



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Perspective

What works and what does not work in response to COVID-19 prevention and control in Africa



Erigene Rutayisire^{a,*}, Gerard Nkundimana^b, Honore K. Mitonga^c, Alex Boye^d, Solange Nikwigize^a

^a Public Health Department, Mount Kenya University Rwanda, Kigali, Rwanda

^b Internal Medicine Department, Kibuye Referral Hospital, Rwanda Ministry of Health, Rwanda

^c School of Public Health, University of Namibia, Namibia

^d Department of Medical Laboratory Sciences, School of Allied Health Sciences, University of Cape Coast, Cape Coast, Ghana

ARTICLE INFO

Article history:

Received 20 April 2020

Received in revised form 7 June 2020

Accepted 8 June 2020

Keywords:

COVID-19

Response

Prevention

Control

Africa

Measures

ABSTRACT

Since the emergence of the COVID-19 pandemic in December 2019 in Wuhan, China, there have been nearly 6,663,304 confirmed cases of COVID-19, including 392,802 deaths, worldwide as of 10:00 CEST 06 June 2020. In Africa, 152,442 COVID-19 cases and 4334 deaths have been reported as of 02 June 2020. The five countries with the highest commutative number of cases in Africa are South Africa, Egypt, Nigeria, Algeria, and Ghana. Africa, and the rest of world, has had to swiftly undertake the necessary measures to protect the continent from irreversible effects of the COVID-19 pandemic that is claiming lives and destroying livelihoods. The lower number of COVID-19 cases in most African countries is attributed to inadequate health systems, low-to-absent testing capacity, poor reporting systems, and insufficient numbers of medical staff. The COVID-19 pandemic poses a great threat to most African countries, from cities to rural areas, and has created a strong demand on already scarce resources. Intense mobilization of additional resources is required to implement established emergency contingency measures. Measures to prevent the spread of COVID-19 include closure of borders and restricting movement of people within a country; this has resulted in the tourism sector being adversely affected by the loss of income. Cooperative prevention and control measures are one of the promising solutions to deplete the spread of COVID-19 on the continent.

© 2020 The Authors. Published by Elsevier Ltd on behalf of International Society for Infectious Diseases. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

Since its emergence in December 2019 in Wuhan, China, there have been nearly 6,663,304 confirmed cases and 392,802 deaths related to coronavirus disease, as reported from 215 countries and territories (WHO Situation Report-138, 2020). On 11 March 2020, the World Health Organization (WHO) declared COVID-19 a pandemic, pointing to over 118,000 cases of the coronavirus illnesses in over 110 countries and territories around the world and the sustained risk of further global spread. The rapidly evolving COVID-19 pandemic places a heavy burden on healthcare systems. This burden is projected to become worse in low-income and middle-income countries already struggling with weak healthcare

systems, scarce financial resources, protective equipment, poor testing and treatment capacities, and lack of research funding (Betsch et al., 2020). Low-income and middle-income countries need enormous global support to prepare for impending crisis (The Lancet, 2020) and identify where they can allocate more resources to prevent and control COVID-19.

As of 09:00 EAT 20 June 2020, a total of 152,442 COVID-19 cases and 4334 deaths had been reported in 54 African countries. This is about 2.5 of all cases reported globally. Since the last brief on 26 May 2020 from the Africa Centers for Disease Control and Prevention (CDC), the number of COVID-19 cases has increased by 32% (37,096 cases); this shows the burden that COVID-19 could impose on African countries. As of 02 June 2020 the five countries with the highest cumulative number of cases are: South Africa (34,357 cases), Egypt (26,384 cases), Nigeria (10,578 cases), Algeria (9513 cases), and Ghana (8070 cases) (Africa CDC, *Outbreak Brief-20, 2020*). The comparatively low number of positive cases of COVID-19 in Africa is attributed to low-to-absent testing capacity, poor reporting systems, and insufficient numbers of medical staff.

* Corresponding author at: Public Health Department, Mount Kenya University Rwanda, Rwanda.

E-mail addresses: rerigene@yahoo.com, erutayisire@mkurwanda.ac.rw (E. Rutayisire).

Evidently, COVID-19 poses a great threat to most African countries from cities to rural areas (Lucero-Prisno et al., 2020); it has created a strong demand on already scarce resources and requires intense mobilization of additional resources to support local emergency contingency measures in compliance with the WHO and Africa CDC recommendations and directives.

The African continent, as with the rest of the world, continues to confirm additional cases of COVID-19. Up to now, COVID-19 has no effective treatment, there are no available vaccines and it can spread from both asymptomatic and symptomatic cases. COVID-19 is the type of infectious disease that is highly transmissible, crosses borders and threatens a country's health and global economy. Patients with COVID-19, especially those with comorbidities, may develop severe disease and experience adverse outcomes, creating additional burden on healthcare systems. That is why the authorities specifically in Africa have a duty to respond to this pandemic with effective and appropriate interventions, policies and messages. At present, in order to protect citizens' health, most of the African countries have activated their national health emergency management committees, which are special committees on COVID-19 response that are mostly chaired by ministers of health. As new evidence becomes available, African countries continue to share experiences and effective strategies in order to improve COVID-19 prevention and control in solidarity.

Current COVID-19 response in Africa

The Africa CDC (Africa CDC), WHO and other international agencies are providing support and guidance to many African countries in response to the COVID-19 pandemic. Since the early stages of COVID-19 in Africa, many African countries have received facemasks, ventilators, test kits, and other medical equipment from different countries and international agencies. Specifically, Africa CDC is providing guidelines on contact tracing, community social distancing, an Africa Joint Continental Strategy for COVID-19 outbreak, and weekly scientific and public health policy updates (Africa CDC: Outbreak Brief #20).

The African Union has established an Africa Taskforce for novel coronavirus (AFTCOM) as a continental platform to better coordinate all COVID-19 prevention measures across the continent. Through an established task force, Africa CDC supports affected countries in surveillance by providing remote technical support to the African Union member states (Africa CDC, Feb 2020). Most African countries appreciate the importance of lockdown, closure of borders and restrictions on people's movement within the country as measures to prevent the spread of COVID-19. The lockdown has ranged between 14–60 days in most African countries.

As cases in the continent continue to rise, member states have continued to extend imposed public health measures, including total lockdown in Senegal, Sierra Leone and Zimbabwe. Mandatory wearing of masks in public is happening in Botswana and Rwanda. Other member states have allowed a partial reopening of the economy and/or schools, including Benin, Botswana, Cameroon, Lesotho, Djibouti, Nigeria, and Burkina Faso. However, precautionary measures remain in place such as wearing facemasks, using hand sanitizer and gloves, and maintaining social distancing.

In response to the Africa CDC recommendation to reduce the spread of COVID-19, 43 African countries have closed their borders, seven have closed international air traffic, two have imposed travel restrictions to and from specific countries, and three have imposed entry/exit restrictions. In addition, some African countries have placed mandatory quarantine for all travelers arriving in the country (Africa CDC, COVID-19 Scientific and Public Health Policy). For instance, people arriving in Rwanda since 21 March 2020 are subject to a mandatory 14-days of quarantine in selected health

and testing facilities. Individuals staying in such facilities around the country are provided with meals, medical care and other needs while under quarantine and the costs are covered by the government. Some African Union member states still allow citizens and residents to enter and such people should be directly placed in quarantine for 14 days and tested before taken to their families.

The number of people who have lost jobs due to the COVID-19 pandemic in Africa has significantly increased and the World Bank report shows that the African economy is going to be affected. Most African countries have reduced revenue due to reduced economic activity resulting from the lockdown as well as to reduced exports/imports of primary commodities. A large proportion of the economies on the African continent were covered by the tourism sector. With travel bans and restrictions imposed on foreign nationals, particularly those coming from severely affected countries, this has resulted in the sector being adversely affected by the loss of income (Lucero-Prisno et al., 2020). Consequently, a large number of workers, specifically in the informal sector, have lost their jobs due to the fact that their employers could not keep paying them without additional revenue.

To protect vulnerable citizens' health, some African governments have allocated resources to cover their basic needs. For example, Zimbabwe had budgeted over \$600 million for vulnerable households under a cost transfer program for the next 3 months. Rwanda and Ghana took initiatives of providing food and other primary needs to needy populations hard hit by the COVID-19 pandemic. In Namibia, the government initiated the Emergency Income Grant (EIG) amounting to N\$562.0 million. The grant is a once-off payment of N\$750.00 in a cash grant per qualifying person, on the basis of a set of eligibility criteria properly defined for vulnerable people; it is estimated to benefit up to 739,000 Namibians. Countries commit to leave no solution unexplored to ensure a healthy recovery from COVID-19 and pursue return-to-work strategies once the disease is under control.

Country and community compliance to COVID-19 response

Unfortunately, African countries are not complying at the same level to the COVID-19 prevention and control measures. Disparity in responses to the pandemic across African countries are linked to the different timing in the start of the disease, existing lack of adequate healthcare resources, poor public health systems, and community ignorance. Despite reported low case-fatality of COVID-19, the pandemic is likely to cause more deaths in Africa if the compliance to COVID-19 prevention and control measures continues to be ignored, as observed in some African countries.

There is a growing concern that COVID-19 could spread further and heavily hit the African continent (El-Sadr and Justman, 2020), due to existing fragile healthcare and public health systems, inadequate healthcare infrastructure, lack of access to safe water and sanitation, lack of food safety, and political instability. In Africa, one factor that could mitigate COVID-19-related mortality is its very young population demography; in fact, >50% of the African population is aged <20 years. However, this group of people is also surrounded by many problems, including poverty, food insecurity, illiteracy, and unemployment among others. Lockdown policies may put them at greater risk of getting COVID-19, lack of access to food may force them to not stay home, oblige them to go out for survival and thereafter get infected and eventually die of COVID-19. Experience from Asia, Europe and the USA has shown that people with existing health problems are most vulnerable to severe cases of COVID-19. The burden of health problems in Africa is proportionately higher than the rest of the world. Consequently, the higher prevalence of malnutrition, anemia, malaria, HIV/AIDS, and tuberculosis in many African countries may coincide with and

worsen the ongoing COVID-19 pandemic prevention and control measures in Africa.

Taking into account the technical advice from Africa CDC and the WHO, most countries have taken the COVID-19 pandemic seriously. Cases are identified, tested and treated, coupled with contact tracing in many African countries. However, there is always a delay in contact-tracing, where some people are still found in the general population having tested positive or become extremely difficult to trace along with their contacts. Despite the message of self-isolation and toll-free numbers for those with COVID-19 symptoms, people in some African countries still tend to disregard the symptoms until they become severely ill. This increases the risk to family members and the community in general who may have had contact.

It has been observed in some African countries that people are resisting testing over quarantine fears. For example, Kenyans are resisting or simply not turning up for COVID-19 testing. The main reasons fronted for this behavior are that the residents are terrified of the prospect of being found to be infected, which in turn would mean being quarantined and self-incurring all quarantine costs. This resistance greatly hinders Africa governments in planning and interventions. Considering the existing economic conditions of African citizens, the costs of quarantine are supposed to be paid by the government.

African countries are struggling to increase their diagnostic capacity, improve infection prevention control (IPC) and manage confirmed cases as the need arises. If the cases continue to increase, many African countries will not be able to manage those cases; there is a need for international cooperation to reduce the burden this disease will impose on African countries.

With the spread of the disease, the pandemic is dismantling gains in the socioeconomic fabrics of all nations and societies, and it is exposing and deepening – further emphasizing the unsustainability of previously existing weaknesses, including poverty and inequality. Some people in Africa have resisted stay-at-home policies mainly due to cultural and religious beliefs. Measures to impose social and physical distancing have proven to be more challenging in African countries such as Senegal and Tanzania (World Economic Forum, March 2020). It has been proven that poor people are mostly affected during COVID-19 prevention and control measures. For example, people demonstrated in Kenya and South Africa due to a lack of food and sent out a clear message that they would prefer to die from COVID-19 instead of hunger.

Moreover, compliance with recommended social distancing is still a problem in some places such as public markets, banks and refugee camps. In most public markets in Africa, sellers are not concerned about the risk of getting COVID-19; they are neither wearing masks nor using hand washing soap, water and hand sanitizers. Many sellers seem only to be interested in getting money from buyers. Hence, Africa Union member states are advised to revisit their policies by allowing a small number of people, as is implemented in Namibia, to enter markets and shops while others wait outside and keep social distancing of about 1.5 meters, providing hand washing facilities and hand sanitizers. There is also a need to continue to inform the public on the importance of adherence to social distancing measures to prevent and control COVID-19 (Lucero-Prisno et al., 2020). In order to ease the lockdown, African governments need to make sure that the

spread of COVID-19 is mitigated by ensuring that people comprehend the significance of social distancing as well as wearing facemasks.

Conclusion

African countries are battling to augment diagnostic capacities, improve IPC, and manage confirmed cases as the need arises. If newly reported cases persist, numerous African countries will be unable to handle them effectively. Aggressive prevention measures are one of the strategies that Africa should use to prevent more COVID-19 cases and deaths in the coming months. Cooperative prevention and control measures are one of the promising solutions to deplete the spread of COVID-19 on the continent.

Funding

No funding received.

Ethical approval

Not needed.

Conflict of interest

None declared.

References

- Africa CDC: Outbreak Brief #20: Coronavirus Disease 2019 (COVID-19) Pandemic Date of Issue: 2 June 2020. Available from: <https://africacdc.org/download/outbreak-brief-19-covid-19-pandemic-26-may-2020-2/> [accessed].
- Africa CDC. Communique by the Emergency Meeting of Africa Ministers of Health on The coronavirus Disease Outbreak “Coordinated actions to prepare and respond to COVID-19 infection in Africa”. Available from: <https://africacdc.org/download/communique-by-the-emergency-meeting-of-african-ministers-of-health-on-the-coronavirus-disease-outbreak/>.
- Africa CDC. Guidance on Community Social Distancing During COVID-19 Outbreak. Available from: <https://africacdc.org/download/guidance-on-community-social-distancing-during-covid-19-outbreak/>.
- Africa CDC. COVID-19 Scientific and Public Health Policy Update – 31 March 2020). Available from: <https://africacdc.org/download/covid-19-scientific-and-public-health-policy-update-march-31-2020/>.
- Africa CDC. Recommendations for Stepwise response to COVID-19 <https://africacdc.org/download/recommendations-for-stepwise-response-to-covid-19/>.
- Africa CDC. Africa Joint Continental Strategy for COVID-19 OUTBREAK. Available at <https://africacdc.org/download/africa-joint-continental-strategy-for-covid-19-outbreak/>.
- Betsch C, Wieler LH, Habersaat K. Monitoring behavioural insights related to COVID-19. [https://doi.org/10.1016/S0140-6736\(20\)30729-7](https://doi.org/10.1016/S0140-6736(20)30729-7).
- El-Sadr WM, Justman J. Africa in the path of Covid-19. *NEJM* 2020.; doi:<http://dx.doi.org/10.1056/NEJMp2008193>.
- Health Department Republic of South Africa: Corona virus (COVID-19). Update available from: <http://www.health.gov.za/index.php/component/phocadownload/category/632>.
- Lucero-Prisno DE, Adebayo Adebisi Y, Xu L. Current efforts and challenges facing responses to 2019-nCoV in Africa. *Global Health Res Policy* 2020;5:21, doi: <http://dx.doi.org/10.1186/s41256-020-00148->.
- The Lancet: COVID-19 will not leave behind refugees and migrants. WHO coronavirus disease (COVID-19) situation reports: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200606-covid-19-sitrep-138.pdf?sfvrsn=c8abfb17_4.
- World Economic Forum: Why Sub-Saharan Africa needs a unique response to COVID-19. Available from: <https://www.weforum.org/agenda/2020/03/why-sub-saharan-africa-needs-a-unique-response-to-covid-19/>.