Reducing COVID-19 vaccine hesitancy and improving vaccine uptake in Nigeria

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Abstract

By May 30, 2022, there were 526,182,662 confirmed COVID-19 cases and 6,286,057 deaths globally; of which Nigeria had recorded 256,028 confirmed cases and 3143 deaths. By the same time, Nigeria had received a total of 93.9 million doses of the COVID-19 vaccine, enough to vaccinate 25% of the population; however, only 27.4 million people (13.3% of the population) had received at least one dose of the vaccine. This article examines available evidence on COVID-19 vaccine hesitancy in Nigeria and makes recommendations for improving its uptake. Major causes of COVID-19 vaccine hesitancy identified in Nigeria were concerns around vaccine efficacy and safety, disbelief in the existence and severity of the disease, and distrust of the government. To reduce COVID-19 vaccine hesitancy and improve vaccine coverage in Nigeria, mapping vaccine acceptance and hesitancy across geographies and demographics is needed, as well as increased stakeholder communication, and effective community engagement.

Introduction

Vaccines are one of the most cost-effective and sustainable disease interventions in public health history. However, as with several vaccines, the introduction of the COVID-19 vaccine was met with skepticism and hesitancy.

The COVID-19 vaccine was developed in an unprecedented record time and was expected, by some, to be the silver bullet to stop the pandemic. Once developed though, vaccine shortages, hoarding, export restrictions, and differences in the purchasing power of nations led to inequities in vaccine access with high-income countries at an advantage, leaving low- to-middle-income countries behind.[1] This inequity posed a challenge to the global fight to end the pandemic because scientists had predicted that vaccine coverage rates of 70-85% would be required to achieve herd immunity and end the pandemic.[2]

As of May 30, 2022, Nigeria had recorded 256,028 confirmed cases of COVID-19 and 3143 deaths.[3,4] Through COVAX, the vaccine arm of the Access to COVID-19 Tools, Nigeria received vaccines to implement its COVID-19 vaccination campaign. The Nigeria Primary Healthcare Development Agency is responsible for steering the rollout and coordination of COVID-19 vaccination in the country. Since March 2021, the agency has deployed various strategies toward achieving the goal of 60% vaccine coverage by June 2022. The vaccine rollout commenced with the TEACH (T: traditional method of vaccinating target populations; E: electronic self-registration; A: assisted electronic registration; C: concomitant e-registration during walk-ins to fixed sites/health facilities; H: house-to-house registration using volunteers to rapidly increase e-registration) strategy and was revised in November 2021 to the SCALES (service delivery, communication, accountability, logistics, electronic reporting, and supportive supervision) strategy. With the arrival of single-dose vaccines, the strategy was revised in February 2022 to SCALES 2.0 which sought to increase vaccine coverage in hard-to-reach areas using the Johnson & Johnson single-dose vaccine and a vaccination site-finder and improve efficiency by integrating COVID-19 vaccination with routine immunization services. Despite these strategies, COVID-19 vaccine coverage remains poor with only 27.4 million people (13.3%) receiving a first dose and 16.8 million people (8.2%) receiving a second dose as of May 2022.[5] This low uptake demonstrates a gap between COVID-19 vaccine acceptance and vaccine uptake in Nigeria. Several early global surveys on vaccine acceptance showed a higher willingness to accept a COVID vaccine in low- and middle-income countries compared with high-income countries; in Nigeria, willingness to accept the vaccine was as high as 76%.[6,7] However, other studies limited to Nigeria show lower acceptance rates with results ranging from 40.5 to 58.2%.[8-10,13] Despite these variations, likely due to changing sentiments over time as reflected in more recent analyses,[11,12] the need to increase COVID-19 vaccine uptake and reduce hesitancy in Nigeria remains.

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An appraisal of the Nigerian experience

Nigeria has had its fair experience of vaccine hesitancy with routine childhood immunizations. An example is the polio vaccine boycott in 2003/2004 in northern Nigeria. The country managed to negotiate an end to the boycott, after 11 months, through engagement with traditional and religious leaders, interpersonal communication, outreach with other partners, door-to-door immunization, and other strategies.[14,15]

Common causes of COVID-19 vaccine hesitancy identified in Nigeria by several surveys were uncertainty about vaccine safety and efficacy, disbelief in the existence and severity of the disease, and distrust of government.

Vaccine efficacy and safety

The unprecedented rate at which the COVID-19 vaccines were developed when compared with previous timeframes, has led to public skepticism and distrust.[16,17] Further heightening this is the emergence of new strains of COVID-19 and the inability of developed vaccines to provide sustained immunity thus creating the need for booster doses.[18] In Nigeria, barriers to COVID-19 vaccine acceptance include distrust of the vaccine source and distrust of the efficacy of available vaccines due to the absence of a steady power supply which is needed to maintain an adequate cold chain and maintain potency, including local concerns about inadequate, safe storage.[17] Concerns around vaccine side effects which ranged from mild, yet common side effects such as fatigue, muscle pain, joint pain, and headache; to more worrisome slow recovery, thrombosis, and death contribute to hesitancy.[7,19] A cross-sectional study conducted on COVID-19 vaccine hesitancy and willingness to pay found that 52.9% of respondents were worried about vaccine side effects, and a third of respondents had concerns about vaccine safety generally.[18] This was consistent with another study in southeast Nigeria where 60.1% of respondents think that COVID-19 vaccines are not safe.[19]

Disbelief in the existence and severity of the disease

The perception of relatively low numbers of confirmed COVID-19 cases and deaths in Nigeria and West Africa created a sense of natural immunity and low risk of contracting the disease impacting on willingness to take the vaccine.[20,21] Although denialism around the existence and severity of COVID-19 is one of the less common reasons for vaccine hesitancy,[16,19] the resultant effect nonetheless weighs significantly on health behaviors and public health outcomes. The rapidly evolving nature of the virus, flip-flopping policy guidance, and gaps in scientific knowledge and communication allow for a vacuum that has been filled with false information. A survey in Nigeria showed that inadequate communication of known facts and delays in the government's responses to rumors in the face of rapidly shared social media information had also exacerbated the spread of false narratives. This misinformation and accompanying conspiracy theories were not only transmitted through social media platforms that are unregulated but were reported via traditional media outlets as news.[22]

Trust in the government

Public distrust in the government existed even before the pandemic, driven by corruption and government inefficiencies.[23] In 2018, Nigeria had the eighth worst ranking on public trust in politicians by the World Economic Forum trust report, which assesses the ethical standards of politicians.[24] Political distrust has been shown to affect public cooperation and fuel the spread of viral diseases.[25] In Nigeria, 86% of respondents thought that distrust in government initiatives on curbing the COVID-19 pandemic was high.[23] In another study, 58.7% of respondents did not trust the government to make the right decisions regarding COVID-19 vaccination.[26] The inability of the government to provide social and economic safety nets for its citizens during the pandemic and perceived government dishonesty in reporting COVID-19 cases, to attract donor resources and corporate donations, contributed to public distrust.[13,26,27] This distrust was further fueled by the poor distribution of COVID-19 relief resources donated by governments, donor agencies, and the Coalition Against COVID-19 platform through private sector participation in Nigeria.[29]

Recommendations

Using geographic information system technology for mapping

The prevalence and reasons for COVID-19 vaccine hesitancy vary greatly across Nigeria because of the country's highly complex and diverse ethnic, cultural, and religious landscape (Figures 1 and 2).[28] A study on COVID-19 vaccine acceptance and hesitancy in low-and-middle-income countries found higher rates of vaccine acceptance among men than women, as well as higher reported acceptance among educated respondents. There were mixed results when the relationship between COVID-19 acceptance and age was examined. Another study examining vaccine hesitancy in Ghana, found some notable differences in vaccine acceptance by gender, age, educational attainment, and region of residence. Vaccine acceptance rates were higher among males, individuals above 55 years old, those with secondary school level education, and those respondents living in the Northeast.[30] Mapping and profiling of COVID-19 vaccine hesitancy in South Africa identified vaccine hesitant hotspots and profiled the undecided population as having moderate trust in the government, and more likely to be less educated whereas, the individuals who were willing to get the vaccine had high trust in the government's COVID-19 information and were highest educated.[31]

Mapping of vaccine willingness and hesitancy across geographical locations and demographics is vital to informing the development of context-specific, and effective strategies and can help the effective channeling of resources. More vaccines and manpower can be directed at areas with a high willingness to be vaccinated while advocacy, health education, and risk communication could be directed at those who are undecided. This targeted effort will prevent vaccine wastage and aid in achieving the intended vaccination goals.

Transparent communication

Trust is an important factor in overcoming vaccine hesitancy. Most Africans indicate a willingness to take a COVID vaccine if it is confirmed safe and effective.[32] Transparent communication by all relevant stakeholders particularly the government, scientific institutions, and healthcare workers is necessary to build and sustain vaccine confidence.

Deliberate efforts should be made to dispel myths and rumors and actively promote information on the source, safety, efficacy, side effects, pharmacovigilance, *etc*. of the vaccines. This should be done by healthcare workers, World Health Organization, and the Africa Centre for Disease Control since they have been identified as some of the trusted sources of information.[33] In addition to

THE VACCINATED

COVID-19 VACCINES ADMINISTERED: NIGERIA

A breakdown of those who have received COVID-19 vaccines shows large differences between regions. Only 1 in 3 respondents in **Yobe** remain unvaccinated, whereas regions such as **Borno, Abia, and Enugu** have more than 92% of respondents unvaccinated.
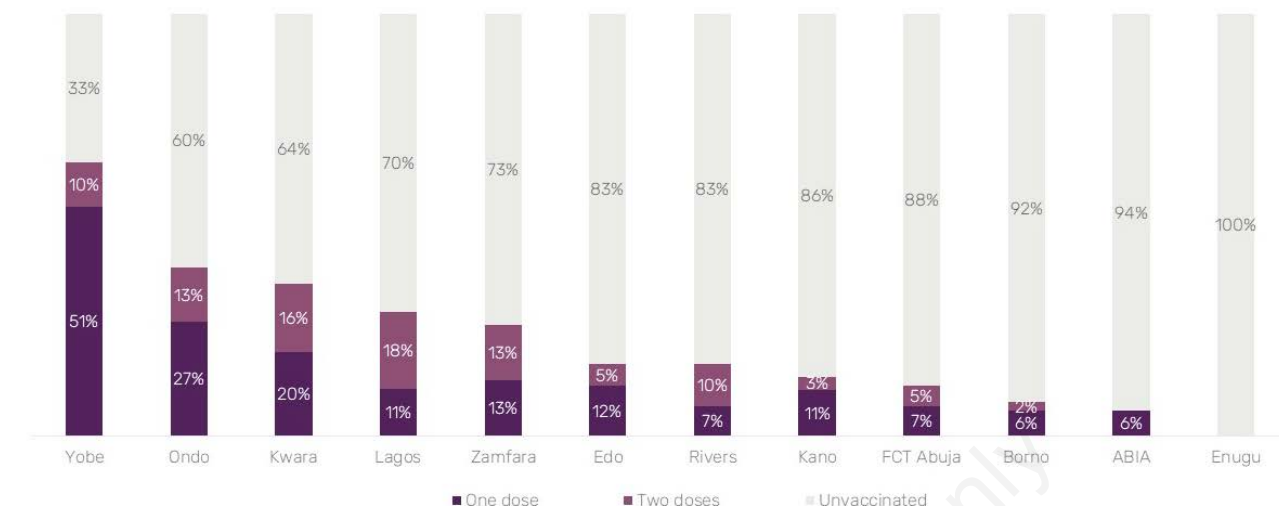
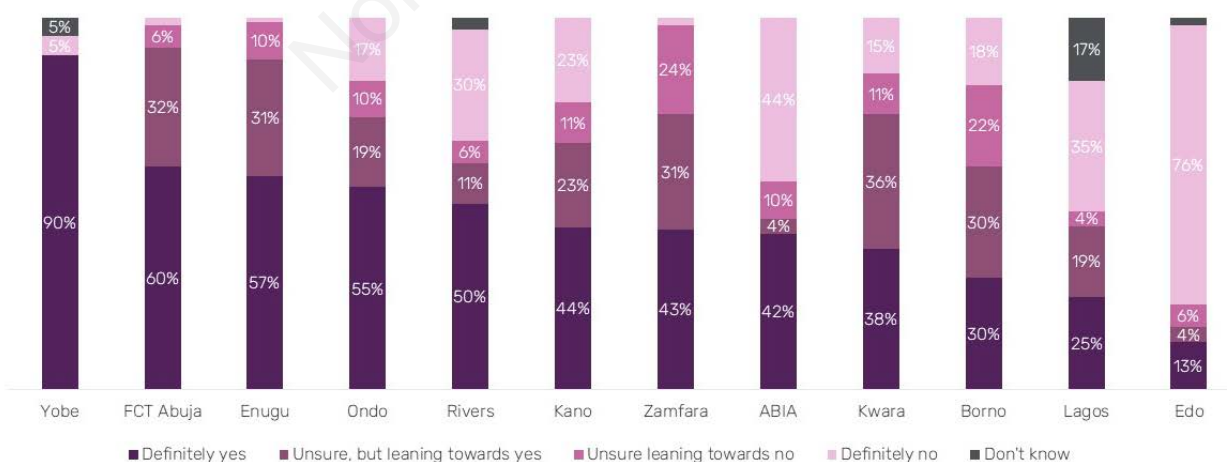©2022 ORB International | Nigeria Report — All interviews: n= 1,030

Figure 1. COVID-19 vaccines administered in Nigeria. Reproduced from: Africa CDC (2022), Africa CDC working group Nigeria report, with permission of ORB International and Africa CDC.

DEMAND FOR COVID-19 VACCINES: THE UNVACCINATED

It is clear by analysing the data by region for number of those vaccinated and willingness to accept a COVID-19 vaccine that each region faces different challenges.

Enugu for example, in our data has the lowest number of those vaccinated –despite there being a clear demand for vaccines (60% would definitely accept a COVID-19 vaccine). **ABIA** on the other hand also has low numbers of vaccinated persons, yet 44% of participants would definitely reject a COVID-19 vaccine.

COVID-19 VACCINE ACCEPTANCE: TO PROTECT YOURSELF – BY REGION

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Figure 2. Demand for COVID-19 vaccines: the unvaccinated. Reproduced from: Africa CDC (2022), Africa CDC working group Nigeria report, with permission of ORB International and Africa CDC.

building trust, the government and institutions must build public confidence in the social good of their actions. This can only be achieved through improved accountability, especially with resource mobilization, allocation, and use.

The medium of communication is equally important. A study conducted in Nigeria identified the top sources to be (in order of significance): social media, radio, television friends, and family.[19] This was consistent with a study in South Africa and Zimbabwe which showed social media, television, radio, health workers, workmates, newspapers, Ministry of Health outlets, and community leaders to be top sources.[34] To effectively reach targeted audiences, communication needs to use appropriate channels and be context specific. Traditional media should be leveraged to reach rural communities while innovative channels such as social media are leveraged to provide a digital reach. The use of digital platforms is particularly important to increase the availability of accurate information on a platform prone to promoting false information. The content and delivery of the messages are also key to increasing vaccine acceptance. For instance, a survey conducted in low and middle-income countries showed messages around personal protection from COVID-19 to be a stronger motivating factor than community good,[7] while top motivators in a study in Ghana were, the protection of family, friends, and other people in the community, personal protection from COVID-19, and public health responsibility to help fight the pandemic.[30] A survey conducted in Nigeria showed only 26.1% of respondents thought media messages on COVID-19 vaccine safety were very assuring and convincing.[19] Insights like these can help to inform communication messaging and relevant stakeholders should be trained on effective communication strategies to increase vaccine acceptance and demand.

Strengthened community engagement

The role of stakeholder involvement at different levels, especially at the grassroots level, cannot be overemphasized. Studies in Nigeria and other African countries show that relevant stakeholder engagement and identification of trusted community members can be valuable in persuading communities to accept vaccination.[33,34] Community stakeholders such as community-based organizations, opinion leaders, and traditional, religious, and grassroots influencers should be engaged to develop context-specific messages; while healthcare providers within the communities such as community health officers, community health extension workers, and community pharmacists can drive the health promotion messaging and communication. Community participation can help to debunk myths and rumors as well as build confidence in vaccine safety and efficacy and support government interventions to curb the pandemic.

Community participation will also support mobilization efforts by identifying and addressing local barriers to vaccination like making sure people have clear information about where and when to get vaccinated.[15] The integration of COVID-19 vaccination into routine immunization activities at primary healthcare centers and with other community outreach opportunities will improve the access of community members to vaccination.

Lastly, openly recognizing the important role of community health influencers in vaccination campaigns is crucial to effective community participation.[23]

Conclusions

The intention to vaccinate against COVID-19 is high in some parts of Nigeria; however, the intention has not translated into

action. To prevent the emergence of new strains, COVID-19 vaccine coverage rates need to improve rapidly to attain herd immunity in a country like Nigeria, the most populous African nation with highly mobile citizens. This goal can be achieved through context-specific strategies. Three main strategies are recommended: i) mapping of COVID-19 vaccine hesitant as well as willing groups; ii) strategic communication; iii) strengthening community engagement by engaging key local stakeholders and influencers.

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