

The New Normal: History and Impact of Pandemics

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ABSTRACT

Fear is one of the psychological emotions that humans adapt to a potentially threatening situation, but when this fear is not calibrated well to the situation, it can become maladaptive. For instance, in the present wave of pandemic, the panic over the year is excessive, there may have deteriorating effects on both the individuals and the society. At individual level, for example, mental health problems and social anxiety may be seen, and at the level of society panic shopping, xenophobia, decline in the economy may well be noted. Pandemics have been seen in the history in many eras. They have brought about enormous changes in the existing world through ages. This rapid narrative review summarizes various aspects of the many pandemics in the history.

KEYWORDS: New normal, Pandemics, History, Impact.

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INTRODUCTION

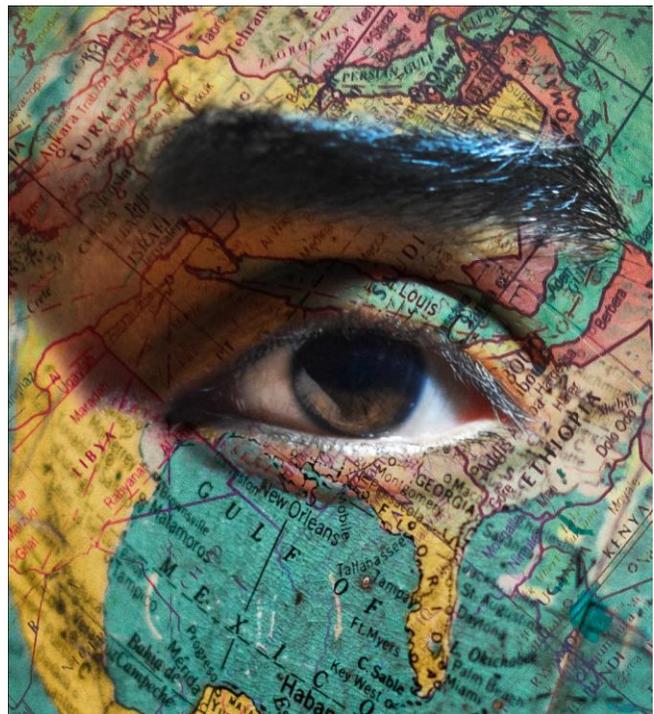
430B.C; Plague of Athens

Disease and health have played a significant role in human history and religion. In 430 B.C plague hit the Anthon's city. This plague was then shifted into other regions of the world during the war of Peloponnesian, killing around 75000 to 100,000 people or 25% of the total population.¹

Plague of Athens got a prominent position in history due to explanation by great historian Thucydides. Nowadays many humans are

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Present Through the Past. (Photograph by: Ali Hassan Rizvi)

frightened by many emerging bacteria, viruses like HIV, but the plague is still a cause of anxiety for human beings.^{2,3}

Thucydides explained that the plague was very contagious and entire families of infected persons were wiped out. From Thucydides, it was observed that plague sprouted out in Ethiopia and spread to Egypt and Libya and then to the territory of the King of Persia. The disease hit first at Anthon's port.^{3,4}

The epidemic broke out in May 430 B.C and another wave was seen in summer of 428 B.C and winter of 427-426 B.C. The disease spread from person to person through aerosols/respiratory transmission with a very high attack and spread rate. Common symptoms were high grade fever and diarrhea.⁴

165A.D; Antonina Plague

The Antonin plague was the first burst out in the era of Marcus Aurelius and continued under the time of Commodus. Two wars Parthians and the war of northeastern Italy were involved in the rapid spread of the disease. Presence of pustules and high-grade fever were typical symptoms. The impact of this plague was severe.⁴

Roman Empire got decline after it. Modification of religiousness and spirituality were found. Christianity and Mithraism were spread after that pandemic. Health, economic and social sectors faced severe crisis and recruitment of Barbarian troops in the Roman army was a major factor in the alteration of culture and politics of population. In a nutshell, the Roman Empire was greatly hit with Antonin plague and never recovered.⁵

250A.D; Cyprian Plague

Cyprians Plague broke out in Ethiopia on the event of Easter 250 C.E. it moved to Rome in next year and then east to Syria. This plague remains almost for 20 years with the death rate of 5000 people per day in Rome. Infected patients were suffered from bouts of diarrhoea, high fever, blindness, deafness, vomiting and paralysis of legs. Blood filled eyes and swollen throat were also observed. After taking the life of two emperors Claudius II in 270 C.E and Hostile in 251 C.E, political instability became a major problem. Military, economical and religious

changes were observed after this pandemic. Lack of leadership and depletion of soldiers of the Roman Empire participated in the weakening of Roman's ability to defend against external attacks. Many farmers were killed by this plague so; the collapse of agriculture production was also experienced. Many non-believers became christens after recovery due to the very active participation of Christians in caring for ill people. In the end, this outbreak helped the spread and strengthened Christianity.⁶

541A.D; Justinian Plague

In the era of Justinian, millions of people lost their lives due to the worst outbreak of plague. Its arrival took place from Constantinople in 542 CE and then continued to spread in the Mediterranean world within the next 225 years. It initially originated from Egypt and according to Wendy Orent, the disease transmitted from North of Alexandra towards East of Palestine. Storage of grains in large warehouses provided a great environment for the breeding of rats and this plague was initially transmitted by the black rat.⁷

In the "Secret History", commonly defined symptoms were a nightmare, swelling behind the ears, in the groins and armpits. Severe fever was also another important symptom. Many victims suffered from the coma within a few days after onset of disease. Some survived with symptoms for a few days before death and many people got death immediately after the appearance of symptoms.⁸

This dangerous condition was spread to the Byzantine Empire due to trade and war. This empire faced a great collapse of politics and economy during this pandemic. Great decrease in population not only affected the defense system but the administrative structure of the Empire began to disappear. Trade was severely disturbed and the agricultural sector was severely damaged.⁹

Even after the death of 25-50 million people wars against Goths and Vandals continued. Moreover, the Emperor carried on the construction of churches like Hagia Sophia and other public work.¹⁰

Leprosy (11th Century)

Leprosy is an old disease, and some studies show that it was present in India by 2000 CE. In the 11th

century, a severe pandemic of leprosy broke out. From medical writings, it is noted that the interpretation of this disease was difficult, but the type described illness was observed in Sushruta-Samhita from India that dates back to about 600 B.C.

Genetic analysis of leprosy bacillus showed that *Mycobacterium leprae* originated approximately 100,000 years ago in Southwestern Asia or Eastern Africa. From there it shifted westward and eastward. Its outbreak was severe between the 11th and 13th Century, especially along the trade routes. The most heartbreaking victim was "Baldwin IV", the Leper King" of Jerusalem.¹¹

The acute reaction of the disease showed that leprosy was highly contagious. It was also known as "living death" because victims were treated as if they had already died. Funeral services were held to announce living victims "dead" to the others. In Norway, it remained for the 20th century. Later on, Sulfone drugs were synthesized and now this compound is known as a standard medication for the treatment of this disease.¹²

1350; The Black Death

The Black Death was a destructive epidemic that struck Europe and Asia in the mid-1300 S. the plague showed up in Europe in October 1347, when 12 boats from the black sea moored at the Sicilian port of Messina.¹³ Individual assembled on the harbor met with an astonishing shock: most mariners on-board the boats were dead, those still alive were gravely sick and shrouded in dark heats up that over flowed blood and discharge.

The plague is thought to have begun in Asia more than 2000 years back and was likely spread by exchanging ships, however late examination has demonstrated the pathogen (*Yersinia pestis*) responsible for the black death may have existed in Europe as right on time as 3000 BC.¹³

Europeans were barely prepared for the shocking truth of the Black Death. "In people, the same," the Italian writer Giovanni Boccaccio expressed, "toward the start of the illness, certain swellings, either on the crotch or under the armpit... waxed to the bigness of a typical apple, others to the size of an egg, some more and some less, and these the profane named plague-bubbles".^{13,14}

Blood and discharge leaked out of these weird swellings, which were trailed by a large group of other unsavory indications—fever, chills, regurgitating, looseness of the bowels, awful a throbbing painfulness—and afterwards, quite expeditiously, demise.¹⁵

Poverty, malnutrition, hunger, disease along with war was a new normal after Black Death. Jews were murdered in large numbers due to propaganda about the spread of disease. Peasantry faced severe conditions even after pandemics. However, in the Eastern Europe due to the reduction of population, land became cheap and more food was grown by average peasants.¹⁶ Peasants of Eastern Europe got more wealth after Black Death. Things got changed for urban workers. They moved town to town according to wage offers and offers were very attractive due to loss of great population and availability of large lands. After the epidemic cycle, great loss clergy was observed. So, many new clergies were hired but with less knowledge. New colleges and universities were established to speed up the learning process.^{16,17}

Black Death highly effected Art and Literature. Many artists and writers became pessimists. During that era, many art pieces were painted in the dark to show the disease or death. Peire Lunel de Montech, writing about 1348 in the lyric style long out of fashion, composed the following sorrowful *sirventes* "Meravilharno·sDevo pas las gens" during the height of the plague in Toulouse: humans died by the hundreds, both day and night, and all were thrown in ditches and covered with earth. As soon as those ditches were filled, more were dug. So many people died that all believed it was the end of the world.¹⁸

1492; Columbian Exchange

In 1492 many diseases were transferred among Americans and Europeans in Columbian exchange. Native Americans were not exposed previously with the European diseases like chicken pox, small pox, mumps and measles. Similarly, Europeans were infected with syphilis and Tuberculosis from Americans. Studies showed that Malaria and Yellow fever also moved from Africa to America through Europe. Transfer of diseases not only occurred with humans but also with animals. Columbian exchange had put a great impact on the social, mental and

cultural life of both Americans and Europeans.¹⁹

Many people got various diseases first time in their life and became immune against it. In contrast, people with a weak immune response did not survive. But, the Europeans were affected most.^{19,20}

1665; Great Plague of London

That was another outbreak of bubonic plague caused by *Yersinia pestis* bacterium. Almost 100,000 people were killed by that dangerously harmful bacterium. Due to its very huge impacts on the life of London, it is considered as “great plague of London”. No doubt it was for a short duration (1665-1666) but the loss was great. Poor were largely affected population as the rich were able to leave the city and thus protected their families.²¹

The great plague of London was observed as highly dangerous for architecture. Almost all wooden houses were removed and the construction of new houses was shifted toward brick or stone houses. Designs and constructions of many buildings were changed and controlled. The rebuilding of London almost took ten years with the great improvement in science and Arts with the struggles of two important personalities Robert Hooke and King Charles II. Briefly, England got extraordinary improvements in Architecture, Arts and Science.²²

1817; First Cholera Pandemic

India had faced many cholera outbreaks before 1817. But, in 1817 it was not just in India or Asia. It went further in China and the Mediterranean Sea. First cholera pandemic got great attention of Europeans due to more deaths in the British Army.²³ The total number of deaths is still unclear but approximately, 8,750,000 deaths were observed with the mortality rate of 1.25 million people per year. Bangkok reported 30,000 deaths.²⁴

After the outbreak in England, anti-Asian emotions got high just due to unanticipated association of cholera with Asia and South Asia. Anti-Asian attitude towards Indians rose after pandemic and British historian once said that: “The Indians are the origin of cholera and its almost global dissemination from Bengal made a disease a convenient symbol for much that the west feared

about a society so different from its own”. British authorities initiated an inquiry in South Asia. People were classified as “dangerous class” who were in pilgrimages and placed under observations.

1855; Third Plague Pandemic

Yersinia pestis was a cause of third plague pandemic just like the last two. The third plague initiated from Yunnan in China after a local outbreak. In 1894 plague reached Canton and then Hong Kong, where Alexander Yersin isolated and identified the bacterium. Around 1700 cases were reported with approximately, 457 deaths in Europe between 1899 and 1947. It was a cause of more than 12 million deaths in China and India. According to World Health Organization third plague pandemic was active till the 1960s.^{25,26}

During and after pandemic India faced great political crisis.²⁷ Political issues started from the killing of Chairman of Pune Special Plague Committee “Watter Charles Rand”. He was also performing his duties as a civil servant in India. The editor of the newspaper “Kesari”, Bal Gangadhar Tilak, got eighteen months of rigorous imprisonment due to allegations of provoking the people through writings against government. Other impacts of the pandemic were less as compared to previous plague pandemics due to the development of “Cell Theory” and later a potent antibiotic “Streptomycin”. However, it showed very few social, economic and cultural changes as compared to the previous pandemics.²⁸

1918; Spanish Flu

A most deadly pandemic of a recent era was “Spanish Flu” which spread in almost all countries from 1918 to 1920. According to the epidemiological studies, approximately 500 million people infected with the disease and almost 50 million lost their lives.^{29,30}

Many small and large businesses of service industries and entertainment faced severe losses and some of them got eliminated. Few businesses achieved another highness during and after an outbreak. Many health care systems (Hospitals, Laboratories) reported great earnings.³¹

The nursing profession became more respectable, especially for women. Spanish Flu

added very long term effects like lower income, high rates of physical disabilities, lower socioeconomic status with less education. Reduced attainment of education was noted as another important impact after pandemic.³⁰

1957; Asian Flu

This time new strain of influenza virus H2N2 was a cause of triggering another outbreak “Asian Flu”. This deadly strain was a killer of approximately 1.1 million people worldwide. Initially, it was reported and spread from Asia hence named as “Asian Flu”. Early sign and symptoms were wobbly legs, chills, cough, sore throat, achy limbs and fever. Without any complications, mortality rate of disease was 0.3%

The most disturbing thing was economy after the pandemic. In 1957 and 1958 the GDP of many countries like the U.S and Asian countries dropped suddenly. Unemployment was raised from 4.1% to 7.4% during those two years. In short, influenza pandemic proved a great shock for the economy and the subsequent lower rates gave a slight boost to the housing industry.³²

1981; HIV/AIDS

Like many other diseases, it was transferred from animal to humans. The first case was confirmed in 1920 in the democratic republic of Congo. History and examination showed that it was transferred from Chimpanzees to human. Till 1970s sporadic cases were reported that’s why it remained unimportant. Its outbreak of 1981 started at the end of 1970s. In the next ten to eleven years around 100,000 to 300,000 people were found already infected. Initially cases of “*Pneumocystis carinii* pneumonia (PCP) and aggressive cancer “Kaposi sarcoma” were found in New York, California and Los Angeles.³³ Earliest name of the first disease was “gay-related immune deficiency” (GRID) due to their high morbidity rate in gays. But, in September 1982 Centre for Disease Control (CDC) used the word AIDS and announced that, “A disease at least is moderately predictive of a defect in cell-mediated immunity, occurring in a person with no known cause for diminished resistant to that disease”.³³

Again in 1983-85, many new cases were

reported and by this time the knowledge about transmission of disease and prevention was better known. As no treatment and vaccine were available at the time, 7699 new cases and 3665 deaths were reported during 1984 in the U.S mean while 762 new cases were reported in Europe.³⁴

In 1999, WHO declared AIDS as the fourth biggest cause of death worldwide being number one in Africa. Till 1999, around 33 million people got infected and 14 million had died.³⁵

HIV/AIDS also affected children's normal childhood. Children from families living with HIV/AIDS often have to deal with psychosocial stress. The trend towards safe sex in Western countries improved but in all these circumstances most heartbreaking thing was a bad behavior of people towards HIV positive person. It needs time to change the behavior of people for HIV positive person.³⁶

2003; SARS

Severe acute respiratory syndrome (SARS) is a respiratory disease caused by SARS-associated coronavirus. It was initially identified in February 2003 in China and then it moved to 4 other countries. Mode of the spread of SARS was droplets and also with other routes. Most SARS patients were in the age of 25-70 years. The mortality rate of SARS was 14% to 15% and in patients over 60 it was 50%. Like previous pandemics, SARS inflicted a huge impact on society, population and behavior of people.³⁷

When the SARS cases lived in the hospital, they could not see their families and feared the treatment. They developed a mental disorder. Social distancing and people with masks all around were creating a social panic. It is estimated that almost USD 12-18 billion were lost by Asian countries during the pandemic. In addition, tourism and its related industries suffered adversely due to the spread of SARS, population movement in China and many counties decreased.³⁸

COVID-19

In December 2019, a new coronavirus outbreak was reported from Wuhan city of China. The unique and dangerous thing about this virus was its speed of transmission. A new strain from the family of

coronavirus was a cause of COVID-19. Within a few months, this virus covered the whole world under its terror. Covid-19 was an acute respiratory disease in almost every age of persons. But it was deadly in case of supra infections. As it was a novel virus so, no vaccine and treatment were available that's why it hit the world dangerously. No doubt, the mortality rate was not so high, but sudden spread and thousands of deaths were very worrying condition.

This unbelievable condition put the almost whole world in temporary arrest. Almost all type of industries faced lockdown except health sector and industry making hospital products. Due to temporary stoppage of all sectors almost in the whole world, the economy of the world faced severe crisis and downfall of GDP was noted. But some sectors got great earning as well as hospitals and diagnostic laboratories. Business in the whole world got severely damaged but in developing countries, disturbance in the economy became a major problem because many small or medium-sized industries were not ready to face in this surprising condition and got completely vanished. Like, in Pakistan almost 83% of businesses were not prepared to face this sudden pandemic.³⁹

A baseline global pandemic scenario saw gross domestic product fall by 2 percent below the benchmark for the world. Almost 55 million domestic workers lost their jobs. An estimated statistic showed that 2 of every 5 jobs were lost during the pandemic. Approximately, 40.1 million cases were reported and 1.1 million deaths were reported till October 2020. Due to lockdown and travel restriction policies throughout the world trading of all countries faced severe damage. Pakistan also faced an export drop up to 50% and major economic challenges, supply chain disruption, decrease in demand and reduction in sales and profit.⁴⁰

Educational activities were stopped to minimize the spread of disease and internet surfing, distant classes (online learning) programs were launched. COVID-19 is still present in the world and hundreds of new cases are reporting day by day. Now, after ten months of the pandemic, still many countries are in the lockdown and in few countries, life is going towards normal but the spread of disease, unemployment and reestablishment of business are still huge

problems.^{40,41}

To reduce the spread of disease, tourism was banned in many countries so; hotels and other tourism-related professions faced a huge downfall in 2020.⁴²

CONCLUSION

Pandemics have been reported in the world since centuries and the most devastating effects have been seen by the multiple plague outbreaks throughout the world. These pandemics have out rightly changed the society, culture and even thinking of the general population. The political, economical and many strategical adversities faced by the globe call for preparedness and vigilance by the government and other stakeholders to lessen human sufferings as much as possible.

LIMITATIONS OF THE STUDY

The present review does not encompass the detailed economic, political and social impacts. However, a brief revelation review of the pandemics in the history is narrated for the readers to compare the present year-long situation to the ones that turned the world upside down in the past.

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CONFLICT OF INTEREST

None to declare

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Author's Contribution

MI: Conception and design of study, final revision of the article.

MTH, AB WA:: Drafting of manuscript.

SS: Critical revision of the manuscript.

SAHR: Manuscript revision for important intellectual contents and photography.

ALL AUTHORS: Approval of the final version of the manuscript to be published.