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**The Meaning, Nature and Chronology of
Pandemic in 21st Century**

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Abstract

Purpose: The aim of this study is to appraise the meaning, nature and chronology of pandemic in 21st century.

Methodology: The applicable methodology in attaining the aim of the study is doctrinal methodology which is a non-empirical approach. By the applicable method, the study was able to access policies, regulations, and contents/findings in existing literatures. The researcher curated data from existing literatures, reports and thus primary source of data were not utilised as only secondary source of data were used accordingly.

Findings: The study found that pandemic is a sudden/unaware outbreak of a disease that speedily spreads across a whole region and the entire globe with high prevalence as a result of a high rate of susceptible population; the study also found that where pandemic occurs, the probability is high for there to be a high mortality rate. In the study, it is also found that at different stages in the development of modern man and society, different diseases had been categorised as pandemic. However, due to the complexities enshrined in deciphering whether a given disease is a pandemic or not, it became vested on the World Health Organization (WHO) to conduct assessment upon the outbreak of any disease and weigh it on existing criteria to ascertain if such should be declared as a pandemic.

Recommendation: As parts of the recommendations made in this study, it is stated that the World Health Organization should endeavour to make its assessment in the earliest time and declare a disease as a pandemic as that would help states in making efforts and contributing resources in curbing the effects of the diseases and possibly terminating the disease.

Keywords: *Pandemic, Disease, World Health Organization, Outbreak, Mortality, Susceptible Population*

Introduction

It is a basic fact that pandemic is a relative term to the concept of global health. Generally, global health covers transnational health concerns, assessment, determinants, as well as possible solutions. The concept of global health involves multi disciplines which transcends the orbit of health sciences; as it concentrates on application of preventive-curative methodology that is curated in accordance to population and individual level of care.¹ Various studies have stated that irrespective of the fact that most of the emphasis plotted by global health is basically on preventive angles, it does not suggest that global health is void of any form of curative, rehabilitative, and other aspects of clinical medicine and the study of basic sciences.²

Having curated the meaning of global health, it is important to assess the place of global health crisis which is often seen to assume a nuptial tie with pandemic as both concepts have to do with diseases or health crisis that have transcended the shores of a particular country at a particular time. On that note, global health crisis may be termed as complex health system or critical health condition which affects humans and is dominant in more a single geographical territory; usually affecting most parts of the world at a given period of time. It is observed that global health crises have significant impacts on communal health, life expectancy, and the global economy.³

Global health crisis may be as a result of an uncontrolled disease or infection, industrial processes, poor policy management, or laboratory failures. Whatever the source is; the yardstick for measuring the level of severity and how vulnerable a particular global health crisis has affected the population is based on the number of incidents or number of persons infected by it in every given territory, as well as its combine effects.⁴ From the foregoing, an avenue is there to see that a discourse on pandemic cannot be properly and comprehensively ensued without incorporating the concepts of global health and global health crisis.

In a discourse on pandemic, it is imperative to state that at different stages in the development of modern man and society, different diseases have been categorised as pandemic. However, due to the complexities enshrined in deciphering whether a given disease is a pandemic or not, it became vested on the World Health Organization (WHO) to conduct assessment upon the outbreak of any disease and weigh it on existing criteria to ascertain if such should be declared as a pandemic. Thus, this study aims at discussing the meaning, nature and chronology of pandemic in the 21st century.

¹ Sheikh K, Schneider H, Agyepong IA, et al. Boundary-spanning: reflections on the practices and principles of Global Health. *BMJ Glob Health* 2016;1:e000058.doi:10.1136/bmjgh-2016-000058

² Abimbola S. The information problem in global health. *BMJ Glob Health* 2016;1:e900001.doi:10.1136/bmjgh-2015-900001; Gostin LO, Sridhar D. Global health and the law. *N Engl J Med* 2014;370:1732–40.doi:10.1056/NEJMra1314094

³ CFR, ‘Emerging global health crisis) <https://www.cfr.org/report/emerging-global-health-crisis> [Accessed 9 June, 2021]

⁴ Dzau V, Fuster V, Frazer J, et al. Investing in global health for our future. *N Engl J Med Overseas Ed* 2017;377:1292–6.doi:10.1056/NEJMsr1707974

Meaning and Nature of Pandemic

There are different forms and patterns of diseases that have occurred at different places at different times over the years. Since the existence of man, diverse diseases have come and gone. For some, providing cure was faster and easier, for some others, proffering cure was complex and slow to achieve. While there are ones which were combatted with permanent cure; some others had to be managed so as not escalate or in order to minimise the scale of prevalence⁵.

The word ‘Pandemic’ is gotten from a Greek root word “*Pandemos*” which simply means “pan” (all) and “demos” (people or population); when combined together it implies “All the people”. In relation to pandemic are epidemic and endemic which generally mean ‘upon the people’ and ‘in the people’ respectively⁶.

In comprehensive manner, a pandemic is an epidemic or a sudden/unaware outbreak of a disease that speedily spreads across a whole region and the entire globe with high prevalence as a result of a high rate of susceptible population. Where a pandemic occurs; there are high probabilities that the rate or degree of mortality will be on a high scale. In contrasting a pandemic from epidemic and endemic; a disease is categorised as epidemic where the disease affects a larger number of persons than expected in a given community or region at a particular period of time. Take for instance, the prevalence of HIV/AIDS in Sub-Saharan Africa⁷.

According to Doshi, some definitions which have been given to pandemic are ones that are elusive and in most cases do not make reference to the classical epidemiological definition of the term ‘pandemic’. It is observed that a pandemic is a form of an epidemic which occurs widely across the globe at a time, which goes beyond international boundaries and has huge impacts and implications on a larger number of persons. Applying the classical definition, the meaning thereof does not relate to subsidiary terms like population immunity, severity of the disease or the virology. A pandemic happens in a situation where the transmission of a given disease occurs in the most simultaneous way across the globe⁸.

⁵ Lockett, E. ‘What is a pandemic’ *Healthline*, 2020, Available on <https://www.healthline.com/health/what-is-a-pandemic/> [Accessed 11 May, 2021]; Elbe, S. *Pandemics, Pills, and Politics: Governing Global Health Security*, (Baltimore: John Hopkins University Press), 2018

⁶ Bergstrom, R. Presentation at Workshop on Pandemic Flu Controversies. Brighton: University of Sussex. 11 January, 2013.; Lockett, E. ‘What is a pandemic’ *Healthline*, 2020, Available on <https://www.healthline.com/health/what-is-a-pandemic/> [Accessed 11 May, 2021];

⁷ Viboud, C. Tam, T., Fleming, D., Handel, A. et al, ‘Transmissibility and mortality impact of epidemic and pandemic influenza, with emphasis on the unusually deadly 1951 epidemic vaccine, 2006, 24: 6701-6707; doi:10.1016/j.vaccine.2006.05.067/pmid; Cohen, Deborah, and Philip Carter. Conflicts of Interest: WHO and the Pandemic Flu “Conspiracies.” *BMJ* 340: 1274–1279. 2010.

⁸ Doshi, P. ‘The Elusive definition of pandemic influenza’; *Bull World Health organization*, 2011; 89; 532-538

World Health Organization and the Assessment of Pandemic in 21st Century

When the definitions of pandemic as put in place by the World Health Organization (WHO) and the United State of America's Centre for Disease Control (CDC) are taken into perspective, it incorporates severity. While some have argued that the inclusion of severity in the definition was actually made to curry financial and political support; it is suggested that financial and political support are requisite for preparing the public and the healthcare sector towards the pandemic. However where severity and spread are applied accordingly, it may be suggested that some diseases like A(H1N1) rated as pandemic in 2009 was not actually a pandemic⁹.

The WHO has the responsibility to declare a specific disease as a pandemic once the disease has passed all the requisite criteria for such declaration. However, in 2009; there was a delay on the side of the WHO to so declare a disease reckoned as a pandemic as one. It is suggested that delay in such declaration was as a result of the nexus between the making of a vaccine for the specific disease (pandemic) and the declaration. Declaration of pandemic is not depending on the vaccine manufacturing where and when the pandemic is given a classical definition. The declaration would rightly be based on the severity index, available and emerging of evidence of the severity; thus, the manufacturing of a specific pandemic vaccine will be probably unnecessary¹⁰.

Upon the occurrence of a novel disease, it is highly probable that most members of the public will not have in possession the rate and nature of immunity needed to combat such new disease. The consequences amongst other things are that such disease would likely lead to rapid spread or transmission across communities and regions and eventually across the globe. In such circumstance, the disease is not ordinarily termed as a pandemic unless the WHO has accessed the circumstances of the disease and ascertained that it has passed the criteria for such status as a pandemic. Thus, the WHO will see how much the disease fits into the following¹¹:

⁹ Kelly, H. 'The classical definition of a pandemic is not elusive'; *Bulletin of the World Health Organization*, 2011; 89; 540-541; doi:10.2471/BLT.11.088815; Doshi, P. 'The Elusive definition of pandemic influenza'; *Bull World Health organization*, 2011; 89; 532-538; CDC, Pandemic Flu: Key Facts. Centers for Disease Control and Prevention, 17 October, 2005. Available on <https://www.ftp://ftp.cdc.gov/pub/avianinfluenza1/Appendix%20section%20of%20notebook/CDC%20Pandemic%20Influenza%20Fact%20Sheet.pdf> [Accessed 12 May, 2021]

¹⁰ Kelly, H. 'The classical definition of a pandemic is not elusive'; *Bulletin of the World Health Organization*, 2011; 89; 540-541; doi:10.2471/BLT.11.088815

¹¹ Lockett, E. 'What is a pandemic' *Healthline*, 2020, Available on <https://www.healthline.com/health/what-is-a-pandemic/> [Accessed 11 May, 2021]

a. Phase One:

The virus merely circulates in animal populations and has not been reported to have transmitted to human beings. At this phase, such disease is not categorised as pandemic and there is little or threat or risk of a pandemic;

b. Phase Two:

Here, an animal virus which circulates in animal populations has been reported in human beings. At this phase, there is a potential risk and threat of a pandemic which calls for further ascertainment of evidence on the disease.

c. Phase Three:

At this phase, the animal virus has led to a disease in a minimal cluster of human beings rightly via animal-human transmission. The consideration here is that the rate of transmission amongst human beings is poor and not able to lead to outbreaks across communities. Here, it is considered that although the virus places human beings at risk; there is low probability that the virus will be a pandemic.

d. Phase Four:

Here, the novel virus has a human-human transmission which is at a considerable level and capable of causing outbreaks across communities. At this phase there is a high risk and an outright signal of the virus developing into a pandemic.

e. Phase Five:

Here, the transmission has transcends into a minimum of two countries under the regions recognised by the WHO. At this stage, a pandemic is inevitable.

f. Phase Six:

Here, the transmission has been observed in more than two countries under the regions recognised by the WHO. At this phase, pandemic is in place as signals and risks of pandemic are high.

Chronology of Pandemic

From the foregoing, it is observed that pandemic is not defined by the rate of growth but mainly by the rate or speed of spreading. This does not infer that the growth rate of a pandemic should not be taken into consideration owing to the fact that the comprehension of the growth thereof will aid in the preparation of the outbreak. In some cases, some diseases and its outbreaks follow a growth or spread in an exponential manner – spreading at a rapid rate over a specific period. Take for instance the case of Ebola which seemed to transmit at a slower rate in some countries while having a relative higher transmission rate and prevalence in some other countries¹².

¹² United Nations Conference on Trade and Development, ‘COVID-19 and maritime transport: Impact and responses’; *UNCTAD*, 2020.

Examples of known pandemic or health crisis across the globe are stated in the table below:

Table 4.1 Pandemics/Health Crisis and the Year of Global Index Cases

Year	Pandemics/health crisis
1858	Swill milk scandal
1905	American meat scandal due to the publishing of Upton Sinclair's book "The Jungle"
1918	Spanish Flu
1963	Birth defects by Thalidomide
1981	Toxic Oil syndrome
1981	HIV/AIDS
1996	Bovine spongiform encephalopathy (BSE), commonly known as mad-cow disease
1998	Doñana disaster, also known as the Aznalcollar Disaster or Guadiamar Disaster
2001	Anthrax attacks in the United States, also known as Amerithrax
2003	Severe acute respiratory syndrome (SARS)
2004	Avian influenza (H5N1), sometimes avian flu, and commonly bird flu
2006	Côte d'Ivoire toxic waste dump Trans-fat toxicity
2007	Lead paint on toys from China
2008	Chinese milk scandal was a food safety incident in China, involving milk and infant formula, and other food materials and components, adulterated with melamine.
2009	Pandemic H1N1/09 Influenza
2012	Fraud on breast implants Poly Implant Prothèses (PIP)
2014	Ebola virus epidemic in West Africa
2015	Zika virus outbreak
2019	COVID-19 pandemic

Source: Sourced by the researcher through Google search.

Conclusion

From the discourse made in this study, no specific disease or health symptoms is known medically or otherwise as pandemic. Pandemic is simply a conglomerate of circumstances and conditions which may be inherent in any disease and only when such circumstances are observed would a particular disease be designated as a pandemic by the appropriate authority. Over the years, different pandemics have occurred and different approaches have been applied in tackling the pandemic. Some of the pandemics were extinguished within a shorter interval, while others like HIV/AIDs had since its outbreak become part of man's life. Currently, covid-19 pandemic has wreck health havocs across the globe with preventive measures still being seen as the best approach. However, the introduction of vaccination has gained stakes across various countries around the globe – all in the hope of minimising the prevalence rate and mortality rate of covid-19 pandemic.

Recommendation

By way of recommendation, the study recommends that the World Health Organization should endeavour to make its assessment in the earliest time and declare a disease as a pandemic as that would help States in making efforts and contributing resources in curbing the effects of the diseases and possibly terminating the disease. Eradicating pandemic had never been successful without a proper orientation especially at grassroots level in respect of preventive and safety measures which the people should adhere to. It follows that the health stakeholders across the globe should be expressive in proffering adequate orientation to the people especially those that cannot be reached vide social and mass media at the rural areas; as that would help in eradicating pandemics the best way.

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