



COVID – 19 Pandemic in Malawi

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Summary

On 20th of March, 2021 the Malawian President, Peter Mutharika, declared coronavirus disease 2019 (COVID-19) a national disaster in Malawi, although the country had not registered any cases at the time. Malawi recorded its first three cases of COVID-19 on 2nd April 2020. The disease proceeded to affect more than 5704 people and more than 178 deaths reported by September 10th 2020. Many questions arise while comparing the COVID-19 epidemic in Malawi to other countries like the European Union Countries and China. Malawi was faced with so many challenges in controlling this pandemic such as poverty, low literacy levels, environmental and hygienic conditions as well as nutrition. Despite all these factors, the outbreak of COVID-19 in Malawi was slower than many developing and developed countries. According to many scholars, the youthful population, hot weather, population immune system and humid conditions were factors that favoured the reduced effect of COVID-19 in Malawi. In this paper, we discuss the outbreak of COVID-19, comparing to China and the economics of Malawi and government reliefs.

Keywords: Coronavirus, COVID-19, Malawi, Pandemic

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Introduction

At the end of 2019, Wuhan, a city of 11 million people in China experienced an outbreak of a viral disease which killed more than 1850 people and infected more than 70,000 people during the first few days of the epidemic. Later on, Chinese researchers identified the virus as the novel corona virus and it was named SARS-COV-2 and the disease as COVID-19¹. Its biological features are shown in table 1, presented at the end of this article². Severe acute respiratory syndrome was detectable in aerosols for up to three hours, up to one day on cardboard and a maximum of three days on plastic and stainless steel surfaces³.

The COVID-19 infection spread everywhere in the world, compelling us to live

with it for a long time. Many governments and scientists continued to disseminate important information regarding COVID-19 and its presentation⁴. For instance, not all people exposed to COVID-19 were symptomatic and not all infected patients developed severe respiratory infection.

COVID-19 can be categorized into three stages: stage I, an asymptomatic incubation period with or without detectable virus; stage II, non-severe symptomatic period with detectable virus; and stage III, severe respiratory symptomatic phase with high viral load⁵. Several researchers have stated that the severe acute respiratory syndrome (SARS) outbreak was caused by SARS-COV-2002 in Guangdong, China⁶.



COVID-19 Outbreak in China

On December 31st 2019, Chinese researchers alerted the World Health Organization (WHO) of several cases of an unusual pneumonia in Wuhan, China. Many infected people worked at the Citi's Huanan Seafood Wholesale Market with more than 40 infected employees. The market was a selling point of live animals such as marmots, birds, bats, and frogs⁷. It was assumed that the Seafood market had infected animals so people were infected from the virus if they came in contact with the animals or visited the market.

Further research revealed that some individuals were infected with the virus with no record of coming in contact with the animals or visiting the market. Thus, subsequent observations disclosed the human-to-human infection capabilities of the virus.

The virus spread through exposure to virus-containing airborne aerosols expelled from an infected person during coughing and sneezing; which could penetrate to the lungs of a vulnerable host through the nose or mouth and cause infection⁸. The virus also spread through coming in close contact with an infected person. Table 2 shows the early stages of what was referred to as wave I.

COVID-19 Outbreak in Malawi

Table 3 gives the COVID-19 outbreak report on daily basis in Malawi.

Control of COVID-19 in Malawi

Economic Impact

According to researchers during COVID-19 outbreak, Malawi's economy dropped tremendously leading to a drop in its GDP and rendered many people unemployed or salary cuts¹⁴. Malawi has been receiving aid since its independence and almost 40% of its

budget comes from foreign donors¹⁵ yet, most of the aid ceased and industries closed during the pandemic. Malawi's stock exchange also experienced a major slump due to the pandemic. In the month of April, 2020 Malawi's Economic Monitor (MEM) suffered several trade deals.

Closures of Schools and Colleges/Universities

At the very beginning of the outbreak, few children were identified as COVID-19 cases, however, most countries including Malawi had their schools and colleges closed. Earlier, researchers thought that children did not get easily infected and consequently did not transmit the infection to other people. Nevertheless, there were no scientific studies affirming that children did not transmit the virus. Later studies indicated that children and younger kids got infected too¹⁶.

Malawian president, Peter Mutharika ordered schools and colleges to be closed even before there was a single case of COVID-19 as a means to control the spread of the virus. Understanding this principle of school closure was sought in order to help control COVID-19 despite children being infected after school closure.

Enclosed and Open-Air Conditions

People tend to spend more time in their home depending on seasonality. For example, during winter, people spend more time indoors with less personal space and with less ventilation compared to summer where people spend time outdoors. Schools and colleges have been identified as potential places for increased opportunities for infectious disease transmission for respiratory viruses such as chicken pox, measles and flu¹⁷.



Treatment Plan and Development of Vaccines

There were over 80 clinical trials to check for diversity of potential SARS-CoV-2 vaccine all over the World¹⁸. Use of serum from patients who had recovered from the virus was a very effective treatment modality. These patients would have developed a specific antibody response which would have been helpful in counteracting the virus in a newly-infected person. This technique had been used in the past¹⁹. Researchers reported that COVID-19 patients developed antibodies against the virus. Several Specialists attempted passive immunization where the plasma was infused to the coronavirus patient to assist their systems repulse the highly contagious disease. The process begun to show effectiveness within 48 hours after exposure to treatment and within the next 6-8 days when the patients improved²⁰.

Globally, the long-standing goal of COVID-19 research was to develop an effective vaccine to produce neutralising antibodies. Researchers from the National Institute of Health, United States and other researchers from other parts of the world worked on a vaccine based on the knowledge they had on the corona viruses in general, using evidence from the SARS outbreak.

Weather Conditions

Scientists worked on the effects of temperature and relative humidity on COVID-19 since there was a lot of speculation surrounding the relationship between weather conditions and coronavirus spread. Countries with dry cold air had favourable conditions for flu transmission but for coronavirus, the relevance of weather condition was unknown. To take the example of influenza; absolute humidity strongly affects flu transmission, with drier conditions being more favourable to flu transmission than colder conditions^{11, 12}. A Vietnamese study noted influenza-like

illnesses, without distinguishing influenza from other types of pathogens¹³. This possibly denoted that similar mechanisms may be at work for other respiratory viruses, but there were no studies that examined the effect of humidity for coronavirus.

Conclusion

Evidence demonstrated that the rate of transmission of COVID-19 in Malawi appeared to be less if compared with other countries. It was hypothesized that the low rate of infection may have been attributed to many reasons such as wide vaccination, tropical conditions, and hot weather and early government precautionary measures.

There were many reservations about how the pandemic would be controlled in Malawi especially with early warning signs of a wave II. The Government's support mechanism was inadequate to address these challenges especially for rural and poor communities since they did not abide by the government disease containment rules.

Conflict of Interests

The Authors have no conflict of interest

Ethical Approval

This article did not involve any human participants or animals, hence did not require Ethical Clearance.

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Appendix

Table 1: Biological Features of SARS-COV2 (Last updated: September 9th 2020)

Features	SARS-COV-2 (COVID-19)
Epidemic date	December 2019
City of eruption	Wuhan, China
Number of countries infected	Worldwide
Symptoms	Fever, cough and shortness of breath
Total infected people	29,737,453
Total recovered patients	21,050,000
Total deaths	937,391

Table 2: Timeline of Early Stages of COVID-19

Dates	Events
31 st December 2019	Unusual pneumonia cases of unknown origin reported by Chinese researchers
1 st January 2020	Hunan Seafood market closed
7 th January 2020	Novel coronavirus isolated
11 th January 2020	First fatal case reported
12 th January 2020	Named as 2019-Ncov (WHO)
13 th January 2020	First cases in Thailand reported
16 th January 2020	First cases in Japan reported
19 th January 2020	2 cases in Beijing and first case in Korea
20 th January 2020	2019-nCOV reported among health care workers
24 th January 2020	853 cases reported in China
25 th January 2020	1320 cases of which 1297 where from China
February 2020	73,332 cases; 72,528 in China & 1870 deaths; outside China 804 cases in 25 countries with 3 deaths
March 2020	750,890 cases; 36,405 deaths
April 2020	3,090,445 cases; 217,769 death
May 2020	5,934,936 cases; 367,166 deaths
June 2020	10,185,374 cases; 503,862 deaths
July 2020	17,106,007 cases; 668,910 deaths
August 2020	17,396,943 cases; 675,060 deaths
September 2020	30,540,446 cases; 952,724 death



Table 3: COVID-19 Daily Update in Malawi till August 2020 (Last update: September 22nd 2020)
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March 20	President Peter Mutharika declared a State of Disaster because of COVID-19, though Malawi had not recorded any cases at the time. Colleges and schools were closed and public functions were restricted to a maximum of 100 people
April 1	Authorities suspends all international flights to and from Malawi with exemption of flights ferrying essential health equipment, health personnel and emergency relief items.
April 2	Malawi recorded its three cases of COVID-19, leading the government to suspend all formal gatherings, meetings and conferences. Malawi recorded its first COVID-19 death. The patient was a 51-year old Malawian woman with underlying health condition who recently returned to Malawi from UK.
April 12	10 new cases were recorded in Lilongwe Malawi
April 17	Residences in Limbe – Blantyre district protested by blocking nearby road with burning tires due to national wide lockdown. They were forcibly dispersed using tear gas by police officers.
April 18	Cases continue to rise with 16 cases recorded leading to the government Special Cabinet Committee on COVID-19 announcing a 21-day lockdown to control the spread of the disease.
April 28	36 cases were recorded and reported 2 recoveries. Malawi’s visually impaired gets COVID-19 information on braille pamphlets.
May 1	1 new case was recorded, a 35-year-old female based in Mzuzu.
May 10	1 new case and 10 recoveries were recorded. The new case was recorded in Mulanje. A 27-year old man who arrived from South Africa on 27 th April and was on self-isolation until developing symptoms.
May 15	65 cases recorded (26 in Lilongwe, 16 in Blantyre, 9 in Thyolo, 5 in Nkhata Bay, 3 in Mzuzu, 1 in Nzomba, 1 in Chikwawa, 1 in Nkhotakota, 1 in Karonga, 1 in Mangochi and 1 in Mulanje) including 3 deaths.
May 16	5 new cases of COVID-19 were recorded. Two cases in Lilongwe with travel history, two health care workers in Blantyre and one case in Zomba who was in contact with a truck driver who frequently travelled to South Africa.
May 25	Malawi recorded 101 cases including 4 death.
May 29	6 new cases were recorded, no new recoveries and no casualties. Of the new cases, 2 were identified among 146 deportees from South Africa who arrived on May 25 th through the Kamuzu International Airport.
June 9	41 new cases were recorded since May 30 th . 31 of the total cases were associated with travel.
June 10	26 new cases were registered, 10 new recoveries and no deaths. 9 were associated with travel, 5 from Lilongwe of which four are contacts of two different confirmed cases and one was being investigated to establish the source of infection.
June 11	7 new cases were recorded, no new recoveries and one new death. The new cases were from Salima who were from South Africa.



Table 3: COVID-19 Daily Update in Malawi till August 2020 (Last update: September 22nd 2020)
Continued^{9,10}

June 12	32 new cases were recorded, three new recoveries and one new death. The new death was a frontline health worker in COVID-19 fight.
June 13	22 new cases were recorded, 4 of which were health care workers. One new recovery and one death were recorded.
June 18	The recommendation from the presidential taskforce on COVID-19 that higher education institutions in Malawi should be reopened has been welcomed by student leaders.
June 23	Election was conducted in Malawi despite fear of coronavirus in the country.
June 26	33 new cases were recorded, of which 8 were health care workers. Three from Lilongwe, 2 from Mangochi, one each from Mzimba South, Salima and Zomba. 24 were linked to being in close contact with confirmed cases and one was imported.
June 27	114 new cases were recorded. Five of the new cases are health care workers from Mzuzu. 103 cases were linked to being in close contact with confirmed cases and 6 were imported.
June 28	72 new cases recorded, no new recoveries and one new death. The new death was a 64-year-old female that dies in Balaka District Hospital.
June 30	77 new cases recorded 11 new recoveries and no new death.
July 1	60 new cases recorded 46 new recoveries and no new death. Cumulatively, there are 1402 cases including 16 deaths.
July 5	205 new cases recorded one recovery and two deaths. The new deaths are both females, one each from Lilongwe and Blantyre. Malawi's president announced that coronavirus was spreading "all over Malawi" and "faster than before"
July 6	Malawi's president cancelled Independence Day celebration and further scaled back plans for presidential inaugurations.
July 9	83 new cases recorded 6 new recoveries and two deaths. The deaths are from Blantyre and Nkhata Bay. 78 cases were linked to being in close contact and 5 imported cases.
July 15	102 cases recorded 72 new recoveries and eight deaths. 101 cases were locally transmitted and one was an imported infection.
July 16	94 new cases, 34 new recoveries and 4 new deaths. Three of the new deaths were from Blantyre and one from Lilongwe. Of the new cases, 87 were locally transmitted and 7 imported infections.
July 17	All districts in Malawi registered COVID-19 cases with Ntchisi being the latest. 85 new cases recorded (48 locally transmitted cases and 37 were imported infections), 18 new recoveries and three new deaths.
July 18	97 new cases (92 cases locally transmitted infections of which 9 were health care workers and five cases imported), 24 new recoveries and 4 new deaths.
August 1	108 newly registered cases, 39 new recoveries and six new deaths. All new cases were locally transmitted infections of which two were health care workers from Nkhata Bay.
August 2	45 new cases were recorded, five new recoveries and three new deaths.



Table 3: COVID-19 Daily Update in Malawi till August 2020 (Last update: September 22nd 2020)
Continued^{9,10}

August 3	Malawi registered 42 new cases (22 locally transmitted infections and 20 were imported), 101 new recoveries and no new deaths.
August 5	65 new cases were recorded (all locally transmitted), 31 new recoveries and 8 new deaths
August 7	Malawian government announced face masks mandatory in public areas. Failure to wear a mask attracted fine of USD 13.
August 10	16 new cases recorded and 55 new recoveries. Malawian authorities introduced new COVID-19 measures following increase in coronavirus. All public places and gatherings were closed with exception of funerals which were only allowed 50 people in attendance.
August 15	38 new cases registered 47 new recoveries and one death.
August 26	51 new cases registered 19 new recoveries and three new deaths. Two deaths were from Lilongwe and one from Dowa.
August 27	22 new cases registered (all locally transmitted infections), 36 new recoveries and no new deaths. Malawi announced to lift ban on air travels and school restrictions.
August 28	27 new cases registered (21 were locally transmitted and six imported infections), 22 new recoveries and no new deaths.
September 1	10 new cases registered and 260 new recoveries. Currently the country has recorded 5,576 cases including 175 deaths.
September 3	14 new cases recorded and 16 new recoveries. Of the new cases, 12 were locally transmitted infections and two imported cases were identified at the Mwanza border during routine screening of people entering Malawi. It is worth noting that Mwanza border is the border between Tanzania and Malawi. Tanzania was previously reported to have no COVID-19 by the President.
September 7	7 new cases registered 39 new recoveries and one death.
September 9	23 new COVID-19 cases and 21 new recoveries. Of the new cases, 19 were locally transmitted infections and 4 imported infections. Two of the imported cases were from a Refugee Camp in Dowa and other two were truck drivers identified at Mwanza boarder.
September 13	Malawi President calls for a collaborative effort against COVID-19 which has so far infected approximately 6,000 Malawian's and killed over 170 people. However, commentators lamented that the government should stop focusing on COVID-19 alone.
September 17	7 new COVID-19 cases, 236 new recoveries and one death. The death was a 32-year old male from Blantyre.
September 20	13 new cases recorded 10 new recoveries and no new death. Cumulatively, Malawi has recorded 5,731 cases including 179 deaths. Additionally, 4,040 cases have recovered. The average age of the cases is 36.6 years.