



## **LAWGIC STRATUM**

(Legal Wisdom and Legal Services)

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LAWGIC STRATUM is a peer reviewed Journal and a Blog for legal and non-legal write-ups founded by Shobicka J B with her peers in October 2020. This is a non-profit and wholehearted initiative to build wisdom regarding the subject and the experience in the writing. We do not restrict any of the authors with special theme in writing and we ensure freedom in their matter of interest.

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We believe in the motto that it is a “*Right to write your thoughts in a way up straight to the height*”.

We would like to thank our Authors who contributed their works and the readers of Lawgic Stratum for their enormous trust and support.



## HISTORY OF GLOBAL PANDEMICS

- Shriya Bhatkhande<sup>1</sup>

*"All countries need to review their strategies now" - Dr. Michael J. Ryan, WHO Informal Advisory Group member.*

### Abstract:

*With immense dread, the world is today attending the emergence of a novel pandemic Covid-19 at present leading to fiendishly difficult misfortune, deaths, and turmoil of routine life. Ambiguity and panic are worsened by the feeling that what we are encountering is brand-new and obscure. Nonetheless, destructive pandemics and disease evolution are not new episodes, they have existed in challenging human survival all over the reported history. Pandemics have created disastrous catastrophe in several ways, whether it is the more previous form of smallpox or tuberculosis or the latter extent of HIV/AIDS or H1N1. A few have hit a considerable chunk of mankind, but humans have constantly sought for approaches of lessening their fatal outcomes. Although the most rising contaminations come from the transmission of pathogenic substances via animals to humans, the elements that intervene in this development are still unclear. What is learned, after all, is that the connection linking humans and animals is of predominant consequence in the mechanism. The article will delve into the significant pandemics marked in human history that have induced gigantic negative influences on health, economies, and even national security globally.*

**Keywords:** Global pandemics, History, Pandemic India

### INTRODUCTION:

What is Pandemic? The word “Pandemic” is derived from a Greek word, “*pan*demos”, *pan* meaning “all” and *demos*, “the people”. According to the World Health Organization, “*A pandemic is the worldwide spread of a new disease.*” It is an outbreak of a disease that spreads across nations or one or more continents at the same time. The internationally accepted definition of a pandemic is “an epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people”<sup>2</sup>. These

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<sup>1</sup> Bsc in Biotechnology, Msc in Food Science and Technology

<sup>2</sup>Angus Nicoll, Planning for uncertainty: a European approach to informing responses to the severity of influenza epidemics and pandemics, Bull World Health Organ, 2011 July 1:89(7)542-544, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3127281/>



contagious diseases attack plenty of people and garrottes more lives than an epidemic or outbreak. An easy way to know the difference between an epidemic and a pandemic is the letter “P” in the pandemic, denoting that a pandemic has a passport. A pandemic is an epidemic that globe-trots.<sup>3</sup>

### **History of Global Pandemics:**

The sporadic outbreak of infectious diseases has had heartfelt and lasting consequences on societies throughout history. They have effectively shaped human civilization, with effects lasting for centuries. This article outlines some of the striking pandemics that took place in human history.<sup>4</sup>

As human civilization began, so did the development of cities, trade routes connecting the world, wars making the pandemic more apparent.

### **430 B.C. The Athenian Plague:**

The Athenian plague is a historically recorded event that occurred in 430-26 B.C. At that time there was a fight between Athens and Sparta, said war is popularly known as Peloponnesian. Ethiopia was the origin and later it spread throughout Egypt and Greece, claiming the lives of more than 25% of the population.<sup>5</sup> Initial symptoms of plague included fever, headache, conjunctivitis, and rashes on the body. Eventually, the victims coughed blood, suffered from vomiting, and extreme stomach crampings. An infected person would usually die by the 7th-8th day. Those who survived might suffer from amnesia, partial paralysis, and blindness. The wartime overcrowding in Athens resulted in the rapid spread of the disease. Even the doctors and caretakers caught the disease from the patients they were attempting to heal.<sup>6</sup>

The cause of the Athenian plague is yet unknown but typhoid fever figures out the prominent culprit, as put forward by scientist Olson. While some others believe that the cause of the Athenian plague is *Ebola virus* hemorrhagic fever.

### **165 A.D. The Antonine Plague:**

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<sup>3</sup>World Health Organisation(WHO),Emergencies preparedness,responses,What is Pandemic, World Health Organisation, 24<sup>th</sup>February 2010,[https://www.who.int/csr/disease/swineflu/frequently\\_asked\\_questions/pandemic/en/](https://www.who.int/csr/disease/swineflu/frequently_asked_questions/pandemic/en/)

<sup>4</sup> Owen Jarus - Live Science Contributor, 20 of worst epidemics and pandemics in history, Live Science, March, 20, 2020, <https://www.livescience.com/worst-epidemics-and-pandemics-in-history.html>

<sup>5</sup>Mart Cartwright, Peloponnesian War, World History Encyclopedia, 02thMay, 2018, [https://www.ancient.eu/Peloponnesian\\_War/](https://www.ancient.eu/Peloponnesian_War/)

<sup>6</sup>Robert J Littman, The Plague of Athens:epidemiology and paleopathology,National Library Medicine,2009,Oct76(5):465-67.<https://pubmed.ncbi.nlm.nih.gov/19787658/>



The Antonine Plague lasted from 165-180 A.D. It was brought into the Roman Empire by the soldiers returning from Seleucia. Before it abated, it had infected Asia, Egypt, Greece, and Italy. The Antonine Plague is considered to be an early appearance of smallpox.<sup>7</sup> The symptoms include fever, diarrhea, pus-filled sore throats. The Roman Empire lost its emperor, Marcus Aurelius which led to the weakening of military and economic supremacy. It affected ancient Roman traditions, commencing the renewal of spirituality, focusing on the spreading of a new religion, *Christianity*. The Antonine Plague created the conditions for the decline of the Roman Empire.<sup>8</sup>

### **250 A.D. Cyprian Plague:**

The Cyprian Plague was named after its first known victim, the Christian Bishop of Carthage.<sup>9</sup> It entailed fever, throat ulcers, vomiting, and diarrhea. The urbanites fled the country to get away from the disease only to spread it further. The Plague possibly originated in Ethiopia passing to Africa, Rome, and Egypt.<sup>10</sup>

### **541 A.D. Justinian Plague:**

The plague is named after Emperor Justinian who contracted the plague himself but did not die. The Justinian Plague was a “real plague” pandemic that killed almost 50% of the Byzantine Empire.<sup>11</sup> It spread from Egypt and later throughout the Mediterranean, resulting in the gravesites running beyond capacity. The bodies of the victims were thrown away on the streets or piled along the seashore to rot. Streets were deserted and trade was abandoned. Due to a shortage of staple food, people died of starvation.<sup>12</sup>

During this plague, the victims were “seized by madness” and hallucination initially. As the infection developed, the victims entered a lethargic state that resulted in the loss of appetite. The buboes were formed in the armpits and groins. Many people died as the buboes gangrened; others died vomiting blood.<sup>13</sup>

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<sup>7</sup>Edward Watts, What Rome Learned from the deadly Ant-onine Plague of 165 A.D., Smithsonian, April 28<sup>th</sup>, 2020, <https://www.smithsonianmag.com/history/what-rome-learned-deadly-antonine-plague-165-d-180974758/>

<sup>8</sup>Donald J. Robertson, Stoicism in the Time of Plague, Medium, March 12, 2020, <https://medium.com/stoicism-philosophy-as-a-way-of-life/stoicism-in-the-time-of-plague-652759c274b2>

<sup>9</sup>Gyprian of Carthage, Bishop and Martyr, Biographical Sketches memorable Christian of the past, <http://justus.anglican.org/resources/bio/242.html>

<sup>10</sup>Robin Ngo, The Cyprian Plague, Biblical Archaeology Society, Jan 07<sup>th</sup> 2017, <https://www.biblicalarchaeology.org/daily/news/the-cyprian-plague/>

<sup>11</sup>Gabriel Johnson, Geo 106 FA 2018, The Fall of the Byzantine Empire and Rise of the Renaissance, Esri, <https://www.arcgis.com/apps/Cascade/index.html?appid=1c13371e97834ac8a835a6ddff6204ef>

<sup>12</sup>Lee Mordechai, Merle Eisenberg and three more authors, The Justinianic Plague: An inconsequential pandemic?, PNAS, December 17<sup>th</sup> 2019, <https://www.pnas.org/content/116/51/25546>

<sup>13</sup>Mandell and others, Bubo, Science Direct, <https://www.sciencedirect.com/topics/medicine-and-dentistry/bubo>



The reappearance of the plague for the next two centuries claimed over 50 million lives i.e., 26% of the world population. It is believed to be the first arrival of the bubonic plague, which results in swollen lymph nodes, carried by rats and unrolled by fleas.

### **11th Century Leprosy:**

Now known as Hansen's disease, leprosy had been around for ages. This is caused by bacteria, such disease known as Chronic Infectious. Leprosy prominently affects the skin and peripheral nerves forming malformation and sores. The pandemic hit Europe in the medieval period. Society believed leprosy to be the "punishment of God" and the families were banished. Leprosy still affects tens of thousands of people a year. It can be lethal if not treated with antibiotics.<sup>14</sup>

### **The Black Death, 1350:**

This was the second outbreak of the bubonic plague, which claimed one-third of the world population. It originated in China in 1334, passing on to Central Asia and northern India, arrived in Europe in 1347 following the trade routing known as the Silk Road.<sup>15</sup> The plague held sway for 50 years, and by 1400 it reduced the world population from 450 million to 350 or possibly 300 million, eliminating 150 million lives. The Black Death put an end to 60% of the population in Europe.<sup>16</sup>

Initially accepting the Miasma theory, imbibing the occurrence due to bad air, the Black Death was understood to be a gigantic *Yersinia Pestis* pandemic. The strain of *Yersinia*, a bacteria, infected the gut of oriental rat fleas (*Xenopsyllacheopis*).<sup>17</sup> Such contaminated hosts transmitted the plague to humans, which later spread from human to human through droplets.<sup>18</sup>

In men and women alike it catastrophe certain tumors in the groin and armpits, some of which grew as apples or eggs. From the two said parts the infection proliferated in all directions indifferently. Further, the malady

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<sup>14</sup>Hansen's Disease, Centers for Disease Control and Prevention,<https://www.cdc.gov/leprosy/transmission/index.html>

<sup>15</sup>Andrew Lawler,How Europe exported the Black Death, American Association for the Advancement of Science, April 26<sup>th</sup> 2016,<https://www.sciencemag.org/news/2016/04/how-europe-exported-black-death>

<sup>16</sup>Jenny Howard, Plague was one of History's deadliest disease-then we found cure,National Geographic, July 6<sup>th</sup> 2020,<https://www.nationalgeographic.com/science/article/the-plague>

<sup>17</sup>Kannadan, Ajesh (2018) "History of the Miasma Theory of Disease," ESSAI: Vol. 16, Article 18.,  
<https://dc.cod.edu/cgi/viewcontent.cgi?article=1657&context=essai>

<sup>18</sup>Marcel Keller, MariaA. Spyrou,and others, Ancient *Yersinia Petis* genomes from across Western Europe reveal early diversification during the First Pandemic (541-750), PNAS, June 18<sup>th</sup> 2019,<https://www.pnas.org/content/116/25/12363>



changes to black spots on thighs and arms as few and large or minute and numerous. The mortality of the untreated bubonic death was 70% in 8 days.

For baffled and terror-stricken societies the only antidote at the time was inhaling aromatic vapors from flowers and camphor. Crops cannot be harvested, deprivation and curtailed trade abandoned the entire settlements. The plague broke down the normal divisions between the upper and lower class populations, with an unfolding of the new middle class. Several encores visit through Europe following the centuries before, decimating entire communities.

### **The Columbian exchange, 1492:**

As the Spanish arrived in the Caribbean, diseases like bubonic plague, measles, and smallpox were passed to the natives of Europe. With no previous display, these diseases wrecked 90% of the indigenous inhabitants of the north and south continents.

In December of 1492, Christopher Columbus arrived on the island of Hispaniola and came across the Tanino people, a population of 60,000. By 1548 the population stood to less than 500 in America.<sup>19</sup> In 1520, smallpox infection, a disease caused by *Variola* major virus, killed many of its victims from the Aztec Empire, Mexico. The symptoms showed a high fever, fatigue, headache, and backache. Later, a flat red-colored rash appeared on the 2nd or 3rd day, usually on the face or upper arms spreading all over the body.<sup>20</sup> Worldwide immunization and ultimate eradication stopped the spread of smallpox three decades ago, with the last case reported in 1977. English physician Edward Jenner, pioneered the vaccine for smallpox, the world's first vaccine. The term vaccine is derived from the *Variola* virus. Research conducted in 2019 stated the deaths of 56 million native Americans in the 16th and 17th centuries, which may have altered the Earth's climate with an increase in atmospheric CO<sub>2</sub>.<sup>21</sup>

### **The Great Plague of London, 1665:**

This devastating emergence of the bubonic plague claimed almost a quarter of London's population in 18 months. Hundreds of thousands of cats and dogs were slaughtered as the suspected cause of the disease. The

<sup>19</sup>Columbus and Taino, Exploring the Early Americans, Library of Congress, <https://www.loc.gov/exhibits/exploring-the-early-americas/columbus-and-the-taino.html>

<sup>20</sup>Richard Gunderman, How Smallpox devastated the Aztecs – and helped Spain conquer an American civilization 500 years ago, The Conversation, Feb 19<sup>th</sup> 2019, <https://theconversation.com/how-smallpox-devastated-the-aztecs-and-helped-spain-conquer-an-american-civilization-500-years-ago-111579>

<sup>21</sup>Stefan Riedel, Edward Jenner and the History of smallpox and vaccination, Proc (Bayl Univ Med Cent). 2005 Jan; 18(1): 21–25, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1200696/>



actual culprit to cause the plague was the *Yersinia pestis* bacterium, which is usually transmitted through the bite of the rat flea. The registered symptoms were fever, swelling of the lymph nodes, muscle cramps, and coughing up blood.<sup>22</sup>

### **First Cholera Pandemic, 1817:**

The first of seven cholera pandemics in the following 150 years, originated in Russia. This wave of small intestine infection killed one million people in Russia. It spread through feces-contaminated water and food by the bacterium *Vibrio cholera*. It caused profuse watery diarrhea, dehydration, leg cramps, vomiting, restlessness, and irritability in the abdomen.<sup>23</sup> The reach of the British empire transmitted cholera to Africa, China, Indonesia, Italy, Spain, Germany, and America, where it killed 150,000 people. In 1885, a Spanish physician Jaime Ferrán y Clúa, a student of Louis Pasteur, invented a mass-vaccine against cholera. Although the vaccine was available, the pandemics continued.<sup>24</sup>

### **The Third Plague, 1855:**

The third plague pandemic was a major bubonic pandemic that began in Yunnan, China. The disease is caused by a bacterium usually transmitted by the bite of fleas from an infected host, often a black rat. According to the World Health Organization, the pandemic was considered active until 1960, when casualties dropped below 200 globally.<sup>25</sup>

### **Fiji Measles Pandemic, 1875:**

The Fijian measles pandemic was spread by police, tribal heads, and leaders of the British during a visit to Australia. One-third of Fiji's population was swept away, which killed 40,000 people.<sup>26</sup> Measles is spread by morbillivirus from one child to another through airborne transmission. Signs and symptoms of measles include

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<sup>22</sup>Becky Little, When London Faced Pandemic – And a Devasting Fire, History, March 25<sup>th</sup> 2020, <https://www.history.com/news/plague-pandemic-great-fire>

<sup>23</sup>Nayana Ambardekar, Cholera, WebMD, July 27<sup>th</sup> 2019, <https://www.webmd.com/a-to-z-guides/cholera-faq#1>

<sup>24</sup>Jaime Ferran y Clua, <https://thebiography.us/en/ferran-clua-jaime>

<sup>25</sup>Bramanti B, Dean KR, Walløe L, Chr. Stenseth N. 2019 The Third Plague Pandemic in Europe. Proc. R. Soc. B 286: 20182429. <http://dx.doi.org/10.1098/rspb.2018.242>

<sup>26</sup>Measles & Rubella Initiative, Fiji and Measles: from devastation to elimination, <https://measlesrubellainitiative.org/fiji-and-measles-from-devastation-to-elimination/>



fever, running nose, dry cough, inflamed eyes, tiny white and blue spots on the inner lining of the cheeks, also called Koplik's spots.<sup>27</sup>

### **Russian Flu, 1889:**

The first flu pandemic, also known as the “Asiatic pandemic”, was a deadly pandemic that started in Siberia and Kazakhstan, moved to Moscow, Finland, and Poland further spreading to the rest of Europe. It was the last great pandemic of the 19th century that killed 1 million people worldwide.<sup>28</sup> It is not known for certain what agent was responsible for the cause, but it is suspected to be an influenza virus A strain or Coronavirus. The occurrence is due to the lower standard of living, unhygienic conditions, and less-developed medications. The young, the old, and the population with underlying conditions were more susceptible, and usually died of pneumonia and/or heart attack due to physical stress.<sup>29</sup>

### **Spanish Flu, 1918**

The Spanish flu didn't start in Spain. So, then why is it called the Spanish flu? The flu broke out during World War I. Neither the Allied Powers nor the Central Powers wanted to admit the additional loss of life during the conflict that hinged on who had more manpower.<sup>30</sup> Thus, all the nations involved in the world restricted reports of the outbreak. In the US, some people were even afraid of reporting the flu may even violate the Sedition Act of 1918. But, Spain wasn't a part of World War I, and hence they had nothing to hide, they reported the deaths caused by the flu. The US and Europeans nicknamed the flu “Spanish flu”.<sup>32</sup>

The Spanish flu is considered to be the first real global pandemic, with an immense death toll, well over 50 million. The possible first observation was in the US, Europe, and a few parts of Asia, later reaching all over the globe. It was caused by the H1N1 strain of the influenza virus. Many notable politicians, artists,

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<sup>27</sup>Koplik Spots,<https://www.hxbenefit.com/kopliks-spots.html>

<sup>28</sup>Claire Jackson,History lessons: the Asian Flu pandemic, Br J Gen Pract. 2009 Aug 1; 59(565): 622–623,<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2714797/>

<sup>29</sup>Rasheed Noor, SyedaMuntakaManiha,A Brief outline of respiratory viral disease outbreaks:1899 –till date on the public health perspective, Springer Link, 02th September 2020,<https://link.springer.com/article/10.1007/s13337-020-00628-5>

<sup>30</sup>The Editors of Encyclopedia Britannica, Allied Powers,Britannica,<https://www.britannica.com/topic/Allied-Powers-international-alliance>

<sup>31</sup>The Editors of Encyclopedia Britannica, Allied Powers,Britannica,<https://www.britannica.com/topic/Allied-Powers-international-alliance>

<sup>32</sup>Zinn Education Project, The Sedition Act of 1819,<https://www.zinnedproject.org/news/tdih/sedition-act-1918/>



and scientists were either affected by the flu viz. Walt Disney, Greta Garbo, Raymond Chandler, Franz Kafka, Edward Munch, Franklin Delano Roosevelt, and Woodrow Wilson.<sup>33</sup>

The pandemic was especially deadly for India. It broke out in three waves, with the second wave having a massive mortality rate. In the year 1918 last week of September month the death rate was hiked in Bombay and Madras and Calcutta in October and November respectively that claimed lives of 13.88 million. The outbreak most severely affected younger people in the age group of 20 to 40. Mahatma Gandhi, the leader of India's independence struggle, was also infected by the virus.<sup>34</sup>

### **Asian Flu, 1957:**

Asian Flu was a category 2 avian influenza pandemic that originated from Hongkong, China, in early 1956 lasting until 1958. It originated from the mutation in wild ducks combining with a pre-existing human strain. About 1.1 million deaths occurred globally, with 116,000 deaths in the United States alone. It caused many infections in children and led to school closures.<sup>35</sup>

### **HIV/AIDS, 1981:**

Being a fairly slowly spreading pandemic, HIV has received formidable public health attention, both by national and by international administrations and pharmaceuticals. First observed in 1981, HIV knocks down a person's immune system resulting in eventual death by diseases that the body would usually give an immune response.<sup>36</sup>

HIV crossed from chimps to humans in the 1920s, when the humans butchered chimpanzees for meat and came into contact with their blood. The chimps carried the Simian Immunodeficiency Virus (SIV), a virus closely related to HIV. The victims face fever, headache and, swollen lymph nodes, rapid weight loss, profuse night sweats, diarrhea that lasts for weeks, pneumonia, sores of the mouth, anus, and genitals.<sup>37</sup> HIV is marked

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<sup>33</sup>Influenza A Virus subtype H1N1,<https://www.britannica.com/science/influenza-A-H1N1>

<sup>34</sup>AjaiSreevastan, Why 1918 matters in India's Corona War, Mint, 13<sup>th</sup> March 2020,<https://www.livemint.com/news/world/why-1918-matters-in-india-s-corona-war-11584033795146.html>

<sup>35</sup>Kara Rogers, 1957 Flu Pandemic, Britannica,<https://www.britannica.com/event/1957-flu-pandemic>

<sup>36</sup>History of HIV and AIDS Overview, Avert,<https://www.avert.org/professionals/history-hiv-aids/overview>

<sup>37</sup>Paul M Sharp, George M. Shaw, Beatrice H. Hahn, Simian Immunodeficiency Virus Infection of Chimpanzees, American Society of Microbiology, 10.1128/JVI79.7,<https://jvi.asm.org/content/79/7/3891>



by its spread predominantly among the gay population, transgender women and, African-Americans by high mortality resulting in social stigma.<sup>38</sup>

HIV has killed almost 40 million people globally since 1981, a prevalence of 0.79%. HIV claims 1 million lives per annum. While it represents a global public health phenomenon, the HIV epidemic is particularly alarming in some Sub-Saharan African countries (Botswana, Lesotho, and Swaziland) where the prevalence tops 25%. Treatments have been developed to treat HIV, but the cure is yet to be found.<sup>39</sup>

### **SARS, 2003:**

Severe Acute Respiratory Syndrome (SARS) was the first pandemic witnessed in the 21st century that began in China. Due to the vigilance of public health systems worldwide, the outbreak was contained by mid-2003. It was the first time in history where mental health aspects were studied yielding valuable data on acute infectious outbreaks. It affected fewer than 10,000 cases from 26 countries with 774 deaths.<sup>40</sup>

### **Swine Flu, 2009:**

The 2009 H1N1 pandemic was an iteration of the Spanish flu pandemic of 1918, but with far fewer devastating consequences. Suspected to be a reallocation of bird, swine, and human flu, it is informally known as “Swine flu”. It first began in Mexico in 2009, reaching a pandemic percentage within weeks. It was declared over by May of 2010.

Although it had a death rate of 10% only, it disproportionately affected healthy young adults. It was among the first outbreaks where policy reports included mental health as an aspect of preparedness and mitigation policy efforts.<sup>41</sup>

### **EBOLA, 2014-2016:**

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<sup>38</sup>Anish.P. Mahajan, Jennifer N Sayles, Vishal A. Patel, Robert H. Remien, Daniel Ortiz, Greg Szekers, Thomas J. Coates, Stigma in the HIV/AIDS epidemic: A review of the literature and recommendations for the way forward, 2008 Aug, 22(Suppl 2) S 67-S79, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2835402/>

<sup>39</sup>HIV, Centers for disease Control and Prevention <https://www.cdc.gov/hiv/basics/livingwithhiv/treatment.html>

<sup>40</sup>Nian-Sheng Tzeng, Chi-Hsiang Chung, Chuan-Chia Chang, Hsin-An Chang, Yu-Chen Kao, Shan-Yueh Chang & Wu-Chien Chien, What Could we learn from SARS when facing the mental health issues related to the Covid 19 outbreak? A Nationwide cohort study in Taiwan, Translational Psychiatry, 06<sup>th</sup> October 2020, <https://www.nature.com/articles/s41398-020-01021-y>

<sup>41</sup>Donor Report 1<sup>st</sup> March 2011, Pandemic Influenza A(H1N1), World Health Organisation, [https://www.who.int/csr/resources/publications/swineflu/h1n1\\_donor\\_032011.pdf](https://www.who.int/csr/resources/publications/swineflu/h1n1_donor_032011.pdf)



Ebola, endemic to Africa, appeared in a remote village in Guinea in December 2013. Its spread reached Sierra Leone and Liberia, Nigeria, and Mali with over 28,000 cases and over 11,000 fatalities. The virus is also known as *Ebola virus disease (EVD)* or *Ebola hemorrhagic fever (EHF)* which causes severe bleeding, organ failure, and can lead to death.<sup>42</sup>

### **ZIKA, 2015:**

ZIKA virus was a naive, dormant virus found in Rhesus monkeys in Uganda.<sup>43</sup> The virus was then identified in Brazil in 2015, after an outbreak of a mild illness causing a flat pinkish rash, bloodshot eyes, fever, joint pain, headache claiming 2400 birth defects, and 29 infant deaths. It is a mosquito-borne disease (*Aedes Aegypti*) resembling dengue but it can be sexually transmitted. It is also a case of a modern media pandemic as it featured prominently in social media.<sup>44</sup>

### **Disease X:**

Disease X is not, as of yet, an actual disease caused by a known agent, perhaps a postulated source of the next pandemic that may cause harm to mankind. In the wake of the Ebola virus pandemic, the World Health Organization (WHO) decided to dedicate forbidding resources to identify, studying, and combating possible future outbreaks in the form of Research and Development Blueprints.<sup>45</sup> At regular intervals, the list is updated which includes diseases like Ebola and Marburg virus diseases, Lassa fever, Middle East respiratory syndrome coronavirus (MERS-CoV), and Severe Acute Respiratory Syndrome (SARS), Nipah and henipavirus diseases, Zika, and others.<sup>46474849</sup>

### **COVID-19, 2019**

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<sup>42</sup>Ebola (Ebola Virus Disease), Centers for disease Control and Prevention,<https://www.cdc.gov/vhf/ebola/index.html>

<sup>43</sup>The Editors of Encyclopedia Britannica,Rhesus Money,Britannica,<https://www.britannica.com/animal/rhesus-monkey>

<sup>44</sup>Michael Smith,North American Correspondent, Zika: The Unexpected Pandemic,Medpage Today, Jan 29<sup>th</sup> 2016,<https://www.medpagetoday.com/infectiousdisease/generalinfectiousdisease/55915>

<sup>45</sup>R&D Blueprint and Covid 19,World Health Organisation,<https://www.who.int/teams/blueprint/covid-19>

<sup>46</sup>Marburg Virus Disease, World Health Organisation,[https://www.who.int/health-topics/marburg-virus-disease/#tab=tab\\_1](https://www.who.int/health-topics/marburg-virus-disease/#tab=tab_1)

<sup>47</sup>Nipah Virus Infection, World Health Organisation,[https://www.who.int/health-topics/nipah-virus-infection#tab=tab\\_1](https://www.who.int/health-topics/nipah-virus-infection#tab=tab_1)

<sup>48</sup>Lassa Fever, World Health Organisation,[https://www.who.int/health-topics/lassa-fever#tab=tab\\_1](https://www.who.int/health-topics/lassa-fever#tab=tab_1)

<sup>49</sup>Prioritizing disease for research and development in emergency context, World Health Organisation,<https://www.who.int/activities/prioritizing-diseases-for-research-and-development-in-emergency-contexts>



On 11 March 2020, the World Health Organization declared that the Covid 19 virus was officially a pandemic. The first case outlined in the Hubei province of China on November 17, 2019, went unrecognized.<sup>50</sup>

Covid-19 is caused by a novel coronavirus, a new virus strain that has never been seen before. It causes respiratory problems, fever, and cough. It may lead to pneumonia and death. Without a vaccine available, the virus spread in more than 163 countries. National and International borders were shut down, people were home quarantined with lockdown all over the states.<sup>51</sup> Many countries reported a downfall of GDP, with few entering recession. Coronavirus remains a concern throughout 2020 and 2021 with 116 million cases and 2.57 million deaths as of today. India, USA, Brazil, Russia, Peru, Columbia, Mexico, South Africa, Spain, and Argentina tops the chart of 10 most affected countries with the highest number of COVID-19 cases.

Safe and efficient vaccines can be doctrinaire. As of 18 February 2021, at the minimum 7 diverse vaccines covering trilateral plans of action have been unfurled in countries. Susceptible populaces all over the globe are the most serious prerogatives for vaccination. Simultaneously, exceeding over 200 supplementary vaccine contenders are in progress, of which more than 60 are in clinical advancement. COVAX partake in the ACT Accelerator, which the World Health Organization instituted with associates in 2020. COVAX, the vaccine backbone of ACT Accelerator, assembled by CEPI, Gavi, and WHO, intends to conclude the acute phase of the COVID-19.<sup>52</sup>

## **CONCLUSION:**

To conclude, it can be inferred from the article that, the world had seen a lot of deadliest diseases. Comparatively, the loss that has occurred due to COVID-19 is quite lesser than the loss that had been occurred due to the deadliest diseases the world has seen earlier. This is only because of self-awareness and knowledge about personal hygiene and self-quarantine and also it is possible because of developed medical research and scientific technologies.

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<sup>50</sup>Coronavirus, World Health Organisation, [https://www.who.int/health-topics/coronavirus#tab=tab\\_1](https://www.who.int/health-topics/coronavirus#tab=tab_1)

<sup>51</sup>Guidelines for home quarantine, Government of India, Ministry of Health & Family Welfare and Directorate General of Health Services, <https://www.mohfw.gov.in/pdf/Guidelinesforhomequarantine.pdf>

<sup>52</sup>Manufacturing and Distribution the Covid-19 Vaccine, Pfizer, <https://www.pfizer.com/products/coronavirus/manufacturing-and-distribution>