

Pandemic in Islamic Perspective*

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Abstract

Science is the way to open the screed of the Universe. Science drives to identify and understand the microorganisms and explore the deepest of Galaxies. Science should help human beings to solve three main problems that threaten human life, namely: war–famine, and diseases. History teaches that only if science is guide by religious morals - the guidance of the Koran in Islamic perspective, then science will become part of grace for the protection and well-being of man. In 2400 years of history, there have been around 150 outbreaks or epidemics occurring with large scales in terms of regions or the number of deaths. Several scales spread across 4-5 continents called Pandemic or global epidemics, such as the Black Death of the 4th century, Spanish Flu in the Year 1918-1919, Swine Flu 2009-2010, Ebola 2014-2016, HIV-AIDS 1982- present, SARS 2002-2003 and Covid-19 Pandemic 2019-2022 recently. Epidemics are not only microorganism factors, especially viruses and bacteria and vulnerable humans, related to an immune system, but often involve environmental factors that are sometimes ignored. An emerging disease which is a new pathogenic microorganism in humans, mostly caused by displacement of disease from animals to humans, especially wild animals. The verses of the Koran identify the presence of microorganisms that play an important role in human diseases, as well as order the Koran to maintain the equilibrium of the environment in advance giving a clear moral message for the prevention of the occurrence of an epidemic even a Pandemic in the earth. Keeping protection of forest conservation and forbidding the hunting of wild animals for substance traditional herbalist drugs, which still occurs in Asia and Africa, are necessary policies executed.

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Introduction

The three things that threaten the survival of human life are war, famine, and disease. The First World War (28 July 1914- 11 November 1918) was a global conflict in estimated 9 million soldiers dead and 8 million civilian deaths. The movement of large numbers of troops and civilian during War was a major factor in spreading the 1918 Spanish Flu pandemic. In The Second World War (1 September 1939- 2 September 1945) aircraft played a major role, enabling strategic bombing of population centres and delivery of the two atomic weapon ever used in war. It is estimated over 73 million deaths soldiers and civilians. The current conflict between Israel and Hamas is causing global concern due to the large number of deaths, particularly among women and children.

The great Chinese famine was catastrophic event the occurred between 1959 and 1961 as a result of Mao Zedong's "Great leap Forward" policies. Official government figures put the number of deaths at 15 million, the true figure may never know. There are many countries where hunger and malnutrition are widespread such as Central African Republic, Madagascar, Yemen, Democratic Republic of Congo and other countries.

In 1995, a film starring famous actors Dustin Hoffman, Morgan Freeman, and Rene Russo, entitled "OUTBREAK", depicted an outbreak that spread rapidly and claimed many lives. The film portrayed the panic, hysteria, and uncertainty in handling the outbreak. The title of this film attracts attention, but the subtitle is even more provocative: "If anything is going to destroy humanity, it will not be War or Famine – it will be a virus." This subtitle certainly relates to the fact that the Spanish Flu pandemic, which occurred from 1918-1919, shortly after the Allied victory in the World War I, claimed the lives of an estimated more than 50 million people worldwide, four times the number of victims of World War I.

An outbreak or epidemic, a term first introduced by Hippocrates, means an increase in cases of infectious disease more than usual. This generally occurs for new diseases (emerging diseases) where humans do not have immunity against these microorganisms, either through natural immunity after being infected with the same disease (e.g., measles) or after receiving a vaccine (e.g., polio). A global pandemic or outbreak occurs if a disease spreads widely across 4-5 continents.

Infectious diseases involve three factors: biological agents (mainly bacteria and viruses), susceptible humans, and the environment where agents and humans interact. Disease patterns in humans are greatly influenced by the welfare of a nation. In developed countries, which have high incomes, disease patterns and causes of death are generally dominated by non-communicable diseases, such as Coronary heart disease, Stroke, Diabetes Mellitus, and Cancer. Middle-income countries face a double burden where infectious diseases, such as HIV-AIDS, Tuberculosis, and Malaria, are still major problems, but non-communicable diseases are the

number one killer of adults, including Coronary Heart Disease, Stroke, and Cancer. Meanwhile, poor countries continue to struggle with a high burden of infectious diseases, such as Pneumonia, Tuberculosis, Diarrhea, and preventable diseases by immunization, like Diphtheria, Measles, and Rubella.

The COVID-19 pandemic has had a tremendous impact on the whole world. Not only have more than 700 million (9%) of the population been infected, with a death toll of around 7 million (case fatality rate = 1%), but the pandemic, which has lasted 2.5 years, has also caused extraordinary economic losses. The morbidity and mortality figures above are highly underestimated because many cases are undiagnosed due to limited laboratory facilities in middle and low-income countries. The actual death toll is likely more than 10 million people.

The COVID-19 pandemic has changed human behaviour in personal hygiene, with increased hand washing, mask usage in public places, social distancing, working from home, and online communication. On the governmental side, there is a greater awareness of the importance of early detection through testing, providing the best treatment, and investigating early cases among close and social contacts. During the pandemic, mutual assistance and cooperation emerged between elements of society without regard to ethnic, racial, religious, or belief differences. Solidarity among humans was better developed during the pandemic. However, some groups still hold anti-science views and even reject vaccination on religious grounds.

The scientific approach brings us to recognize disease-causing microorganisms and explore the deepest galaxies. The Koran encourages Muslims to study and develop science and technology. The Koran provides indications of the existence of microorganisms and warns of the impact of human behaviour on the environment. For this reason, it is necessary to study the global history of epidemics or pandemics to understand what they teach us and how Islamic teachings, particularly verses from the Koran, relate to pandemics, their causes, and responses.

Global Epidemic or Pandemic

In 2400 years of human history, around 150 major outbreaks or epidemic have been recorded, some of which can be called pandemic considering the wide areas they spread to, the high number of infected cases, and the death rates they caused. Recorded outbreaks can be traced back to Greek times, namely the populous city of Athens, which had an estimated population of 300,000 people. When the plague attacked the population, starting with fever, diarrhea, and pustule on the skin (as described by Thucydides), it claimed around 75,000-100,000 Athenians deaths (430 BC – 426 BC). The cause is unknown, possibly smallpox or typhus. When the Roman Empire developed until the founding of the East Roman Empire, at the beginning of the founding of Byzantium, the first outbreak of bubonic plague appeared (541-542 AD), a disease whose cause was only discovered 1400 years later (in 1894) by Alexander Yersin. This plague, caused by the *Yersinia pestis* bacterium, lives on rodent fleas, such as those found on mice.

Yersinia pestis is a rod-shaped bacterium and one of the deadliest microorganisms. It caused 20-50 million deaths in the second bubonic plague pandemic, known as the Black Death. The pandemic started in mainland China, spread via the Constantinople silk route to Europe and North Africa, and lasted more than 6 years (1347-1353). Climate and environmental changes are thought to have played a role in the emergence of outbreaks involving flea vectors and rodents, resulting in the transfer of disease from animals to humans.

As the 19th century transitioned into the 20th century, the medical and health fields focused on discovering various disease-causing bacteria that could lead to epidemics and developing vaccines. In the 1880s, Robert Koch and Louis Pasteur advanced the “germ theory”, showing that Tuberculosis was caused by bacterial infection and developed vaccines against Anthrax, Cholera, and Rabies, fuelling the dream of defeating the microbes that cause infectious diseases.

When cases of respiratory infections causing pneumonia appeared in early March 1918, it was thought to be caused by a bacterial infection, *Streptococcus pneumoniae*, which usually causes death in children and the elderly. As cases spread to various countries, both among Allied soldiers who had just won The World War I and the civilian population, panic emerged, especially because deaths occurred among young people aged 20-40 years. This pandemic, lasting a year (1919), caused the deaths of no fewer than 50 million people and is known as the Spanish Flu. Later, it was identified as the Influenza A virus strain H1N1 (in 1933). The number of deaths it caused was four times greater than the casualties of World War I.

Influenza viruses consist of three types: A, B, and C. Type C rarely cause problems in humans, Type B can cause pneumonia in humans but rarely causes outbreaks, and Influenza Type A often causes outbreaks and even pandemics in humans. Its genetic structure is characterized by the presence of the *hemagglutinin* (H) protein and the *neuraminidase* (N) enzyme, which is the basis for its naming. H2N2 (Asian Flu) emerged as an epidemic in 1956-1958, H3N2 as an outbreak in 1968-1969, known as the Hong Kong Flu, and the Mexican strain (H1N1), known as Swine Flu, spread throughout the world, causing a pandemic in 2009-2010. Fortunately, the case fatality rate was below the seasonal flu mortality rate, at less than 1%. However, the discovery of genetic material from human H1N1, bird H1N1, and pig H1N1 in the genetic structure of Swine Flu (H1N1) is concerning, proving the shifting nature of Influenza Type A—a challenge for the future.

In the last 50 years, around 300 new diseases (emerging diseases) have appeared, with approximately 60% being Zoonotic, transferring diseases from animals to humans. Generally (70%), these involve wild animals. It is clear that outbreaks occur not only due to the presence of microorganisms that infect susceptible humans but are closely related to environmental factors where the natural reservoir of these microorganisms is located. Human factors involve not just immune system responses but also behavioural, cultural, and belief factors.

This can be traced to four pandemic events: HIV-AIDS (1982-present), SARS (2002-2003), Ebola (2014-2016), and finally, the current Covid-19 Pandemic (2019-2022).

Since it first appeared in 1982, there are around 39 million HIV-positive people whose quality of life depends on antiretroviral drugs. About 40 million people have died from AIDS. In efforts to prevent and control the disease, HIV-AIDS, which clusters in key groups, is intertwined with issues of poverty, development, mining, and the concentration of development, which creates gender gaps. The transfer of the virus, thought to have originated from chimpanzees, is connected to the hunting and eating habits of monkeys in Africa. Similarly, the SARS outbreak in Guangzhou, China (2002-2003), is believed to have originated from wild civets, an exotic food. The Ebola outbreak in three West African countries (Guinea, Sierra Leone, and Liberia) in 2014-2016 began with a 2-year-old boy in Meliandou village, Guinea, who consumed a long-tailed bat. Factors influencing the widespread spread of the disease in these countries include inadequate health facilities, the ease of virus transmission through bodily fluids and blood, and cultural practices in treating Ebola victims' bodies.

Lastly, the Covid-19 pandemic, lasting two and a half years, has changed the world order. It spread to 700 million people and caused more than 7 million deaths, but the economic losses were even more severe. The Coronavirus pandemic tested national leadership and health systems worldwide. Practically, no country was free from the spread of the disease. Countries implemented movement restrictions, hand washing, mask-wearing, social distancing, testing, treatment, and contact tracing to stop the outbreak. Vaccination reduced symptoms and death rates. Although it is unclear how the outbreak started in Wuhan, it is likely that wild animals and human behaviour in hunting, consuming, or using them for traditional medicines played a role in the transfer of the Coronavirus to humans.

Pandemic From Islamic Perspective

An Epidemic is an increase in cases of an infectious disease beyond the usual levels or the emergence of a new disease. The causes of infectious diseases are microorganisms, especially viruses and bacteria.

The existence of microorganisms is mentioned in Surah Saba, verse 3:

“...nothing is hidden from Him, even as heavy as a Zarrah, whether in the heavens or on the earth, smaller than that or greater. Everything is written in a clear book.”

Zarrah refers to a very small object. It is now known that prions, which are smaller than viruses, cause mad cow disease, which can be transmitted to humans. Microorganisms are very small; bacteria measure 0.2 – 0.5 microns, while viruses measure 50-500 nanometres.

As Muslims, the occurrence of unexpected events in life should be seen as a test from Allah:

“We will certainly test you with a touch of fear and famine and loss of property, life, and crops. Give good news to those who patiently endure— who say, when struck by a disaster, “Surely to Allah we belong and to Him we will ‘all’ return”¹

The attitude that should be cultivated in accepting disasters, including disease outbreaks, is patience. Pandemic events such as Ebola in West Africa and SARS in China indicate the involvement of wild animal food sources in the chain of transmission. The Quran provides guidance on paying attention to food:

“O humanity! Eat from what is lawful and good on the earth and do not follow Satan’s footsteps. He is truly your sworn enemy”²

The Quran reminds us that science should continue to be developed:

“Indeed, in the creation of the heavens and the earth and the alternation of the night and the day are signs for those of understanding.”

Pandemic events that have occurred must serve as lessons, especially regarding the need for preparedness to face future pandemics. The possibility of a pandemic is not a matter of if it will happen, but when it will happen. Efforts should also be made to prevent the transfer of diseases from wild animals to humans.

Lessons learned from the emergence of pandemic include the pressure on the habitats of wild animals in tropical forests, agricultural expansion, and uncontrolled deforestation. As a result, wild animal habitats become closer to human habitats, increasing the risk of disease transmission. The Quran reminds us that many disasters are caused by human actions:

“Indeed, Allah does not wrong people in the least, but it is people who wrong themselves”.³

And also, in

“what ever disaster (*musibah*) strikes you is but a consequence of what your own hands have earned, but He Pardon much “⁴

Conclusion

Pandemic is an event that can be explained scientifically, in line with advances in science and technology. Advances in the fields of biology, virology, microbiology, epidemiology, immunology, genetics, and clinical medicine have enabled the identification of causes, the study of causal factors, the treatment and the development of prevention and control efforts, as well

¹ Al-Baqarah, 2:155-156:

² Al-Baqarah, 2:168:

³ Yunus, 10:4

⁴ As Syura, 42:30

as the implementation of preparedness strategies for future similar situations. The increased speed of airplane transportation, the movement of tourists to remote places, and global trade heighten the risk of transmission of diseases that have the potential to become global epidemics.

The Quran, as a holy book, is Allah's written guidance, while science is essentially Allah's unwritten guidance. The Quran provides direction and guidance for humans to pay attention to microorganisms, the goodness of food, and the maintenance of environmental balance. Humans need to maintain protected forest conservation as habitats for wild animals, stop hunting and consuming wild animals, and end illegal trade for traditional medicine ingredients.

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