaths worldwide, this was first observed in Europe, the United States and parts of Asia before swiftly spreading around the world. At the time, there were no effective drugs or vaccines to treat this killer flu strain. Wire service reports of a flu outbreak in Madrid in the spring of 1918 led to the pandemic being called the "Spanish flu". By October, hundreds of thousands of Americans died and body storage scarcity hit crisis level. But the flu threat disappeared in the summer of 1919 when most of the infected had either developed immunities or died.

Asian flu

Starting in Hong Kong and spreading throughout China and then into the United States, the Asian flu became widespread in England where, over six months, 14,000 people died. A second wave followed in early 1958, causing an estimated total of about 1.1 million deaths globally, with 116,000 deaths in the United States alone. A vaccine was developed, effectively containing the pandemic.

HIV/AIDS

First identified in 198, AIDS destroys a person's immune system, resulting in eventual death by diseases that the body would usually fight off. Those infected by the HIV virus encounter fever, headache, and enlarged lymph nodes upon infection. When symptoms subside, carriers become highly infectious through blood and genital fluid, and the disease destroys t-cells.AIDS was first observed in American gay community but is believed to have developed from a chimpanzee

virus from West Africa in the 1920s. The disease, which spreads through certain body fluids, moved to Haiti in the 1960s, and then to New York and San Francisco in the 1970s. Treatments have been developed to slow the progress of the disease, but 35 million people worldwide have died of AIDS since its discovery, and a cure is yet to be found.

SARS

First identified in 2003 after several months of cases, Severe Acute Respiratory Syndrome is believed to have possibly started with bats, spread to cats and then to humans in China, followed by 26 other countries, infecting 8,096 people, with 774 deaths.

SARS is characterized by respiratory problems, dry cough, fever and head and body aches and is spread through respiratory droplets from coughs and sneezes.Quarantine efforts proved effective and by July, the virus was contained and hasn't reappeared since. China was criticized for trying to suppress information about the virus at the beginning of the outbreak. SARS was seen by global health professionals as a wake-up call to improve outbreak responses, and lessons from the pandemic were used to keep diseases like H1N1, Ebola and Zika under control.

Ebola virus

Ebola virus disease (EVD), formerly known as Ebola haemorrhagic fever, is a rare but severe, often fatal illness in humans. The virus is transmitted to people from wild animals and spreads in the human population through human-to-human transmission. The average EVD case fatality rate is around 50%. Case fatality rates have varied from 25% to 90% in past outbreaks.

The Ebola virus causes an acute, serious illness which is often fatal if untreated. EVD first appeared in 1976 in 2 simultaneous outbreaks, one in what is now Nzara, South Sudan, and the other in Yambuku, DRC. The latter occurred in a village near the Ebola River, from which the disease takes its name.

The 2014–2016 outbreak in West Africa was the largest Ebola outbreak since the virus was first discovered in 1976. The outbreak started in Guinea and then moved across land borders to Sierra Leone and Liberia. The current 2018-2019 outbreak in eastern DRC is highly complex, with insecurity adversely affecting public health response activities.

Zika virus

Zika virus disease is caused by a virus transmitted primarily by Aedes mosquitoes, which bite during the day. Symptoms are generally mild and include fever, rash, conjunctivitis, muscle and joint pain, malaise or headache. Symptoms typically last for 2–7 days. Most people with Zika virus infection do not develop symptoms.

An increased risk of neurologic complications is associated with Zika virus infection in adults and children, including Guillain-Barré syndrome, neuropathy and myelitis.

Zika virus is a mosquito-borne flavi-virus that was first identified in Uganda in 1947 in monkeys. It was later identified in humans in 1952 in Uganda and the United Republic of Tanzania.

Outbreaks of Zika virus disease have been recorded in Africa, the Americas, Asia and the Pacific. From the 1960s to 1980s, rare sporadic cases of human infections were found across Africa and Asia, typically accompanied by mild illness.

The first recorded outbreak of Zika virus disease was reported from the Island of Yap (Federated States of Micronesia) in 2007. This was followed by a large outbreak of Zika virus infection in French Polynesia in 2013 and other countries and territories in the Pacific. In March 2015, Brazil reported a large outbreak of rash illness, soon identified as Zika virus infection, and in July 2015, found to be associated with Guillain-Barré syndrome.

In October 2015, Brazil reported an association between Zika virus infection and microcephaly. Outbreaks and evidence of transmission soon appeared throughout the Americas, Africa, and other regions of the world. To date, a total of 86 countries and territories have reported evidence of mosquito-transmitted Zika infection.

COVID-19

COVID-19 is caused by a novel coronavirus—a new coronavirus strain that has not been previously found in people. Symptoms include respiratory problems, fever and cough, and can lead to pneumonia and death. Like SARS, it's spread through droplets from sneezes. Without a vaccine available, the virus spread beyond Chinese borders and by mid-March, it had spread globally to more than 163 countries. On February 11, the infection was officially christened COVID-19 by the W.H.O

MULTIPLECHOICE QUESTIONS

1. The earliest recorded pandemic – the Black Death- was speculated to be**……**

   a. Plague
   b. Rabie
   c. Leprosy
   d. None of the above

   Ans: A

2. Peri natal transmission is said to occur when a pathogen is transmitted from

   a. Non-human to human
   b. Infected to uninfected
   c. Mother to infant

d. All of the above

Ans. C

3. Creutzfeldt-Jakob disease (vCJD) can be contracted only if …….

a. Consume nerve tissues (brain and spine) of cattle infected with Mad cow disease
b. Consume shrimp infected with E.coli
c. Consume water tainted with E.coli
d. None of the above

Ans. A

4. If a disease jumps from a non-human animal to a human, then it is termed as

a. Zoonotic disease
b. Infectious disease
c. Congenital disease
d. Iatrogenic disease

Ans. A

5. *Nipah henipavirus* is a ……. borne virus

a. Water
b. Bat
c. Air
d. None of the above

Ans .B

6 **.**The bacterium Yersinia pestis causes ……..

a. Bubonic Plague
b. Rubella
c. Roseola
d. measles

Ans. A

7**.** How does Ebola spread from human to human?

a. Spreads through direct contact with blood and bodily fluids
b. Spreads through inhaling infected droplets
c. Spreads through contaminated water
d. None of the above

Ans: A

8. Lyme disease is transmitted to humans through

a. Touching an infected person
b. Kissing an infected person
c. Having sex with an infected person
d. None of the above

Ans .D

9. Zika virus was first reported/identified in……

a. Tanzania
b. Uganda
c. Zaire
d. Indonesia

Ans. B

10. The 1918 flu pandemic, also called the Spanish Flu was caused by

a. H1N1 influenza A virus
b. SARS coronavirus 2
c. Influenza C virus
d. Simian virus 5

Ans. A