

COVID-19: Vaccine Hesitancy in Africa and the way Forward

COVID-19: konsekwencje powstrzymywania się przed szczepieniami w Afryce

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Abstract

COVID-19 pandemic took the world by storm in late 2019, scientists and health authorities across the globe struggle to contain the deadly virus. Socio-economic activities across the globe were partly halted as countries around the world introduce various forms of restrictions to contain the spread of the COVID-19 virus. Most developing countries' economies, especially in Africa, slid into recession, unemployment among Africa countries skyrocketed to an all-time high, and famine and starvation were beginning to knock harder on poorer nations around the world. The race to develop a vaccine was pressing harder; developed countries continue to pump more money to help develop a vaccine within the shortest period of time, as that seems the only viable solution to the economic downturn of the global world.

Finally, vaccines were developed and proved to have high efficacy. This has helped reverse the negative trend of the global economy caused by the COVID-19 pandemic. This vaccine faced a lot of global scrutinies; people have refused to get vaccinated and have also rejected the idea of making COVID-19 vaccination compulsory for citizens worldwide. This study analyzes the challenges posed by this ugly trend of COVID-19 vaccine hesitancy in African countries, its socio-economic consequences and the way forward.

Key words: hesitancy, economy, COVID-19, Africa, vaccines

Slowa kluczowe: wahanie, ekonomia, COVID-19, szczepionki

Introduction

The world health organization (WHO) was first informed of pneumonia cases in Wuhan city by the Chinese government on December 31 2019. The causes were unknown when it was first reported (Africa-CDC, 2020). This unknown virus was later identified as a novel coronavirus by the Chinese health authorities on January 7 2021, and it was tagged *2019-nCoV*, before it was fully named COVID-19 virus (Nordling L, 2020). Since the discovery of the new COVID-19 virus in Wuhan, China, there has been a rapid and widespread of the COVID-19 virus across the globe, calling into question if the Chinese authorities reported the discovery of the virus at the right time (WHO, 2020). The widespread of the COVID-19 virus lead to several countries putting up stiff measures to help curb and mitigate the effect of the novel coronavirus on their economy.

In European countries, especially Italy, Spain and Greece, there was a total lockdown of the economy, and the movement of people was restricted (Oppenheim et al., 2019). Schools and Universities were not left out as the world struggled to contain the rampaging spread of the COVID-19 virus. During the first wave of the COVID-19 virus in Europe, Italy alone experience over hundred and thirty thousand dead, with millions of people testing positive to the COVID-19 virus, making Italy the second Country in the world aside from China with the highest COVID-19 fatality rate (Nkengasong & Mankoula, 2020) The U.S. wasn't left out of the raging spread of the deadly COVID-19 virus, hospitals were filled up, and the emergency unit could no longer cope with the large number of people requiring to be admitted into the intensive care unit (ICU) (Daou M, 2020). Several makeshift centres were set up to handle people requiring hospital admission. Health personnel were stretched beyond their normal capacity, and the battle with the COVID-19 virus was becoming freighting, without a cure or vaccine readily available.

In Africa, the COVID-19 virus was first discovered in Egypt (Gilbert et al., 2020) before it hit several other African countries. This led government in the region to introduce several measures to help contain the spread of the deadly virus in the region. These measures were a bit successfully but had an adverse effect on the socio-economy well-being of the continent. The economy of South Africa, Nigeria, Ghana and Tanzania begins to contrast in the second quarter of 2020 due to the adverse effect of the measures introduced to help minimize the spread of the COVID-19 virus (Cheema, 2020). African countries were forced to relax the initial measures introduced to help reduce the transmission of the deadly virus, as its effect was biting harder than their economy could handle (Riotta C, 2020). This led to more positive cases during the third quarter of 2020 (Omeiza, 2020). Africa as a whole is prone to so many setbacks from COVID-19; this is partly due to the fact that most African countries are mono-economy, which lacks true economic diversification. The region was the last to be hit by the COVID-19 virus, probably due to its poor healthcare system and its inability to detect the virus on time. The region was already suffering from the impact of COVID-19 due to its trade links with Europe, Asia, and America being partly shut as a result of the restriction introduced in those regions. This paper analyses COVID-19 vaccine hesitancy in Africa, its effect on the economic wellbeing of the region and proffer solutions.

1. The Fear of COVID-19 Vaccination in Africa

The development of vaccines against the COVID-19 virus was a huge relief to the world, as the pandemic has almost crippled the world economy. Its arrival rejuvenates the world and gives hope to poorer nations, especially those countries whose internally generated revenue depends entirely on foreign tourists. Due to travel restrictions by European countries, Kenya alone lost about eight billion of its annual income from tourism (Hairsine K, 2020). The AstraZeneca/Oxford vaccine developments are more than welcome in most African countries, but there became the COVID-19 hesitancy in Africa (Daou M, 20 C.E.). Why are people scared of getting vaccinated, even after most of the vaccine developed has gotten WHO greenlight? Can we afford to live comfortably with the deadly COVID-19 virus? The answer is a capital no; Africa can't afford a huge number of its population not taking the COVID-19 vaccine. That will spell doom for the economy of the region, and Africa will become a breeding ground for health catastrophe (Lukman Ahmed Omeiza & Salawudeen Ahmed Tijani, 2019).

Most of the problems associated with COVID-19 hesitancy in Africa and, by extension, the world at large can be traced to China. During the early stage of the virus in Wuhan, the Chinese health authorities believed that not much was done to contain the deadly virus (Glassman A, 2020). The time the virus was reported to the world health authorities was questionable, and there was this general belief that the virus was reported late to the world health organization (WHO) (Rage S, 2020). At the time the virus was reported to WHO, it had already gone out of control, forcing the world health organization to declare a global health emergency. This lack of transparency in reporting the virus at the early stage by the Chinese health authorities created a sort of vacuum, and people began to doubt if the virus truly existed. Couple with the speed at which the virus was spreading to other nations, this further heightened the nation of many people around the world that the COVID-19 virus could be a mere hoax (Holmes C et al., 2020a)

Careless political statement by the political elite in the region doesn't help matters. A former U.S. president was quoted to have said that the COVID-19 virus was a China problem and doubted if it truly ever existed until America got hit by the deadly virus (Holmes C et al., 2020b). An African leader was said to have compared the deadly virus to mere flue and Malaria that has been around the region for a longer period of time and that there isn't anything

to worry about the COVID-19 pandemic (Abia A, 2020). African political classes tend to be more concerned about their political survival rather than putting an end to the deadly virus, thereby making several unguided statements. There were also a lot of concerns over vaccine development and its safety (MOE, 2018). A larger number of people question the speed at which several vaccines were developed and why there have been no vaccines for other equally deadly diseases, like Malaria and HIV/AIDS, which have been in our midst for decades. The deadly Ebola virus and laser fever all have no vaccines or cure, but the world was able to rally together and develop a vaccine for the COVID-19 virus within a period of one year. All this has caused a lot of misinformation within the populace, and getting people to take the vaccine willingly has become a challenge for health authorities in the region. The safety of vaccines developed is also a sort of concern, as there has been a well-documented report of blood clotting from the AZTRA COVID-19 vaccine. The emergency approval given by some countries for the use of the COVID-19 vaccines, despite vaccines not going through the three stages of the clinical trial, has also compounded the misery. In Russia, people were strongly against taking the SputnikV (COVID-19) vaccine because it was still in the last stage of a clinical trial when it was approved for emergency use by the Russian government (Hansrod Z, 2020).

2. Africa's Economy without the COVID-19 Vaccines

Over the years, the pandemic has had a disastrous and negative effect on the world economy, and their effects tend to outlive the virus itself (Beth P. Bellz et al., 2016). Five decades after the Bubonic Plague of 1348 to 1350, the Europe population was much lower than before the pandemic outbreak (Bloom et al., 2013). The effects were devastating for the Europe economy, which resulted in manpower (labour) shortage across European countries and an increase in wage bills; there was also an astronomical increase in the middle class. The flu pandemic of 1918 affected thirty per cent of the world population, killing over six per cent worldwide (San et al., 2020). The United States (U.S.) was the worst culprit of the 1918 flu pandemic (IMF, 2020). Children born during this period were found to attain lower education standards, and there was a high rate of physical disability when compared to children born before this period.

Africa's economy was already in tatters, even though it had not been severely hit by the COVID-19 virus when compared to countries in Asia, America and Europe (Chirisa et al., 2021). The restrictions imposed by countries in that region were already biting hard on the African economy. Cape Verde is the most affected in Africa on a per capita basis; they derive eighteen per cent of its Gross Domestic Product (GDP) from tourism, a sector that has been severely affected by the COVID-19 pandemic. In Kenya, shipments of fresh flowers declined by eighty per cent as the demand from European countries vanished due to Europe COVID-19 related restrictions (Dan-Nwafor et al., 2020). At the beginning of the year 2020, the World Bank projected that the global economy would grow by 2.5 per cent. By June of 2020, that projection has changed to -5.2 per cent (Desson et al., 2021). The tourist-focused economy in Africa was projected to be particularly hard hit, including that of Seychelles, which was originally projected to grow at 3.3 per cent and is now projected to decline by 14.4 per cent (Ullah et al., 2021a). African countries whose economy relies heavily on oil also suffered similar fate. As oil price dropped from USD67 per barrel to USD30 a barrel between December 2019 and March 2020. South Sudan, Nigeria, Libya, Algeria, Mauritania and Gabon's economies went into recession between January 2019 and May 2020 as a result of the plummeting price of crude oil (Ullah et al., 2021b).

An increase in COVID-19 related deficits and debts are attributed to a combination of factors, including reduced internal revenues received by tax authorities and increased spending on fiscal and monetary policies designed to cushion the economic impact of the COVID-19 pandemic. Most African countries already faced a high debt to GDP ratio going into the pandemic, including Eritrea (189 per cent), Cape Verde (124 per cent) and Mozambique (104 per cent). Estimates are that the COVID-19 pandemic will cause the loss of an additional USD500 billion in Africa as a result the pandemic, leading to further borrowing and additional debt (Akpoji et al., 2022a).

The education sector has been heavily retarded in most African countries. Schools in the region, unlike in advanced countries in Europe, don't have the facility and capabilities to carry out the kind of learning approach deployed by Western countries (Akpoji et al., 2022b). The study from home, which requires an online platform and a lot of technicalities, is not readily available in African Schools. Thereby leading to a total shutdown of Schools for the better part of the year 2020. Studying from home wasn't just possible in African countries starting from the lack of constant electric supply to decaying infrastructure; even in European countries that adopted the virtual learning platform, a lot of challenges were faced with courses that required field trips and practical classes (Akpoji et al., 2022). Most of these courses were pushed forward to the next semester, yet there were a lot of technical difficulties on the part of both the technicians and students, as the number of students will have to double for most of these technical classes in the next semester. Schools in South Africa, Ghana, Tanzania, Gabon and Nigeria were completely closed down for a period of six months. The situation was dire in Nigeria as the entire first semester of the 2019/2020 academic cycle was cancelled. This creates an academic gap in the student's educational progression, which cannot be filled, leading to one more semester for all the students involved (Akpoji et al., 2022).

The health sector also suffered severe consequences, as more attention was given to COVID-19 patients, to the detriment of other deadly diseases. This causes another health challenge for the healthcare providers, as people continue to die from other ailments due to a lack of adequate attention by medical personnel (MacFarlane et al.,

2022). Hospitals in the region were also overwhelmed by COVID-19 patients. Medical researchers also switched attention to COVID-19 research, literally making the gains achieved in other equally deadly ailments suffer a huge setback (Petersen et al., 2021).

There is no gain saying the economy of Africa as a whole would have been in a state of comatose without the COVID-19 vaccine. The discovery of the COVID-19 vaccines was a huge relief to African leaders and economic experts in the region. What was more pressing at that time was getting the required funds to purchase the vaccines and get a huge number of its population vaccinated so that the economy could begin its recovery process. Suddenly, appeared the COVID-19 hesitancy in the region. According to a report in Kenya, fifty-five per cent of Oxford/Astra vaccines got expired because health professionals could not administer them to the populace, as people were not willing to get vaccinated (Bair, 2022). Even with the vaccines being free, people were not just ready to get vaccinated; with the already dangerous delta variant of COVID-19 in the region, Africa can't afford a second lockdown of its economy. The only option left is getting people within the region to be vaccinated, as time isn't on the side of policymakers in the region. The Delta variant of the COVID-19 has killed more people in South Africa in the second wave and seems to be more contagious than the first wave of COVID-19.

Since the beginning of the second wave of COVID-19 in Africa, largely caused by the more deadly delta variant, the African Union (A.U.) has increased its campaign to get more people vaccinated, as the region can't afford a second lockdown, outlining the dire economic consequences on the sustainable development goals of the region. This has yielded little or no effect, as people are not just willing to take the vaccines out the fear of the unknown; despite the limited availability of the vaccines in comparison to the population ratio, many got expired and has to be destroyed(Dudhill & Pillai, 2022). This is basically due to a larger population refusing to get vaccinated.

3. Way Forward

Concerned by COVID-19 hesitancy in the region, a detailed survey was conducted by the Department of Biochemistry, Kogi State University Anyigba, in conjunction with the Science Lab Technology Department, Federal Polytechnic Bida, to help understand the intrigues behind the COVID-19 hesitancy in the region and proffer possible solutions that could be employed by political leaders in Africa to help get a larger number of its population vaccinated. The online survey was conducted in June 2021, with a total number of eight thousand eight hundred and four people taking part the survey. Patent questions were asked based on people's perspectives on COVID-19 vaccines. These questions range from safety concerns of the vaccines, doubts on virus existence, vaccines not of African origins, religious beliefs and lack of clarity on the origin of the virus. The online survey was divided into two sections; the first part tries to understand the reasons behind people's scepticism towards COVID-19 vaccines, their fears, worries and concerns. The second part of the survey allowed the people to proffer answers to their skepticisms. This allows the study to develop a solution that will be people-driven and have maximum effect on the future roadmap to get millions of people vaccinated in Africa. The table.1 below shows the names of institutions and the number of people that took part in the online survey from each institution across the region.

Table 1. Total number of staff and students that participated in the survey

S/N	Institutions	Country	Number of Participants
1	Kogi State University Anyigba	Nigeria	3784
2	Federal Polytechnic Bida	Nigeria	1579
3	Atebubu College of Education	Accra	1255
4	University of Khartorum	Sudan	812
5	University of Fort Hare	South Africa	524
6	University of Pretoria	South Africa	519
7	ESCAE University	Benin Republic	411
8	Catholic University of Bukavu	Congo	404
9	Total		8884

Figure 1 shows the data distribution of people from each institution that took part in the survey. A demographic survey was employed to help understand the opinion of people on the various concerns and to help answer patent questions on COVID-19 hesitancy in Africa.

Figure 2 gives a holistic view of people's perspectives on why they will not take the COVID-19 vaccines. It's crystal clear that COVID-19 hesitancy in Africa is a real and urgent solution that needs to be put forward by policymakers to help allay the fears and concerns of the people. Vaccines safety is of utmost concern to the people in the region. There are well-documented cases of blood clotting and other side effects associated with the Astra-Zeneca/Oxford vaccine; health officials in the religion have failed woefully to provide answers to this puzzle [38]. Again, the emergency approval given to some of these vaccines during the clinical trial has also made people believe that these vaccines were not properly developed. Hence they are not safe. Health provider in Africa needs to work with the government information department to create awareness of vaccines' efficacy and safety in order for the vaccines to get the trust of the people. People should be made to understand that no vaccine in the world has a hundred per cent efficacy, and none of the COVID-19 vaccines has less than eighty per cent efficacy (Ullah

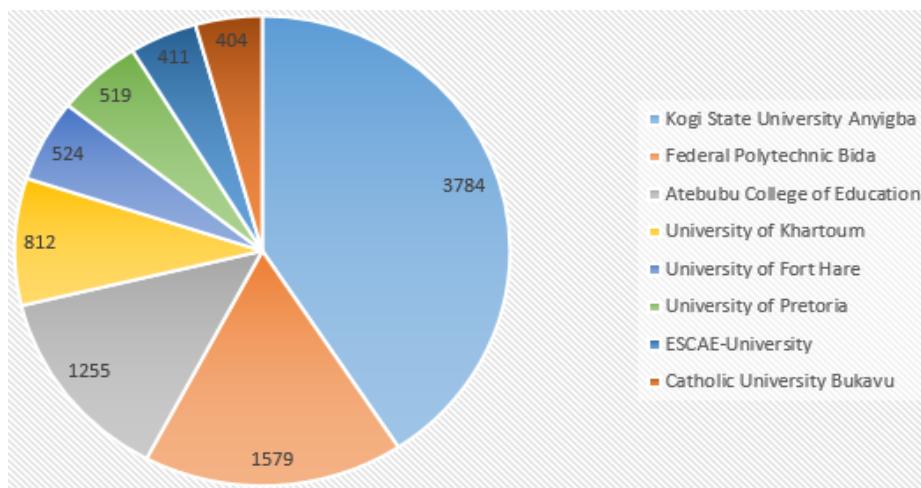


Figure 1. Chart showing numbers of participants in the online survey

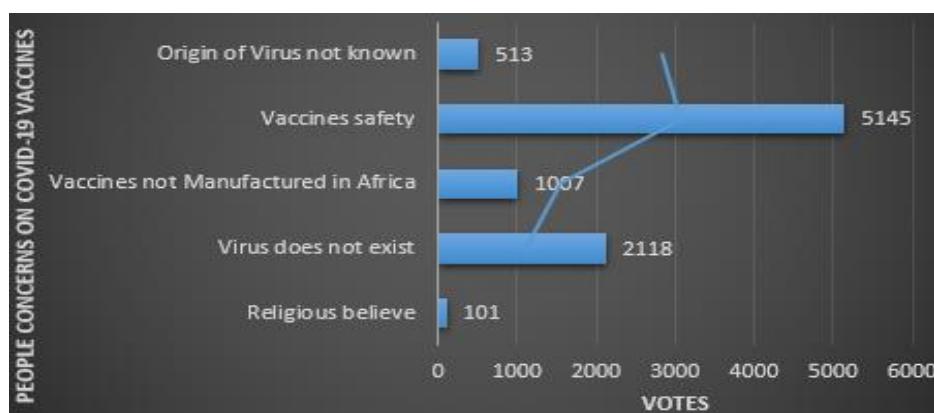


Figure 2. The possible reason for COVID-19 vaccines hesitancy in Africa

et al., 2021c). The WHO has satisfied all these vaccines and approved them to be safe, just like every other vaccine approved by it. This mistrust of COVID-19 vaccines is a result of a lack of adequate information on their safety, thereby forcing people to hold on to whatever misinformation they have gotten on the vaccines. Since information is key, healthcare providers need to educate our students, farmers, traditional leaders, religious leaders, government agencies and market women on the safety of these vaccines. In the remark section of the survey, people also complained about the government not being ready to address their fears and complaints; rather than address all the complaints raised, the government is bent on forcing the vaccine on everybody. This has negatively impacted the notion of the people, as they now believe there are other motives from the government rather than the health benefits of the vaccines (Petersen et al., 2021). Africa is now dominated by fake COVID-19 certificates because the government has chosen to enforce the vaccine on its populace rather than addressing their fundamental concerns. The government of each country in the region, in partnership with Africa Union (A.U.), will need to put resources together to effectively enlighten the people across the region on the safety and efficacy of the COVID-19 vaccines.

It's quite unfortunate that people still doubt the existence of a virus that has killed more than two million people across the globe. This doubt can be traced back to the early stages of the virus in Wuhan, China. The Chinese authority was a bit late in informing the World Health Organization (WHO) about the novel coronavirus (Akpoji et al., 2022). As at the time it was declared a world health emergency, the virus had already spread to other countries, the speed at which the virus was spreading became a source of concern, and people began to doubt its existence. Several studies have also provided insight into this belief; from the findings of these studies, it was agreed that the virus must have been in existence several months back before the Chinese authorities decided to inform the world. This can only be addressed through a proper government sensitization program on the COVID-19 virus; information is key to unlocking the COVID-19 hesitancy in Africa. A logical and well development program is desperately needed on the side of our policymakers to help get a huge number of the population vaccinated.

Since these vaccines are not manufactured in Africa, there are also considerable fears based on the survey results that this vaccine might not serve the interest of the region. Governments across the region need to educate Africans that COVID-19 is a global pandemic that requires a united effort across the world. COVID-19 is not confined to any region, and its vaccine origin should not bring any sort of controversy. Moving forward, the African Union (A.U.) needs to develop a roadmap that will ensure that most of the COVID-19 vaccine manufacturing companies

are situated in the region. This will go a long way in changing people's perspectives about the vaccines and also help with easy distribution logistics across the continent.

The Gantt chart summarizes people's responses to taking the vaccines across the region if their concerns are adequately addressed.

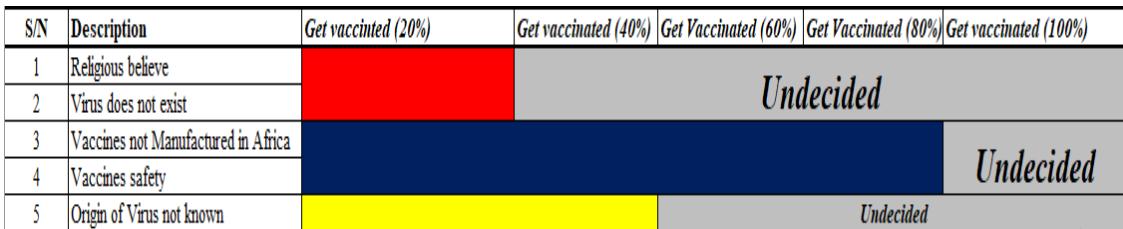


Figure 3. Gantt chart showing the percentage number of people that will take the COVID-19 vaccines if their concerns are addressed

Figure 4 gave a simple process flow that, if adhered to, will go a long way in solving the problem of COVID-19 hesitancy in Africa. The government in the region will need to develop a timeframe for their COVID-19 vaccination program. A team on COVID-19 sensitization will need to be formed to address people's fears and sensitize them on the benefits of being vaccinated. A holistic report on the effects of the vaccines will also need to be made ready so that the government team will be able to address the problem of vaccines' safety with more clarity. This will gain the people's trust, and the government's coarse attitude toward COVID-19 vaccination will also need to stop in order not to give the wrong impression.

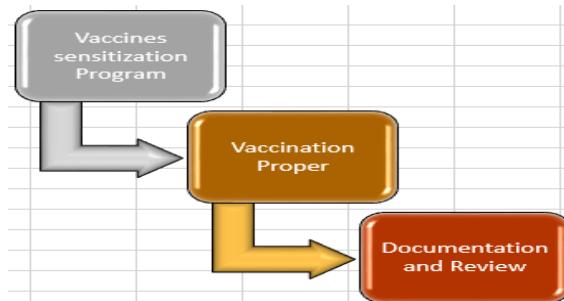


Figure 4. Vaccination flow process

4. Discussion

The study was carried out to help understand the reasons behind the rise in COVID-19 vaccine hesitancy in Africa and fashion ways through which an effective COVID-19 vaccination can be achieved in the region. It's no doubt that the African economy and its sustainable development goals have suffered a lot from the impact of COVID-19. The urgent need to find a way around this ugly development of vaccine hesitancy can't be overemphasized; the region can't afford to be isolated if its people refuse to be vaccinated.

With the help of the online demographic survey, we were able to understand some of the patent questions posed by COVID-19 vaccine hesitancy in Africa and solutions were offered. This will help reduce all the challenges associated with the setback that the vaccines have recently suffered in the region. Why vaccine hesitancy is not going to vanish within seconds, there is a need to tackle them right away in Africa. As the catastrophic effect on the economy will be damaging to the socio-economic development of the region.

5. Conclusion

Based on the result of the study, it's crystal clear that the major reason for COVID-19 vaccine hesitancy in Africa is inadequate information on vaccine safety and the virus itself. Eighty per cent of the people that participated in the survey said they would take the vaccines if their concerns on COVID-19 vaccines were addressed and if vaccine manufacturing plants were situated in the region.

The study recommends a step by step approach to COVID-19 vaccination in Africa, as illustrated in figure four. The African Union (A.U.), in collaboration with the member state, are expected to form a committee on COVID-19 sensitization in the region. This will help address all the concerns raised by the people, and a smooth road to vaccination will be paved. This study also discourages forceful vaccination, as this tends to create a different notion among the populace. If Africa's economy is to sustain its current economic gains amidst the COVID-19 pandemic, getting a larger number of its population vaccinated will be key to future economic survival.

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