

Low rate of COVID-19 vaccination in Africa: a cause for concern

Mohammed Al-Kassim Hassan , Auwal Adam Bala and Abubakar Ibrahim Jatau

Keywords: Africa, COVID-19, low rate, pandemic, vaccination

The development of coronavirus disease 2019 (COVID-19) vaccines in an unprecedented timeline was a major breakthrough and provided a significant lifeline to bring the global pandemic caused by the novel severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) under control. To date, these vaccines remain the safest and most effective tool available to combat the pandemic that has caused significant morbidities, mortalities, and economic downturns.^{1,2} Undoubtedly, the vaccine rollout has been marred by controversial issues such as vaccine inequity, vaccine nationalism, and vaccine hesitancy³ despite published scientific data from clinical trials.

The global distribution of the COVID-19 vaccines has been lopsided since the rollout began in December 2020. The World Health Organization (WHO) Director-General's opening remarks at World Health Assembly on 24 May 2021 highlighted that only 10 countries account for more than 75% of all vaccines administered globally.⁴ Recent data suggest the vaccination rate in the highest income countries and regions is more than 10 times faster than in the lowest income regions.⁵ More than 9.5 billion doses of the vaccines have been administered across the globe,⁵ with only about 3.4% (321 million) of this amount being administered in Africa based on data obtained from Africa Centres for Disease Control and Prevention (Africa CDC) COVID-19 Dashboard last updated on 5 January 2022.⁶ In Mainland China, European Union, and United States, 86.8%, 70.8%, and 62.6%⁵ of the populations have been fully vaccinated, respectively. Meanwhile, Africa – the world's second-largest and second-most populated continent – has fully vaccinated only about 9.5% of its population thus far.⁶ The low rate of vaccination, if not drastically improved, could plunge the region into a vaccine

crisis despite several approved vaccines in the market. The attempts by some wealthy nations to administer booster doses of the vaccines to certain fully vaccinated risk groups could make the vaccines even more scarce. The worst affected will be low-income countries struggling to secure and administer initial doses even to most at-risk populations. The WHO in its interim statement on COVID-19 vaccine booster doses has concluded that the focus for the time being remains on increasing global vaccination coverage with the primary series (either one or two doses for current Emergency Use Listing vaccines). Introducing booster doses should be firmly evidence-driven and targeted to the population groups in greatest need.⁷ Africa has an estimated population of over 1.3 billion people comprising several of the poorest nations of the globe. Many of these countries have poor surveillance and fragile healthcare systems that may not withstand the changing dynamics of the pandemic. The highly transmissible *Delta* and *Omicron* variants of SARS-CoV-2 are triggering spikes in cases and consequently threatening the progress made across the world. The global targets of WHO are to support all countries to vaccinate at least 10% of their populations by the end of September, at least 40% by the end of 2021, and 70% of the world's population by mid-2022.⁸ The African region could miss these targets if the status quo does not improve rapidly and significantly.

Possible causes of delayed or low vaccination rate in Africa

Although the design and production of vaccines are rigorous and extensive, no African nation is a local producer of the currently in-use COVID-19 vaccines. The region, therefore, relies on imports from vaccine-producing countries. The situation has been made worse as most, if not all, African

Therapeutic Advances in Vaccines and Immunotherapy

2022, Vol. 10: 1–3

DOI: 10.1177/
25151355221088159

© The Author(s), 2022.
Article reuse guidelines:
sagepub.com/journals-
permissions

Correspondence to:
Mohammed Al-Kassim Hassan
Faculty of Pharmaceutical
Sciences, Bayero
University, Kano, Nigeria.
alkass2020@gmail.com;
ahmohammed.phc@buk.edu.ng

Auwal Adam Bala
Department
Pharmacology, College
of Medicine and Health
Sciences, Federal
University Dutse, Nigeria
Abubakar Ibrahim Jatau
School of Pharmacy and
Pharmacology, University
of Tasmania, Hobart, TAS,
Australia

countries had failed to preorder the supposed vaccines from the manufacturers during the early developmental stages. Ultimately, the region had to rely on WHO's COVAX global vaccine sharing scheme, bilateral donations, and a late procurement drive from African Union (AU), including UNICEF's commitment to supply 220 million single-dose vaccines by 2022 to support the African Vaccine Acquisition Trust (AVAT) for the 55 AU Member States.⁹ Fortunately, African regional vaccine production in partnership deals with established vaccine producers is in the pipeline for countries such as South Africa, Senegal, Algeria, Morocco, and Egypt.¹⁰

Vaccine hesitancy in Africa could be due to the widespread misconceptions and disbelief about the whole pandemic. The overload and conflicting COVID-19 information among the general public could have played a role in this regard. Many Africans were reluctant to get shots into their arms. Anti-vaccine fake news, propaganda, and conspiracy theories filled the air in attempts to discredit the vaccines. For instance, in an online video, the vaccines were alleged to contain a detectable microchip that attracts metallic objects to the injection site of vaccinated individuals. This claim, however, has been debunked by the relevant authorities.¹¹

The low socioeconomic status of people in most parts of Africa could contribute to the low vaccination rate in the continent. Many people believe the perennial sufferings deserve more urgent attention than acceptance of a vaccine for a disease that is believed to have a very low fatality rate, especially in African populations. Evidence suggests that the demographic age structure of sub-Saharan Africa is the primary reason for COVID-19's low morbidity and mortality relative to other parts of the world.¹² Africa is ravaged by many diseases such as malaria, HIV/AIDS, tuberculosis, trypanosomiasis, snakebite envenoming, and other neglected tropical diseases of the poor. These diseases combined have caused significant morbidities and mortalities in the region compared with the much-feared COVID-19 pandemic. Furthermore, the indirect impact of COVID-19 further exacerbates the underestimated burden of some of these deadly diseases in African population where millions of people live with them.¹³ Recently, cases of Marburg virus were detected in Guinea while cholera has

reemerged in Niger and Nigeria.⁸ The economic impact of the pandemic has resulted in dwindling revenues in both the public and private sectors, and huge job losses leading to mental health issues.¹⁴

Many low-income countries in Africa lack adequate infrastructure and logistics to deal with the COVID-19 vaccination campaign. A shortage of cold-chain system, vaccine consumables, and so on could impact vaccination preparedness. Healthcare systems were at the brink of collapse due to overwhelming disease burden. According to WHO, an estimated 115,000 healthcare workers 'paid the ultimate price' in the line of duty during the current pandemic.⁴ This number is believed to be much higher than stated due to underreporting, especially in Africa.

Finally, some African nations are plunged in conflict and political crises, which create instability and security concerns. This invariably disrupts large-scale vaccination due to low turnout at vaccination centres, consequent to fear instilled in the populations – for instance, political crises in Mozambique, Democratic Republic of Congo, Tigray region of Ethiopia, banditry and kidnapping in Nigeria to mention but a few.

Conclusion

The alarming low rate of COVID-19 vaccination in Africa has made the continent trail behind in the vaccination campaign, thereby putting the global vaccination progress under threat. The AU must expedite efforts to acquire adequate doses, fast-track mass vaccination campaigns, and surmount other challenges that impede vaccination. The region should also invest adequately to develop its own regional vaccines and must remain proactive against future pandemics yet unknown. High-income nations, donor organizations, and other global vaccine stakeholders should join hands to eliminate the vaccine inequity and lag facing the region for the greater good of all and to bring the pandemic to an end. 'No one is safe, until everyone is'.¹⁵

Author contributions

Mohammed Al-Kassim Hassan: Conceptualization; Writing – original draft; Writing – review & editing.

Auwal Adam Bala: Writing – review & editing.

Abubakar Ibrahim Jatau: Writing – review & editing.

Conflict of interest statement

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Ethical approval/patient consent

This work does not contain studies with animal or human subjects. Opinions expressed are that of the authors. Hence, ethical approval is not applicable.

ORCID iD

Mohammed Al-Kassim Hassan  <https://orcid.org/0000-0002-5423-4633>

References

1. Pormohammad A, Zarei M, Ghorbani S, *et al.* Efficacy and safety of covid-19 vaccines: a systematic review and meta-analysis of randomized clinical trials. *Vaccines* 2021; 9: 467.
2. Kai X, Xiao-yan TU, Miao LIU, *et al.* Efficacy and safety of COVID-19 vaccines: a systematic review. *Chin J Contemp Pediatr* 2021; 23: 7–9.
3. Vashi AP and Coiado OC. The future of COVID-19: a vaccine review. *J Infect Public Health* 2021; 14: 1461–1465.
4. Director-General's opening remarks at the World Health Assembly – 24 May 2021, <https://www.who.int/director-general/speeches/detail/director-general-s-opening-remarks-at-the-world-health-assembly-24-may-2021> (accessed 16 September 2021).
5. More than 9.52 billion shots given: covid-19 vaccine tracker, <https://www.bloomberg.com/graphics/covid-vaccine-tracker-global-distribution/> (accessed 12 January 2022).
6. COVID-19 vaccination – Africa CDC, <https://africacdc.org/covid-19-vaccination/> (accessed 12 January 2022).
7. Interim statement on COVID-19 vaccine booster doses, <https://www.who.int/news/item/10-08-2021-interim-statement-on-covid-19-vaccine-booster-doses> (accessed 16 September 2021).
8. Director-General's opening remarks at the Seventy-first session of the Regional Committee for Africa, <https://www.who.int/director-general/speeches/detail/director-general-s-opening-remarks-at-the-seventy-first-session-of-the-regional-committee-for-africa> (accessed 16 September 2021).
9. UNICEF signs first COVID-19 vaccine agreement to supply African Union, <https://www.unicef.org/press-releases/unicef-signs-first-covid-19-vaccine-agreement-supply-african-union> (accessed 12 January 2022).
10. Is there any COVID-19 vaccine production in Africa? Carnegie Endowment for International Peace, <https://carnegieendowment.org/2021/09/13/is-there-any-covid-19-vaccine-production-in-africa-pub-85320> (accessed 16 September 2021).
11. Fact check: does AstraZeneca COVID-19 vaccine contain magnetic ingredients? <https://www.thecable.ng/fact-check-does-astrazeneca-covid-19-vaccine-contain-magnetic-materials> (accessed 18 September 2021).
12. Adams J, MacKenzie MJ, Amegah AK, *et al.* The conundrum of low covid-19 mortality burden in sub-Saharan Africa: myth or reality? *Glob Health Sci Pract* 2021; 9: 433–443.
13. Velavan TP, Meyer CG, Esen M, *et al.* COVID-19 and syndemic challenges in 'Battling the Big Three': HIV, TB and malaria. *Int J Infect Dis* 2021; 106: 29–32.
14. Posel D, Oyenubi A and Kollamparambil U. Job loss and mental health during the COVID-19 lockdown: evidence from South Africa. *PLoS ONE* 2021; 16: e0249352.
15. 'No one is safe, until everyone is' United Nations <https://www.un.org/en/desa/“no-one-safe-until-everyone-”> (accessed 12 January 2022).

Visit SAGE journals online
[journals.sagepub.com/
home/tav](https://journals.sagepub.com/home/tav)

 SAGE journals