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COVID 19: CONTROVERSIES AND IMPLICATIONS FOR DEVELOPMENT

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Abstract

Geography as a discipline has been traditionally concerned with issues relating to what is where, how, and why? The concern of geography as a discipline with these issues provides humanity with place-based information vital to healthy living on the planet. As observed in the literature, geography has always been a critical type of information that humans – in fact, all animals – collect, organize, and use, and that place-based information is vital to survival on our planet. The discipline is not only interested in 'what' is 'where', but also in the 'why' and 'how' of 'what' is 'where'. COVID-19,reported in late 2019 in Wuhan, China, has infested millions of people worldwide and caused thousands of deaths within a short period. While several efforts are on to curtail the spread of the pandemic, the origin of this deadly virus remains a subject of controversy. Hitherto, the micro-locational origin of COVID-19 is still being debated among researchers and the general public globally. Unravelling the myth about the exact origin/location of the virus will help in curbing its re-emergence. The paper examines the controversy about the precise origin of coronavirus (COVID-19) and discusses its challenges and implications for the development of the world economy.

Keywords: Corona virus, Covid-19, Pandemic, Controversy, Geography

Introduction

The current COVID-19 pandemic is caused by a new corona virus named SARS-CoV-2. It surfaced in late 2019 in Wuhan, China and has infested millions of people worldwide within a short period, causing thousands of deaths. While several efforts are on to curtail the spread of this pandemic, controversy still surrounds the origin of this deadly virus. Hitherto, the micro locational origin of COVID-19 is still being debated among researchers and the general public in different parts of the world. Unravelling the myth about the exact origin of the virus will help in considerably curbing its re-emergence. According to the World Health Organization (WHO), when a new virus is discovered, it is crucial to understand where it comes from. This is critical to identify and isolate the source and prevent further introductions of the virus into the human population. It also helps to understand the dynamics of the beginning of the outbreak, which can inform the public health response. Understanding the virus's origin may also aid the development of therapeutics and vaccines. This may help identify earlier cases and narrow the geographical areas and timeframes so that more specific investigations could be performed to identify the source (WHO website accessed, May 2020). This paper discusses corona virus (COVID-19) pandemic. The paper examines the current controversy about the exact origin of COVID-19 and discusses its geographical challenges and implications.

The COVID-19 pandemic

COVID-19 appeared in Hubei province in Wuhan, in China, in late 2019. According to Google Earth (accessed May 14 2020),Hubei is a landlocked province in Central China. Its varied terrain encompasses mountains, lakes and wilderness areas. Wuhan, its capital, is the site of picturesque East Lake, the 5-tiered Yellow Crane Tower and the vast

Hubei Provincial Museum. The province is also known for the Three Gorges, a popular destination for Yangtze River cruises and home to the massive Three Gorges Dam. Hubei province has an area of 185,900 km^2. As of 2015, Hubei province had a population of 58.5 million. Wuhan, the sprawling capital of Central China's Hubei province, is a commercial centre divided by the Yangtze and Han rivers. The city contains many lakes and parks, including expansive, picturesque East Lake. Nearby, the Hubei Provincial Museum displays relics from the Warring States period, including the Marquis Yi of Zeng's coffin and bronze musical bells from his 5th-century B.C. tomb. The city of Wuhan has an area extent of 8,494 km^2. As of 2018, the city has a population of 11.08 million.

According to Thiessen (2020), the first case of covid-19 appeared in China's Hubei province on November 17, 2019.It was not until March 11 2020 that Covid-19 was characterized as a pandemic by the WHO. Table 1 shows the WHO timeline of actions concerning Covid-19. As shown in the table, Wuhan Municipal Health Commission, China, reported a cluster of cases ofpneumonia in Wuhan, Hubei Province on December 31 2019. A novel corona virus was eventually identified. On January 4, 2020, WHO reported on social media that there was a cluster of pneumonia cases – with no deaths – in Wuhan, Hubei Province. The following day, WHO published its first Disease Outbreak News on the new virus. This is a flagship technical publication to the scientific and public health community and global media. It contained a risk assessment and advice, and reported on what China had told the organization about the status of patients and the public health response on the cluster of pneumonia cases in Wuhan. On January 10 2020, WHO issued a comprehensive package of technical guidance online with advice to all countries on how to detect, test and manage potential cases, based on what was known about the virus at the time. This guidance was shared with WHO's regional emergency directors to communicate with WHO representatives in countries.

Based on experience with SARS and MERS and known modes of transmission of respiratory viruses, infection and prevention control guidance were published to protect health workers recommending droplet and contact precautions when caring for patients and airborne precautions for aerosol-generating procedures conducted by health workers. On January 12 2020, China publicly shared the genetic sequence of COVID-19. On January 13 2020, Officials confirmed a case of COVID-19 in Thailand, the first recorded case outside of China. On January 14 2020, WHO's technical lead for the response noted in a press briefing there may have been limited human-to-human transmission of the corona virus (in the 41 confirmed cases), mainly through family members, and that there was a risk of a possible wider outbreak. The lead also said that human-to-human transmission would not be surprising given our experience with SARS, MERS and other respiratory pathogens. From 20th to 21st January, WHO experts from its China and Western Pacific regional offices conducted a brief field visit to Wuhan. On January 22 2020, WHO mission to China issued a statement that there was evidence of human-to-human transmission in Wuhan, but more investigation was needed to understand the full extent of transmission.

From 22nd to 23rd January 2020, the WHO Director-General convened an Emergency Committee (E.C.) under the International Health Regulations (IHR 2005) to assess whether the outbreak constituted a public health emergency of international concern. The independent members from around the world could not reach a consensus-based on the evidence available at the time. They asked to be reconvened within ten days after receiving more information. On January 28 2020, A senior WHO delegation led by the Director-General 'travelled to Beijing to meet Chinas leadership, learn more about China's response, and offer any technical assistance.

While in Beijing, Dr. Tedros agreed with Chinese government leaders that an international team of leading scientists would travel to China on a mission to better understand the context, the overall response and exchange information and experience. On January 30, The WHO Director-General reconvened the Emergency Committee (E.C.) meeting. This was earlier than the 10-day period and only two days after the first reports of limited human-to-human transmission were reported outside China. This time, the E.C. reached a consensus and advised the Director-General that the outbreak constituted a Public Health Emergency of International Concern (PHEIC). The Director-General accepted the recommendation and declared the novel corona virus outbreak (2019-nCoV) a PHEIC. This is the 6th time WHO has declared a PHEIC since the International Health Regulations (IHR) came into force in 2005.

WHO's situation report for January 30confirmed 7,818 total confirmed cases worldwide, with the

majority of these in China and 82 cases reported in 18 countries outside China. WHO gave a very risk assessment for China, and high at the global level. On February 3 2020, WHO released the international community's Strategic Preparedness and Response Plan to help protect states with weaker health systems. On 11th to 12th February 2020, WHO convened a Research and Innovation Forum on COVID-19, attended by more than 400 experts and funders from around the world, which included presentations by George Gao, Director General of China CDC, and Zunyou Wu, China CDC's Chief Epidemiologist. From the 16th to 24th February 2020, The WHO-China Joint mission, which included experts from Canada, Germany, Japan, Nigeria, the Republic of Korea, Russia, Singapore and the U.S. (CDC, NIH), spent time in Beijing and also travelled to Wuhan and two other cities. Maintaining physical distancing, they spoke with health officials, scientists and health workers in health facilities. The report of the joint mission can be found at: https://www.who.int/docs/default-source/coronaviruse/who-china-joint-mission-on-covid-19-final-report.pdf. On March 11 2020, deeply concerned both by the alarming levels of spread and severity and by the alarming levels of inaction, WHO made the assessment that COVID-19 can be characterized as a pandemic. *(See Table 1).*

The observed argument is that when the seriousness of the extent of the virus was being downplayed through the obstruction, delay and misinformation, particularly the period between the onset of the outbreak and when it was recognized as a serious problem, the virus kept spreading, doctors at the epicentre of the outbreak in Wuhan reportedly observed human-to-human transmission, doctors and nurses were getting sick (Thiessen, 2020; Gilsinan, 2020).An example was Dr. Li Wenliang, who was censured for spreading rumours after trying to alert other doctors of the new respiratory ailment; he later died of the virus at age 33 (Gilsinan, 2020; Sudworth, 2020). On January 14 2020, the World Health Organization tweeted that "Chinese authorities have found no clear evidence of human-to-human transmission".

On January 15, the head of China's Center for Disease Control and Prevention declared on state television that the risk of human-to-human transmission was low, which according to Thiessen (2020), was not true as more than 1,700 Chinese medical workers had been infected. Also, that period coincided with the Chinese New Year, for which millions of people travelled to visit family members and friends. According to Gilsinan (2020), that was when millions of Wuhan people were misinformed, then they travelled all over China, all over the world. On January 20, a Chinese official confirmed publicly for the first time that the virus could indeed spread among humans, and within days locked down the city of Wuhan, although but then it was too late (Gilsinan, 2020). By the time covid-19 became a pandemic, the virus had killed more than 4,000 people and had also infected 118,000 people across nearly every continent (Gilsinan, 2020). According to Gan et al. (2020), China has imposed restrictions on the publication of academic research on the origins of the novel corona virus. According to them, under the new policy, all academic papers on COVID-19 will be subject to extra vetting before being submitted for publication. They stated that studies on the origin of the virus will receive extra scrutiny and must be approved by central government officials. Very recently, an independent Chinese journalist was jailed for the Wuhan report (Nectar Gan and James Griffiths, 2020; BBC News, 2020). As observed in the literature, the Chinese government is very determined to silence and intimidate citizens that tried to expose what happened in Wuhan.

Recently, WHO carried out the first phase of investigation into the origin of COVID 19, which ended in February 2021. It concluded that it was highly unlikely that the virus came from a laboratory in Wuhan, China, and that it probably originated from bats. Nevertheless, the report indicates that China did not cooperate fully with the investigators. WHO urges China to cooperate better in the virus origin probe as they are planning the second phase of the investigation. The head of WHO called for greater access and transparency. According to him:

> *"WHO needed access to raw patient data from just before and the start of the pandemic this time around. China did not share this data with the WHO team during the first investigation, he added. He also called for clear information about the laboratory in Wuhan, stating that as a medical professional himself, he knew accidents could happen"*
>
> (BBC News, 2021, https://www.bbc.co.uk/news/world-asia-china-57855653*).*

Also, the United States President recently ordered the U.S. Intelligence to investigate the origin of covid-19 (Collinson, 2021). As the WHO is planning the second phase of corona virus origin investigation, the most recent information about the response of China

Table 1: World Health Organization (WHO) Timeline on COVID-19

Timeline	WHO actions
December 31 2019	Wuhan Municipal Health Commission, China, reported a cluster of cases of pneumonia in Wuhan, Hubei Province. A novel corona virus was eventually identified.
January 1 2020	WHO had set up the IMST (Incident Management Support Team) across the three levels of the organization: headquarters, regional headquarters and country-level, putting the organization on an emergency footing for dealing with the outbreak.
January 4 2020	WHO reported on social media that there was a cluster of pneumonia cases – with no deaths – in Wuhan, Hubei province.
January 5 2020	WHO published our first Disease Outbreak News on the new virus. This is a flagship technical publication to the scientific and public health community as well as global media. It contained a risk assessment and advice, and reported on what China had told the organization about the status of patients and the public health response on the cluster of pneumonia cases in Wuhan.
January 10 2020	WHO issued a comprehensive package of technical guidance online with advice to all countries on how to detect, test and manage potential cases, based on what was known about the virus at the time. This guidance was shared with WHO's regional emergency directors to share with WHO representatives in countries. Based on experience with SARS and MERS and known modes of transmission of respiratory viruses, infection and prevention control guidance were published to protect health workers recommending droplet and contact precautions when caring for patients and airborne precautions for aerosol-generating procedures conducted by health workers.
January 12 2020	China publicly shared the genetic sequence of COVID-19.
January 13 2020	Officials confirm a case of COVID-19 in Thailand, the first recorded case outside of China.
January 14 2020	WHO's technical lead for the response noted, in a press briefing, there may have been limited human-to-human transmission of the corona virus (in the 41 confirmed cases), mainly through family members, and that there was a risk of a possible wider outbreak. The lead also said that human-to-human transmission would not be surprising given our experience with SARS, MERS and other respiratory pathogens.
20th - 21st January	WHO experts from China and Western Pacific regional offices conducted a brief field visit to Wuhan.
January 22	WHO mission to China issued a statement saying that there was evidence of human-to-human transmission in Wuhan, but more investigation was needed to understand the full extent of transmission.
22nd – 23rd January	The WHO Director- General, convened an Emergency Committee (E.C.) under the International Health Regulations (IHR 2005) to assess whether the outbreak constituted a public health emergency of international concern. The independent members from around the world could not reach a consensus-based on the evidence available at the time. They asked to be reconvened within ten days after receiving more information.
January 28 2020	A senior WHO delegation led by the Director-General travelled to Beijing to meet China's leadership, learn more about China's response, and to offer any technical assistance. While in Beijing, Dr. Tedros agreed with Chinese government leaders that an international team of leading scientists would travel to China on a mission to better understand the context, the overall response and exchange information and experience.
January 30 2020	The WHO Director-General reconvened the Emergency Committee (E.C.). This was earlier than the 10-day period and only two days after the first reports of limited human-to-human transmission were reported outside China. This time, the E.C. reached a consensus and advised the Director-General that the outbreak constituted a Public Health Emergency of International Concern (PHEIC). The Director-General accepted the recommendation and declared the novel corona virus outbreak (2019-nCoV) a PHEIC. This is the 6th time WHO has declared a PHEIC since the International Health Regulations (IHR) came into force in 2005. WHO's situation report for January 30 reported 7818 total confirmed cases worldwide, with the majority of these in China and 82 cases reported in 18 countries outside China. WHO gave a risk assessment of very high for China and high at the global level.
February 3 2020	WHO releases the international community's Strategic Preparedness and Response Plan to help protect states with weaker health systems.
11th – 12th February	WHO convened a Research and Innovation Forum on COVID-19, attended by more than 400 experts and funders from around the world, which included presentations by George Gao, Director General of China CDC, and Zunyou Wu, China CDC's chief epidemiologist.

Source: WHO website accessed May 15, 2020

is that the Chinese government has rejected the plan and that the Chinese government will not participate in the second phase of WHO plans investigation of covid-19 virus origin (Westcott et al. 2021;BBC News, 2021 https://www.bbc.co.uk/news/world-asia-china-57926368)

Nigeria recorded her first index case on February 27, 2020. According to the Nigerian Centre for Disease Control (NCDC) website accessed on the 18th May 2020, a 44-year old Italian citizen was diagnosed with COVID-19 in Lagos State on February 27, 2020. The case was the first to be reported in Nigeria since the first confirmed case was reported from China in January 2020. The case arrived at the Murtala Muhammed International Airport, Lagos, at 10pm on February 24 2020, aboard a Turkish airline from Milan, Italy. He travelled on to his company site in Ogun State on February 25. On February 26, he presented at the staff clinic in Ogun State, and there was a high index of suspicion by the managing physician. He was referred to Infectious Disease Hospital (IDH) Lagos, and COVID-19 was confirmed on February 27. Since then, the statistics of the infection and associated death have been increasing daily. The infection has caused a lot of damages which include: loss of lives, economic strangulation, trauma, hardship, social disorientation, mental torture and disruption of the normal daily existence of people of Nigeria.

COVID-19 Origin Controversy

There have been different views and opinions about the origins of the new corona virus called -COVID 19 (Walsh, 2021; Thomas, 2021; Sidhu and Walsh, 2021; Collinson, 2021; BBC News, 2021https://www.bbc.co.uk/news/world-asia-china-57855653; Kuznia and Griffin, 2020). This is due to the fact that the real origin of the virus is yet unknown. Thus, this vacuum of knowledge about the origins of the new corona virus ravaging the world has provided fertile ground for all manner of theories – from the fantastic to the dubious to the believable and even to the conspiratorial (Kuznia and Griffin, 2020).Observation from various arguments about the origin of the virus reveals that some see it as a bio-weapon manufactured by the Chinese. Another line of argument was that U.S. Army brought the virus to Wuhan. Nevertheless, some argued that from their investigations, they observed that there was zero evidence the Chinese or American government purposefully introduced the new virus – SARS-CoV-2- to the public; that anyone who claims to know the source of Covid-19 is merely guessing (Kuznia and Griffin, 2020). Other schools of thought argued that it leaked – like a genie out of a bottle – from a Lab in an accident. From their investigations, they observed that the possibility that it entered humans through a laboratory accident cannot and should not be dismissed and that lab-accident theory has credence even though not yet been confirmed. In contrast, others argued that it took root at a wildlife market in Wuhan. Proponents believe that the gory nature of these crowded markets packed with people and wild animals slated for slaughter makes them the most likely culprit, but many of the first known patients had no direct exposure to the so-called market (Kuznia and Griffin, 2020). To date, observation from various arguments reveals that probably it came from bats. According to WHO, SARS-CoV-2, the virus responsible for COVID-19, belongs to a group of genetically-related viruses that includes SARS-CoV and a number of other CoVs isolated from bat populations. The most recent speculation as the debate continues whether funds from the United States of America were used to run the risky research in China. This is linked to the yet to be proved theory that the virus could have leaked from a Lab in Wuhan, the Chinese city where the virus was first detected. This speculation centred on research carried out on bat viruses at the Wuhan Institute of Virology. The argument was that United States money was used to fund research at the Wuhan Institute of Virology which made some viruses (not corona virus) more infectious and more deadly, known as 'gain of function' (BBC News, 2021 https://www.bbc.co.uk/news/57932699)

As explained in the report by BBC News, "gain-of-function" is when an organism develops new abilities (or "functions"). This can happen in nature or can be achieved in a lab when scientists modify the genetic code or place organisms in different environments to change them in some way. The United States did give money to the U.S. National Institute of Allergy and Infectious Diseases (NIAID), part of the U.S. government's National Institutes of Health (NIH).This body did give money to an organization that collaborated with the Wuhan Institute of Virology. The organization - the US-based Eco Health Alliance - was awarded a grant in 2014 to look into possible corona viruses from bats. Eco Health received $3.7m from the NIH, $600,000 of which was given to the Wuhan Institute of Virology. In 2019, its project was renewed for another five years but then pulled by the Trump

Administration in April 2020 following the outbreak of the corona virus pandemic.

According to the report by the BBC News, the director of the U.S. National Institute of Allergy and Infectious Diseases (NIAID) stated that the National Institutes of Health (NIH) "has not ever and does not now fund gain-of-function research in the Wuhan Institute of Virology". But then the argument went further than two academic papers by the Chinese institute, one from 2015 (written together with the University of North Carolina) and another from 2017. That the research in both papers showed that new viruses (that did not already exist naturally) were created, and these "risked creating new potential pathogens" that were more infectious. That the research in both papers was gain-of-function research". But the Director of the U.S. National Institute of Allergy and Infectious Diseases (NIAID) asserted that the research in question "has been evaluated multiple times by qualified people to not fall under the gain-of-function definition". The NIH and Eco Health Alliance have also rejected suggestions they supported or funded "gain-of-function" research in China. According to them, they said they funded a project to examine "at the molecular level" newly-discovered bat viruses and their spike proteins (which help the virus bind to living cells) "without affecting the environment or development or physiological state of the organism". Also that the work was reviewed by both the NIH and the university's own bio-safety committee "for the potential of gain-of-function research and was deemed not to be gain-of-function". Also, that none of the viruses which were the subject of the 2015 study are related to Sars-Cov-2, which caused the pandemic in 2020.

Conclusion and Implications for Development

The current situation on the knowledge about the origin of Covid-19 and the obstruction to investigations is a challenge to global geographical knowledge vital in the fight to curtail the spread of the virus. Geography and development have been traditionally concerned with issues relating to what is where, how, and why? The concern of geography as a discipline with these issues provides humanity with place-based information, which is vital to healthy living on the planet. In fact, according to Dangermond (2011), geography has always been a critical type of information that humans – in fact, all animals – collect, organize, and use, and that place-based information is vital to survival on our planet. The discipline is not only interested in 'what' is 'where', but also in the 'why' and 'how' of 'what' is 'where'. The implications of this vacuum in knowledge about the 'why' and the 'how' of Covid-19 about its locational origin, which is still being debated among researchers and the general public, is not good for the whole world and the global fight against the virus. This gives room for the emergence of conspiracy theories that can do nothing except create fear, rumours, and prejudice that jeopardize the global collaboration in the fight against the virus (Kuznia and Griffin, 2020). The implications of this include delays, distrust, disunity and lack of cooperation in the efforts to curtail the pandemic. The result is slow proactive countermeasures to curtail the scourge and the consequent increases in the damaging effects of the pandemic.

Whatever the type and their controversies notwithstanding, the scourge has done a devastating effect on the global economy, reducing peoples income and living standards, thereby expanding the poverty brackets in nearly all countries of the world. And for the group of developing countries, a lot would need to be done at both bilateral and multilateral levels to mitigate the present and future unintended effects of the virus and its emerging variants.

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