

WOULD AFRICA NATURALLY BE BETTER EQUIPPED TO DEAL WITH THE COVID-19 PANDEMIC? PERSPECTIVES FROM A BELGIAN VIROLOGIST IN BURKINA FASO

Interview from Hubert Leclercq with GFA Teamleader Dr. Oliver Manigart for [La Libre Belgium](#)

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Dr. Olivier Manigart, Belgian virologist and epidemiologist based in Burkina Faso has just been appointed representative of the West African Health Organization (WAHO) to liaise with the Ministry of Health in Burkina Faso. A position that allows WAHO to be at the centre of the fight against the pandemic in this country but also in the 15 other West African Countries that make up ECOWAS.

You are a virologist and epidemiologist; you have been appointed representative of the West African Health Organization (WAHO) to liaise with the Ministry of Health of Burkina Faso, what is the status of COVID-19 in Burkina Faso?

Although it is likely that many cases have not been identified in communities in Burkina Faso, due to the lack of availability of testing and by the strategy chosen by the CORUS team (the Emergency Operating Center), the country, like all other countries in the sub-region, doesn't seem to be suffering from the epidemic wave of the same magnitude that had been reported in the West. To address the low progress observed in the testing of suspected cases and contacts of confirmed cases, the authorities have decided to increase the number of tests carried out per day to 500, and extend these tests to communities "at risk" of infection such as patients of pneumology services and health workers. CORUS teams have been doing exceptional work since the beginning of the epidemic to "test, trace and treat" the infected patients.

It seems that the virus is spreading at a completely different rate than has been seen in Europe or the United States? Is this correct?

Indeed, it seems that the number of infections in West Africa is not increasing as quickly as in other parts of the world, but, I also think that there's one thing that this pandemic teaches us, and that is doubt and humility. We have read and heard everything in the last few months, both from the political leaders and from some scientists. Fortunately, most of time, health authorities may have been proven right, even if sometimes they were not listened to. As far as West Africa is concerned, even before the beginning of the global response to the epidemic, the Ministries of Health of the 15 ECOWAS countries met, under the auspices of the Director General of WAHO, to develop a surveillance programme and response

to epidemics in the sub-region. WAHO is an institution that was established in 1987 and is based in Bobo-Dioulasso, Burkina Faso. This institution has recently been strengthened after the epidemic of Ebola disease in West Africa and supports the 15 ECOWAS countries in their preparation for similar epidemics. It is in this context that WAHO is now centralizing the data from COVID-19 in the sub-region, in collaboration with other international institutions such as the WHO, WHO-Afro, the African Centre for Diseases Control, and the network of Pasteur Institutes.



Group photo at Tengandogo University Hospital in Ouagadougou. © D.R. From left to right: Dr Karim Kombassere (WHO); Dr Alexandre Sanfo (DG of Tengandogo University Hospital); Dr Olivier Manigart; Dr Noélie Yameogo/Zoungrana (Epidemiologist)

How do you explain the relatively low level of infections in the sub-region?

Even though countries in the sub-region have adopted different strategies to deal with SARS-CoV-2, they have all been prepared even before the first case was reported. For example, our group PROALAB in partnership with the Pasteur Institute of Dakar, organized a training course on 24 February for 18 countries on how to diagnose the SARS-CoV-2 virus whereas the first case in West Africa was detected in Lagos on February 27. Soon after, we provided personal protective equipment and test kits very to all countries in West Africa. At about that time, majority of countries in the sub-region had closed their borders so that the number of imported cases was reduced to almost zero. Currently, the only imported cases in Burkina Faso are Burkinabe populations repatriated from the neighbouring countries, such as students. In addition, several other factors could explain the low spread of the virus in West Africa in comparison to other regions of the world. In my opinion, it is becoming increasingly clear that the individuals who best fight the virus do so through what is called "non-specific immunity". This includes innate immunity and intrinsic immunity, as opposed to adaptive immunity, which is the immunity that is generated, including generating specific antibodies against pathogens. I think there are individuals who are relatively much more responsive than others to this virus because of their non-specific immunity. It is also likely that some people develop no, or very few antibodies. Hence the low prevalence of antibodies that has been observed after the peaks in countries where these so-called "peak" or serological studies are now being carried out.

In Africa, populations have hyper-stimulated non-specific immunity to parasitic infections, traditional plant treatments (such as *Artemisia annua* and *afra*, *Acacia nilotica* and *moringa*) and by vaccination with live vaccines (which is almost no longer practiced in other parts of the world). It is also possible that African populations have been infected by SARS-CoV-2-like strains of the coronavirus, which would then confer specific protection. Every year, there are epidemics in Africa that cause flu-like symptoms and that often times resemble a bout of malaria. These episodes should be studied more closely. All of these factors could explain why the SARS-CoV-2 epidemic in West Africa seems to be progressing less rapidly than in other parts of the world. This needs to be investigated and presents an opportunity for the traditional pharmacopoeia and research in Africa.

You mean the population of your sub-region would be "naturally" better-equipped to fight this virus because of infections with parasitic diseases or from vaccination with live vaccines or response to treatments with traditional plants? It is the cocktail of all these elements which could explain a better resistance to the virus among populations in West Africa. A treatment based on artemisia alone cannot be enough as the explanation?

I am just hypothesizing, but it would be interesting to investigate each of these factors separately and to assess the extent to which they can provide some control against the virus. After all, one of the first treatments to be evaluated for SARS-CoV-2 is interferon alpha, which is one of the molecules of the non-specific immunity to SARS and a known anti-pathogenic agent. All these factors should be scientifically explored. This concern is probably valid for many African countries with similar conditions. Artemisia, like many plants in the traditional pharmacopoeia, has many virtues that boost the immune system, but I doubt very much that alone, it can cure the SARS-CoV-2 disease. But any agent that could improve the immune response would be welcome.

The head of the WHO said that Africa must prepare for the worst from this COVID-19, has it been that catastrophic?

As I said, we learn every day with this pandemic. I myself thought we were about to suffer a real disaster but that doesn't seem to be happening. In any case, I think it's better to consider the worst-case scenario of the pandemic, since this is what has allowed us in Africa to be better prepared than the other continents. And everything we're putting in place right now will allow us to be better prepared for other epidemics that unfortunately continue to propagate in the sub-region such as measles, Lassa fever, Crimean-Congo fever, dengue fever.

There is a feeling at home that we have passed the peak of the epidemic, what do you think?

Our models, which are based on observed data, suggest that we are close to the peak for the sub-region, or even passed it for some countries like Burkina Faso. However, one must always remain cautious because it is possible that the data might be incomplete. In addition, a second wave of the epidemic is always possible. Many Western epidemiologists fear a rebound after the summer season. However, in contrast to seasonal viruses, the SARS-CoV-2 does not appear to require animal intermediate hosts to genetically "reorganize" and spread. We may not yet be at the end of all the surprises from this virus.

Some say that most deaths in the West are due to an elderly population and that the elderly population would be smaller in Africa. Is this a credible explanation for the relatively low mortality rate in Africa?

While it is true that most symptomatic people are older, this does not prevent the younger people from contracting the virus. And even if younger persons are likely to carry the virus for a shorter period of time, with lower viral loads (and therefore able to transmit less), it does not mean that they cannot pass the virus on to the weakest people in their community, who would then get sick. Unfortunately, we have a lot of "weak" people in the sub-region, such as diabetics, persons with hypertension or sickle cell disease. Even then, we do not see a lot of deaths in these populations of "weak" people, suggesting that community transmission remains low. In Ghana where all age groups were tested using a mass testing strategy, there have been as many confirmed cases in young people as in older people. Therefore, this factor alone may not explain the low transmission.

Movement restrictions is known to be difficult to manage in the African continent, does this mean that a major rebound is possible?

ECOWAS countries have chosen to limit movements, but not to make it mandatory. Many countries, such as Burkina Faso and Senegal, have made movement restrictions mandatory. Some other countries have said that it is not economically feasible if people are not able to work. For this reason, other measures were chosen instead such as curfews, and reinforcing messages to encourage prevention. During the Eid El-Fitr, which celebrates the end of Ramadan,

the faithful prayed whilst keeping a safe distance and wearing face masks in large mosques in Burkina Faso and the Imams transmitted awareness messages to the populations. Even if containment or movement restrictions is not possible, if we continue to maintain good compliance with these preventive measures, hopefully there will be no rebound.

Most, if not all, Belgians in Burkina Faso have left the country, why haven't you?

My project with WAHO is aimed at strengthening epidemiological surveillance in the ECOWAS region and, for the past two years, we have been working to improve the surveillance systems mainly through laboratory strengthening and data management, thanks to the funding from the KFW, the German Bank for International Development of cooperation and through a group called GFA Consulting Group. Therefore, the aim of the PROALAB project is to be prepared for epidemics such as the one that is raging around the world currently. It would seem to me to be highly inappropriate to return to Europe in such circumstances when our role is to strengthen the system here. Furthermore, as I have Burkinabe nationality, I am very proud to be able to work with the national response team to COVID-19.



Dr. Manigart with Dr. Abdourahmane Sow (Professional Officer for Laboratories at WAHO) in front of WAHO headquarters. © D.R.