



Afrique One ASPIRE News

Special Edition

“Living with COVID-19”



Fellows of Afrique One-ASPIRE testing samples for COVID-19 at the Noguchi Memorial Institute for Medical Research, Ghana

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Authors:

Vincent Pius Alibu, Katharina Kreppel,
Karim Ouattara, Aurélie Cailleau,
Lisette Anoh-Affanou, Djane Adou,
Kathrin Heitz-Tokpa, Bassirou Bonfoh

Editor-in-Chief: Bassirou Bonfoh

Design: Lisette Anoh-Affanou

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Editorial: New normal or life as usual?



Bassirou Bonfoh

Director of Afrique One-ASPIRE

The knowledge on SARS-CoV-2, COVID-19 and the related human behaviour is increasing together with population adaptations and resilience patterns. The predicted collapse of the health system in Africa has not yet taken place, even if the observed socio-economic impact is huge and not fully measurable in the short term. Most African governments and their population reacted fast to the pandemic. Many hypothesized that this has been due to their experience of epidemics and many other internal and external factors yet to be identified. By lifting some of the more drastic preventive measures such as lockdown, curfews and the closure of schools, many African countries have now entered into a new phase in the COVID-19 pandemic, in which we may go back to a “new normal” routine and live with SARS-CoV-2.

The element of surprise and the disease’s novelty, together with a hesitancy in decision making and subsequent back-pedaling as well as a lack of communication strategies meant that most governments failed to influence their citizens’ behaviour. Instead, in this new context, governments rather relied on a law and order approach, which was harder to enforce. Nudging approaches, using positive reinforcement and indirect suggestions as ways to influence the population’s attitudes and behaviour have not been well integrated.

Even though the peak of the pandemic has not yet been reached, African governments are lifting their restrictions at a time when the case numbers are still rising in most countries. The argument is that, by maintaining a prolonged and stringent lockdown and restrictions, economic and social crises would be more difficult to handle than the medical aspect of the pandemic itself. What do our lives look like when living with the virus?

The answer depends on our socio-cultural setting, on the kind of job we do, which economic class we are part of, and on the capacity of the health system available to us, as well as the size of one’s social media network. Hence, social media has become an essential tool in the democratization of access to scientific knowledge.

We assume that, due to the pandemic and the relating intensive communication on the zoonotic nature of COVID-19, the population is now aware that up to 75% of emerging infectious diseases in humans are of animal origin. It is also well known that these diseases are caused by viruses, bacteria, parasites and fungi, and that at least 1’700 more unknown wildlife viruses exist. With the current way of life, new pandemics are certain to emerge. Our relationship with nature and our consumption habits are, among others, the main risk factors for disease emergence, if no comprehensive and multiscale surveillance-response system is set up.

COVID-19 is an example for a multifactorial disease and its management must be intersectoral beyond the solely biomedical strategy. We now have evidence that the ecology, the social life and the governance determine our health and our health system. The capacity in science preparedness, using the One Health approach, must be part of future plans, simply because collaborative and integrated preparedness will save lives and add value to the economies.

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Our pan-African research consortium on One Health (www.afriqueoneaspire.net) is contributing since 2009 to this preparedness, by training a young generation of scientists and practitioners. Huge investments in lab infrastructures and knowledge co-production that allows evidence-based policy decisions are needed. Whereas societies lie in “wait for a vaccine and drug”, it is time to prepare and take the right direction by implementing interventions that change and transform human behaviours.

Why Africa has low rates of COVID-19?

After the first COVID-19 case was reported in Africa, the novel coronavirus has since spread relatively slowly to the 54 African countries. As of January 18th, only 3.4% of all cases globally have been reported from Africa. Health experts have long warned of the devastation the deadly virus could cause in Africa, as most hospitals are poorly furnished with equipment and trained staff and morbidity due to other diseases like malaria, TB and HIV is high. However, despite a steady rise in the number of confirmed cases, the continent continues to lag behind the global curve for infections and deaths. Many theories and hypothesis are being put forward to explain this phenomenon. Here, we summarise the most frequently heard theories. Note that further research is necessary to confirm or refute these hypotheses.

The African climate: Like the common cold virus, the coronavirus is thought to thrive more in colder conditions than in hot, sunny and dry climates. UV radiation is known to kill the virus on surfaces, and in many African countries' activities are performed outdoors. Additionally, the human body requires sunlight to create vitamin D, an important component for a strong immune system.

Young African Population: Medical reports show that most severe cases of COVID-19 are seen in people of 60 years and older with co-morbidities and that children are largely unaffected. With about 60% of the African population being below 30 years of age, many asymptomatic and fewer severe cases can be expected. Asymptomatic cases in turn transmit the virus as well as severe cases. Additionally, in Africa, the majority of the elderly, who are most vulnerable, do not live in cities where the infection rate is highest, but in sparsely populated villages.

Experience with Epidemics: Health care personnel and the general population have had experience with epidemics such as Cholera, Ebola, Marburg, Lassa fever, etc. in the past. Case detection, especially at national borders, patient isolation, and social distancing as well as communication and aware-

ness-raising methods developed during past epidemics were adapted to fight the novel coronavirus.

Low Population Density and Regional Mobility: The average population density in Africa is much lower than in other parts of the world, except in a few cities and capitals on the continent. The partial lockdowns in many African countries limited population mixing between rural and urban populations. Contrary to elsewhere, only a limited part of the African population engages in international travel. The spread of the virus and its variants, like any other infectious disease, is strongly related to the movement of people.

Lockdown and Curfews: The majority of African countries reacted early and in good time, closing borders and imposing lockdowns (households, city, districts, country) and curfews when just a few cases had been detected on the continent.

Cross-immunity and vaccination coverage: African countries carry out mass vaccinations of much of their population with Bacillus Calmette-Guérin (BCG) to prevent TB. This could lead to cross protection.

Protection by treatments for other diseases: Though this theory is controversial, some health professionals have observed that drugs used to treat HIV may offer some protection against severe COVID-19 and are candidates for COVID-19 treatment options currently studied.

Theory of Loss of Virulence: The virus circulating in Africa may be less virulent compared to the variants in other parts of the world. This may lead to less severe or even asymptomatic cases. This theory also remains to be validated.

Underestimation of Numbers: The low levels of reported cases in Africa could also be due to a lack of or insufficient community-based testing due to limited testing kits or a lack of reporting and inaccessibility of some asymptomatic communities.

How to restore trust in information during a health crisis?



In the context of epidemics, communicating about risks and mitigation options (treatments, prevention measures, or the origin and transmission of the disease) is a highly sensitive and risky endeavor. During the large Ebola outbreak, inadequate communication from various actors (the scientists, the media and the intervention teams) have contributed to extreme distrust that led to a massacre in Womey (Guinea). Thus, bad communication can cause defiance and lead populations to avoid health facilities either due to the fear of the disease or due to the fear of being quarantined and stigmatized. In crisis contexts, it is extremely difficult for the population to know which voices to trust. However, there are ways to address communication in the era of COVID-19 that may enhance trust.

The overall tone of a message is key in communication. It is unethical to promise miracles, and remain silent about the limitations of science. A rigorous communication needs to address uncertainties. At the beginning of the COVID-19 pandemic it was questioned how efficient face masks would be in containing the spread. A good way to talk about the possible benefits of mask would have been: “We know that masks can

prevent a number of diseases transmitted by droplets, therefore wearing masks is likely to have some efficacy here, but we have no exact measurements yet. If used, they must be used properly, because touching a contaminated mask and then the face could also increase transmission”.

Communication about uncertainty is often believed to create fear and confusion among populations, but this assumption has now been questioned. Populations tend to trust information more, which mentions its own limits.

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Communicators should never underestimate the audience and pay attention to the transparency and accuracy of any information provided. To make a decision or change the behavior, the population needs to be provided with different options that explain equally their advantages and disadvantages. The transparent communicator offers the audience all information and avoids hidden aspects. Finally, recommendations are based on an evaluation of the peer-reviewed information without any conflict of interest.

The research community during COVID-19

How has the pandemic affected the research community?

Research: The research environment has also been shaped by the pandemic. With discussions increasingly focused on COVID-19, the need for a transdisciplinary One Health approach to deal with emerging diseases is ever more recognised. In practice, researchers are either called upon to write about the pandemic from their discipline's perspective or to contribute to the COVID-19 response. In Chad for instance, Mahamat Fayiz Abakar, one of the postdoc fellows from Afrique One-ASPIRE and epidemiologist in charge of the virology unit at the Institut de Recherche en Elevage pour le Développement (IRED), was appointed to the scientific council at the Ministry of Public Health (MPH). Together with about 30 other members, the multidisciplinary council provides scientific guidance to the technical and operational committees in charge of control and prevention of COVID-19.

Furthermore, a national health response coordination team, "Coordination nationale de riposte sanitaire COVID-19", was created by a presidential decree which unites 26 members with the aim to develop and implement all health actions to fight COVID-19 throughout the country. The unit is directly attached to the National commission of health crisis management: "Commission nationale de gestion de la crise sanitaire COVID-19".

In Ghana, three fellows of the Afrique One-ASPIRE programme –Dr Gloria Ivy Mensah, Samuel Ofori Addo and Vida Yirenyiwaa Adjei – were part of the laboratory team, testing samples for COVID-19 at the Noguchi Memorial Institute for Medical Research, the foremost testing centre in the country. In Tanzania, training initiatives for health workers to enable them to protect themselves and assist the population have taken place. In Côte d'Ivoire, the importance of transdisciplinarity is recognised and veterinarians are becoming more involved in the search for a comprehensive One Health solution to fight against COVID-19. The Veterinary office has developed a plan to respond to the disease in the animal and fisheries resource community. It has presented its advocacy to the health authorities

to be involved in the fight of COVID-19. The Secretary General of the Association of Veterinarians of Côte d'Ivoire, Dr Vessaly Kallo, also a fellow of the Afrique One-ASPIRE programme, took part in a TV programme to raise awareness on the risks of exposure of domestic animals. Furthermore, researchers in Côte d'Ivoire have initiated public engagement activities to listen to communities about their perceptions of the pandemic in radio shows, to provide information backed up by science.

Worklife: For some time, most researchers have tried to set up their office at home – despite the limited infrastructure such as missing space and air conditioning, frequent power cuts and bad internet connection. Due to the closure of schools, offices and childcare places, other family members are at home too. This is a

challenge for people with children in particular, or those living in cramped conditions. For some

research fellows to work efficiently has become a struggle. A male PhD fellow wrote in a qualitative survey: "For my family it feels like I am on leave and therefore they have the feeling that I have to be available for them all the time". The disruption caused by a busy household is emphasized by a fellow without children who wrote that the lockdown has helped her to stay focused on writing and allowed her to do more complex analytical work. Researchers mentioned that the most positive side of the lockdown was that they had more time for their families. Some mentioned that the habit to wash their hands more frequently will have a positive effect on their health in general. Furthermore, physical distancing has encouraged people to get used to new technologies of online learning or of holding meetings online. A new form of social interaction, for instance, are virtual coffee breaks, where you have your refreshments in front of the screen and chat with friends as if they were sitting in front of you. Hence, despite the physical distance, human ingenuity has found ways of sustaining social interactions, but it is heavily reliant on the internet.

With COVID-19, what has changed in our lives?



After times of anxiety, change of routines and self-containment, economic activities in particular have restarted and a sense of fatigue is palpable. With this step toward the return to normality comes an evident relaxation in the observation of preventive measures. Wearing a face mask, compulsory hand washing and social distancing are now only respected in certain places such as banks, supermarkets, places of worship and at the workplace. People's smiles have disappeared behind the masks and bodily contacts are avoided as best as possible. Work and family life, health and mobility continue to be affected.

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Work: Most have gone back to work part-time or full time, but meetings, training and conferences continue to be held online via video-conferencing applications. A new stressor called “Zoom burnout” is appearing, when the number and length of online meetings contribute to an overarching sense of fatigue. Virtual meetings reduce human physical social interaction and come with an inability to disconnect from the job. At the same time, we are confronted with growing inequalities due to the poor quality of internet connections in some African countries. This does not promote good working conditions. Professional relations, networking and intercultural in-person exchange all take a blow because of fears of infection.

Health: The pandemic, apart from suffering from COVID-19 itself, affects our overall health on several levels. Being physically active is now linked to an increased infection risk for many. Sports centres and pools are closed or avoided for fear of infection. As

far as team sports are concerned, only small neighbourhood groups are seen to meet in the green spaces of cities and on football fields. Reduced physical activity in turn causes physical and mental stress. In most African countries, preventative health measures such as vaccinations and mosquito net distributions are reduced or have stopped, either due to an overburdened health system or reliance on donors who redirected

their support to causes linked to the pandemic. This will have a long-term effect on millions of vulnerable people in Africa.

However, the effects of the pandemic are not only felt on a physical level, but increasingly affect mental health. Fear, worry, and stress are the main response to the changes forced by the pandemic and the uncertainty felt for the future. Especially for vulnerable people and communities in Africa such as the poor, young families, the elderly or ill people, the changes in daily life and dire prospects for the future can cause mental health issues. Additionally, mental health issues are not well recognised and health care is not sought in these times.

School and family: The situation of COVID-19 has disrupted the smooth running of classes. In most African countries, schools have closed for roughly two months at the beginning of the pandemic. In some countries such as Congo, Tanzania, Kenya and Côte d'Ivoire, classes have been initiated on national TV and radio channels to allow students to continue learning. Inequality is felt strongly by children who lack access to these media. Private educational institutions with French or American curricula have opted for online courses supervised by parents.

Lessons learnt for better preparedness



The current COVID-19 pandemic painfully shows the world that a disease outbreak of this magnitude is much more than just a health crisis. Instead it affects a multitude of sectors, and an adequate response to the current crises has to consider population-tailored communication, economic impacts, and socio-political discontent, as well as upheaval in, and maintenance of, food supply chains in times of mobility restrictions. This multi-sectorial crisis in Africa and the world demands an equally multi-disciplinary team to address the outbreak. So what are the lessons learnt so far, to be better prepared for the next disease outbreak?

There is a need to act collectively and faster. This relies on collaboration, coordination and sharing information between organisations, countries and sectors to address the challenges faced. Across the continent, multidisciplinary health platforms with experience in using a One Health approach have been created. However, often, while they legally exist, they are not implemented.

To be better prepared, the operationalisation of One Health, which relies on a strong collaboration and communication of medical, veterinary and environmental sectors, have to become a reality. Training practitioners, researchers and decision makers in One Health is as important as forming new, and strengthening existing, One Health platforms by providing them with the necessary resources and power. This will make a coordinated multidisciplinary approach easier at each scale of the health system.

Involving economists and social scientists will allow anticipating and mitigating tensions caused by preventive measures such as the effects of lockdowns. It is crucial, that the time between now and the next outbreak is used to get practical experience in multi-sectoral collaboration and to build trust between different

institutions and countries. Routines and trust have to be developed now in order to be operational at the onset of the next outbreak. Disease surveillance platforms for example, which are jointly used by the veterinary, environmental and medical health sector, would provide much needed practice.

In the last few months, we learnt that misinformation fuels social tensions and can hinder the successful control of an infectious disease. Compliance with control measures such as hygiene, physical distancing and curfew relies on the public's trust in the government. Working with communities, religious leaders and teaming up with media helps to provide consistent, simple, and clear messages and debunk rumours and conspiracy theories. Yet again, trust relationships

should be built now, rather than when the roof is on fire. Furthermore, the time should be used to invest in health education and make it a bigger part of

the curriculum, so that prevention messages can be understood during outbreaks. This can be done with the help of mobile phone technology that has proven to be a good way to promote health advice and reach isolated communities.

From the start of the pandemic, it became clear that African led science, technology and innovation is needed to find the right solutions for the fight against COVID-19 on the continent. Research that addresses public health challenges in an African context, such as medication deliveries by drones, mobile phone technologies to reach remote populations, and low cost energy solutions for example, have proven to be very effective. Investing in transdisciplinary research capacity, research infrastructure and the development of innovations is therefore arguably the most important step towards preparedness.

“Investing into transdisciplinary research capacity for preparedness.”

COVID-19-like epidemics will happen again!



Four centuries ago, 66% of the land in the world was covered by forest, but, according to a 2015 FAO report, now only 22% is covered. The main factors in the destruction of forests and their biodiversity is a global economy that relies on natural resources, especially forest resources, which is characterized by extensive agriculture, logging, gold mining and poaching. This anthropogenic deforestation and biodiversity extermination disrupts biological diversity and leads to a biotic imbalance in natural environments. Changes in biodiversity in terms of species loss or the proliferation of opportunistic species have the potential to alter the risk of exposure to infectious diseases related to animals and plants, thereby creating optimal conditions to facilitate the transmission of pathogenic microorganisms from animals to humans.

“Reconcile people with their environment to prevent future pandemics”

When forests are destroyed and therefore biological diversity and animal habitats are disrupted, many host of zoonotic diseases, such as rodent, primate and several insect species, look for new habitat within or close to human living areas and then share microbes with their new ecosystem that adapt or mutate and develop resistance. In addition, bush-meat handling and consumption represent another way of exposure of humans to pathogens. The natural mechanisms that block (buffer effect) or significantly reduce (dilution effect) transmission of

microorganisms are disabled under these conditions. Given the current level and rate of deforestation and biodiversity loss and the expansion of the contact network in the world, this kind of pandemic will happen again.

Nevertheless, we can mitigate the risk of zoonotic transmission, firstly by engaging the stakeholders in global economy that expose the population in ecosystem destruction. Secondly, we encourage actors in health, including decision makers, to increase the human and material resource capacities of health systems on one hand and include Health Surveillance Systems in development plans on the other hand. In addition, we encourage to reconnect science to society through a synergistic approach. This involves education campaigns for behavioral change, mainly food related, regarding bush meat consumption and wildlife handling by stakeholders in environmental conservation.

In summary, all of this can be promoted around the world through the One Health approach, whose value is based on the synergy of actions and saving resources allocated to the management of animal and human health and the natural environment.

Disclaimer: The views expressed in this brief are those of the authors and do not necessarily reflect the position of the funders.