


Vaccine hesitancy in Africa: causes and strategies to the rescue

Abdullahi Tunde Aborode, Emmanuel Adebowale Fajemisin, Osmond C. Ekwebelem, Christos Tsagkaris, Edeh Abigael Taiwo, Olivier Uwishema , Oluwasola Oluwabusayo Awoniyi, Shoab Ahmad, Mohammad Yasir Essar, Irem Adanur and Ismaeel Yunusa

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Dear Editor,

In the past few decades, vaccination has substantially reduced the burden of vaccine-preventable diseases (VPDs) globally. However, as the global community prepares for the widespread distribution of COVID-19 vaccines, there is a need to address the recurring problem of vaccine hesitancy, defined by the World Health Organization (WHO) as a ‘delay in acceptance or refusal of vaccines despite the availability of vaccination services’¹. This stated, the WHO has identified vaccine hesitancy as one of the greatest threats to global health due to its increasing spate in over 90% of countries across the globe.¹ In the same line, the UK Scientific Advisory Group for Emergencies has described vaccine hesitancy as a behavioral pattern, affected by three primary factors: confidence or trust in the efficacy of the vaccine efficacy or the integrity of the provider, complacency, or the perceived need for a vaccine acknowledging its value, and convenience or the accessibility of the vaccine.^{2,3}

Vaccine hesitancy is complex and context-specific, varying across time, places, and disease type. Moreover, it is affected by factors such as complacency, convenience, and confidence. Equally, misinformation and politicization of the COVID-19 pandemic, vaccine approval and deployment processes can contribute to public hesitancy or trust. Currently, there is a need for the concerned stakeholders to help build public trust toward COVID-19 vaccines by disseminating simplified, yet valid, information about vaccination, debunking popular myths with facts and remaining impartial toward political and financial interests. It should become clear that vaccination,

coupled with hygienic and behavioral control measures, provides the most promising way of limiting or eliminating the COVID-19 spread.³

The Global Vaccine Action Plan proposed 80%–90% threshold for vaccination coverage to curb the pandemic. However, research surveys conducted by the Africa Centers for Disease Control and Prevention (Africa CDC) in partnership with the London School of Hygiene and Tropical Medicine (LSHTM) reported an average of 79% of persons in Africa are willing to use the COVID-19 vaccine if it safe and effective.^{4–6} This study included participants from 15 African countries, namely Burkina Faso, Cote d’Ivoire, the Democratic Republic of Congo, Ethiopia, Gabon, Kenya, Malawi, Morocco, Niger, Nigeria, Senegal, South Africa, Sudan, Tunisia, and Uganda. The reported data indicate substantial variation in attitudes across the countries.^{5,6} On these grounds, it is necessary to pay special attention to vaccine hesitancy in Africa, study its causes and contemplate real – world solutions.

Vaccine hesitancy

Although COVID-19 vaccine hesitancy is a complex culmination of social, political, economic, and cultural factors coupled with contemporary challenges, its causes fall under three major categories: unique features of vaccine development amid the pandemic, misinformation, and politics.^{6,7}

What is unique about COVID-19 vaccines is speed. The accelerated vaccine development, clinical trials, and regulatory approval procedures has created anxiety and undermined people’s belief in its efficacy.^{6,7} Variability in COVID-19 vaccine

Correspondence to:

Olivier Uwishema
Oli Health Magazine
Organization, Research
and Education, Kigali,
Rwanda.

Faculty of Medicine,
Karadeniz Technical
University, 61080 Trabzon,
Turkey
uwotivier1@ktu.edu.tr

Abdullahi Tunde Aborode
Healthy Africans
Platform, Research
and Development,
Ibadan, Nigeria; Oli
Health Magazine
Organization, Research
and Development, Kigali,
Rwanda

Emmanuel Adebowale Fajemisin
Edeh Abigael Taiwo
Department of
Biochemistry, Federal
University of Technology,
Akure, Nigeria

Osmond C. Ekwebelem
Department of
Microbiology, University of
Nigeria, Nsukka, Nigeria

Christos Tsagkaris
Faculty of Medicine,
University of Crete,
Heraklion, Greece

Oluwasola Oluwabusayo Awoniyi
Department of
Biochemistry, Ekiti State
University, Ado Ekiti,
Nigeria

Shoab Ahmad
Department of Pediatrics,
DHQ Teaching Hospital,
Faisalabad, Pakistan

Mohammad Yasir Essar
Medical Research Center,
Kateb University, Kabul,
Afghanistan

Kabul University of
Medical Sciences, Kabul,

Afghanistan

Irem Adanur
Faculty of Medicine,
Karadeniz Technical
University, Trabzon,
Turkey

Ismaeel Yunusa
Department of
Clinical Pharmacy and
Outcomes Sciences,
University of South
Carolina College of
Pharmacy, Columbia,
SC, USA

acceptability rates reported in different countries and regions has a real life impact, given that studies showed that acceptability rates lower than 60%, can face more challenges toward the management of control the COVID-19 pandemic.⁸

Particularly in African countries, an overspread of COVID-19 overwhelming healthcare facilities can pave the way toward other infectious outbreaks such as Bird flu, Malaria, and Ebola.⁹⁻¹¹

Misinformation about novel technologies used against COVID-19, from mRNA technology to cases' tracking applications, has led to concerns about the safety of vaccine developed using the mRNA technology.^{4,7} This indicates that COVID-19 vaccines hesitancy is also related to the fear of the vaccine's side effects.¹² Concerns expressed among ethnic and religious groups have also contributed to vaccine hesitancy.¹² Also, lack of awareness in addition to click-bait-oriented journalism about the clinical trials' outcomes, especially in terms of side effects observed on volunteers, have made people concerned about lack of transparency in clinical trials that lead to the approval of COVID-19 vaccines. A history of ambivalent research practices of certain pharmaceutical industries in Africa has been a source of mistrust as well.^{5,7}

While misinformation is circulating through the media and Internet, many people in Africa, tend to believe that they will become subjects of experimentation for western vaccines.^{6,13} For example, there has been a consistent spate of emotions over scientific facts on social media, leading to hesitancy among the populace. On top of this, hesitancy expressed by few healthcare workers has had a super-spread effect in terms of given that hesitant working in the health sector transfer their perceptions to patients instead of propagating evidence-based information. Certainly, communicating this kind of information about the COVID-19 vaccine is an arduous task. Despite their best intentions, healthcare workers with limited access to educational resources have issued contradicting statements regarding the different types of vaccines or the need for protective measures after vaccination; this latter has further confused and frustrated the general public.^{4,6} The entanglement of politics with vaccine development also co-fueled vaccine hesitancy. Governments have been thought to accelerate the development of vaccines,

in order to restart financial activity rather than resolving safety concerns.^{7,13} Moreover, communities and minority groups that have previously been marginalized for political and demographical reasons are more prone to vaccine hesitancy, because they can consider this "sudden" access to healthcare and prevention services suspicious. Evidence has verified that low confidence, complacency and convenience, related to sociodemographic characteristics of particular populations, contribute to low uptake of COVID-19 vaccine as people show low interest.¹⁴

International relations have certainly played an intricate role. For instance, African countries that are in good terms with China were provided with the chance to conduct clinical trials on their population and have early access to specific vaccines depending on the results of the trials. Similarly African countries who maintain good diplomatic relationships with the European Union (EU) relied to the EU for vaccines. Prioritizing one vaccine on the grounds of states being in good terms with another country has probably raised concerns about the inferiority of other vaccines among the population.^{3,4,6,13}

An action plan to tackle vaccine hesitancy in Africa

Given the risks stemming from COVID-19 vaccine hesitancy, it is pivotal to outline solutions to build up vaccine confidence. Although laying down a detailed strategy is beyond the scope of this paper, the authors attempt to make some useful recommendations for the authorities, stakeholders and researchers involved. A multi-pronged framework tailored to socio-political contexts, specific social groups, and even individuals can provide the best results. Policymakers, public health officials, vaccine developers, healthcare workers, researchers, advocates, communicators, media, and others need to collaborate to sustain public confidence in COVID-19 vaccines.^{5,6,13}

Good policies are pivotal. Transparent management of vaccine approval and purchase are streamlined to logistics and equal access to a network of adequately equipped network of vaccination centers that can increase public trust. This will thereby host frequent briefings about ongoing clinical trials and making decision making open, following the example of the FDA and EMA can

help the public to be on the same page with scientists and policymakers.^{15,16} This way, the management of vaccination hesitancy can set an example of transparency, accountability, democratic, and participatory engagement applicable to other facets of policymaking.

Furthermore, clinical trial protocols and appropriate results must be communicated in accessible formats to both scientists and the public. The medical knowledge about vaccines, how it works, including its adverse effects has impact on its increases acceptance and confidence of the public.^{4,16}

Finally, a pledge to vaccine safety is a crucial strategy. The public can get easily suspicious over pharmaceutical companies denying accountability for vaccines' side effects. Although, ensuring that no adverse event will occur is not pragmatic, letting the public realize the shared commitment of researchers, policymakers and the industry to safety can be a game changer. Nine vaccine manufacturers recently pledged not to submit vaccines for approval in the US until proven safe in large clinical trials to assuage fears around political pressure to speed up development.^{7,15} This could be adapted by including different stakeholder groups to add an additional layer of reassurance for the public.^{15,16}

Another key strategy is creative communication and honest dialogue to mitigate misinformation or false information around vaccines and vaccination. A study published recently in the *BMJ* reported that misleading content from abroad could easily penetrate national communities in social media increasing vaccine hesitancy.^{2,16} Innovative and compelling communications methods, particularly storytelling (e.g. personal stories to which people can relate), emotion, appeals to empathy and altruism, and memes to convey essential information in engaging ways can flood social media in an effort to counteract misleading information.^{2,5,15}

Effective communication requires context-specific and evidence-informed assessment to identify communication preferences and language needs. Accessible material can help people make sense of things in the inherently uncertain and tense time like this COVID era. Furthermore, engaging both online and offline platforms,

including social media, for clear communication about the types of vaccines and the process of deploying them.

Use all languages spoken and visual imagery from the platforms people trust; and build on local terminologies and understandings of vitality, strength, and immunity in communications about vaccination. Working together with trusted influencers in and beyond public health from national and international celebrities, to online 'influencers', to locally trusted alternative health providers and community leaders to convey information and facilitate dialogue in compelling ways. Asking local healers and religious leaders, whose say weighs heavily in the conscience of most people in Africa, can also turn the tide in favor of vaccines.^{13,15,16}

Another major strategy is to co-design and discuss vaccination strategies with citizens, including how to prioritize access once vaccines are available. Prioritization may be done geographically (e.g. where there is higher transmission or risk), by occupational group (e.g. prioritizing frontline personnel), by age or medical status (e.g. the elderly, people with pre-existing conditions). This will be important for building and maintaining public trust and confidence, especially where vaccine confidence is already low. Citizens' juries are a useful model used in past epidemics to achieve the best results.^{2,3,15}

At the same time, it is pivotal to work with frontline healthcare workers, including non-biomedical health providers, to address vaccine hesitancy among them. Not only the wellbeing of this group is essential, but also, they can set an example for hesitant.^{3,13,15} This is quite relevant given the high number of hesitant among healthcare workers worldwide, and particularly in Africa, where the number of qualified healthcare professionals is small about the population.^{4,13,15}

The logistics of vaccination pose an additional challenge to tackle. It is important to manage expectations of likely vaccine effectiveness, populace priority, and that life may not go 'back to normal' immediately after vaccine deployment.^{6,13,16} Vaccines should be administered without coercion by trusted actors such as local healthcare providers, including non-biomedical practitioners, where appropriate. The use of existing infrastructures

such as routine vaccine drives may inspire greater trust and confidence.^{13,16}

Finally, yet importantly, it is imperative to pay special attention to minority and marginalized communities, refugees, and migrants whose status may jeopardize their access to health services in a vaccination plan. Vaccination can be carried out in comfortable environments such as shopping centers, workplaces, schools, religious sites, and so on, especially in minority communities who might be reluctant to visit health facilities.

Widely used telecommunication services, such as social media chats or short text messages (SMS) can also be employed to inform individuals about their rendezvous in vaccination centers. Finally, surveillance systems for adverse medical events, which may be caused or perceived to be caused by vaccines, must be in place. There is a need to engage independent monitoring bodies at national and regional levels and establish clear communication protocols for communicating with the public about adverse events.

Conclusion

Africa is a continent with multi-cultural patterns, and this diversity in cultural beliefs and practices spread across different states, nations, races, tribes, and ethnic groups. Socio-cultural and demographic influences thrive in Africa due to the culture and social structure where people are strongly influenced to believe or accept what others around them do or expect them to do. Undoubtedly, this socio-cultural complexity has contributed immensely to vaccine hesitancy in Africa. Unraveling this complexity is a necessary step to design and implement effective strategies against vaccine hesitancy. Otherwise, as vast as Africa is, so devastating can the implications of vaccine hesitancy be.

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Ethics approval

Ethical approval was not necessary because the study focused on our viewpoints and there is no confidential information.

ORCID iD


Olivier Uwishema  <https://orcid.org/0000-0002-0692-9027>

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