



# Identifying the Gaps in HIV Prevention and Treatment During the COVID-19 Pandemic in Nigeria

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## Abstract

**Context:** To manage the COVID-19 pandemic, the Nigerian government has introduced travel restrictions to reduce the spread of the virus. However, this measure has caused numerous challenges in the accessibility and availability of HIV services (testing, prevention, and treatment) for patients. This study aimed to examine the delivery of HIV care services during the COVID-19 pandemic in Nigeria by analyzing the barriers to HIV care in recent years, weighing the impact of these barriers, and bridging the existing gaps by proposing practical solutions to maintain the patients' uninterrupted access to HIV services throughout the pandemic.

**Evidence Acquisition:** We searched Google Scholar, PubMed, and Science Direct databases, using the following MESH headings: "HIV", "COVID-19", and "Nigeria". The reviewed articles provided information on gaps and solutions for maintaining HIV services during the COVID-19 pandemic in Nigeria. The selected papers were all written in English, with no time restrictions. Also, further publications were identified from the reference lists of articles and reports via snowball sampling.

**Results:** The collected data in 2018 revealed that 67% of people living with HIV were aware of their disease status. Based on the results, 53% of people living with HIV were on antiretroviral treatment, and 42% of people living with HIV had viral suppression, based on the global 90-90-90 HIV targets. Ten barriers and gaps were identified in different aspects of HIV care delivery (prevention, testing, and treatment), and practical solutions were proposed to provide a more effective approach for ensuring the availability and accessibility of services during pandemics.

**Conclusions:** A unique and inter-sectoral approach is generally needed to address different barriers to the delivery of HIV care services during the COVID-19 pandemic. Also, funding of HIV care services is critical at this time. Based on the findings, HIV care services (prevention, testing, and treatment programs) cannot be postponed due to the COVID-19 outbreak, otherwise Nigeria may face a double pandemic.

**Keywords:** HIV, Nigeria, COVID-19

## 1. Context

In January 2020, the World Health Organization (WHO) declared coronavirus disease 2019 (COVID-19) as a public health emergency of international concern (PHEIC) (1). COVID-19 was declared as a pandemic on March 11, 2020, as it affected different countries across the world, including Nigeria and other African countries (2). On the other hand, over 75.7 million people have become infected with the human immunodeficiency virus (HIV) since the beginning of the HIV epidemic in the 1900's, and 38.0 million people were living with HIV in 2019. According to global statistics by the Joint United Nations Program on HIV/AIDS (UNAIDS) (3), COVID-19 continues to have devastating effects on the delivery of healthcare and HIV services across the world.

The first case of COVID-19 in Nigeria was reported by

the Federal Ministry of Health in Lagos State on February 27 2020 (4). Since then, there has been a continuous rise in the incidence of COVID-19 across the country, as shown by the Nigeria Center for Disease Control (NCDC) dashboard (5). Considering the daily increase in the number of active cases of COVID-19, the question arises as to whether Nigeria is prepared to face a dual pandemic of HIV and COVID-19 (6,7). Evidently, the COVID-19 pandemic interferes with HIV prevention and treatment services, as maintaining these services is of great importance during the pandemic (8,9). It is obvious that travel restrictions, as a measure to manage the COVID-19 pandemic, have made it difficult for individuals to visit a healthcare facility for HIV testing (10). In this regard, Paul et al. explained how most individuals rely on public transportation to visit hospitals and clinics,

as they live far from healthcare facilities. Therefore, travel restrictions have inevitably affected the burden of HIV (11).

## 2. Evidence Acquisition

In this study, we reviewed original research articles, reports, review articles, and other secondary sources to gather data. We aimed to identify the gaps and barriers to HIV prevention, testing, and treatment. An electronic search was conducted in Google Scholar, PubMed, and Science Direct databases, using the following MESH headings: "HIV", "COVID-19", and "Nigeria". The reviewed documents provided information on gaps and solutions for maintaining HIV services during the COVID-19 pandemic in Nigeria. All reviewed papers were written in English, with no time restrictions. Also, further publications were identified from the reference lists of relevant articles and reports through snowball sampling.

## 3. Results

### 3.1. HIV and COVID-19 in Nigeria

The data gathered in 2018 by UNAIDS revealed that 67% of persons living with HIV (PLHIV) knew their status, 53% of them were on antiretroviral treatment (ART), and 42% of them were virally suppressed (12). These findings indicate the need for further effective measures to achieve the set targets, although progress may be slowed down by the ongoing COVID-19 pandemic. Overall, the COVID-19 outbreak has caused health challenges for PLHIV, leading to increased morbidity and even an immunocompromised status in these patients. Besides physical health, the emotional and social health of PLHIV has been affected by the pandemic, causing further disruptions in the delivery and availability of care and treatment services for HIV (13, 14).

Although Nigeria has the biggest economy in Africa, the COVID-19 pandemic continues to cause major challenges and inequalities for Nigerian citizens, including health and economic problems (15). On the other hand, the Nigerian healthcare system has been overstretched due to limited resources, although health authorities have made major attempts to manage this pandemic. Nevertheless, the provision of adequate equipment and medications for health centers has not been addressed yet, posing a major challenge to the healthcare system of Nigeria (16).

### 3.2. Analysis of Barriers and Gaps in the Delivery of HIV Services (Prevention, Testing, and Treatment)

HIV programs have been negatively affected by the current COVID-19 pandemic due to ongoing disruptions in patients' access to HIV services. Overall, delivery of these

services is influenced by different factors, such as aging, stigma, discrimination, religion, transportation restrictions, funding of human resources for healthcare delivery, health infrastructure, type of community (rural/urban), and domestic/sexual/gender violence. In 2005, with the approval of the United Nations General Assembly (UNGA) and World Health Assembly (WHA) (17, 18) to foster universal access to HIV prevention and treatment services, numerous initiatives were undertaken to tackle barriers to HIV prevention and treatment.

In countries, such as Nigeria, stigmatization, and discrimination against access to HIV services (prevention, testing, diagnostics, and treatment) continue to be major problems (19-21). According to the WHO reports (22), high mortality rates continue to be recorded in the elderly due to various diseases, including COVID-19 (23). Diagnosis of COVID-19 in an elderly person already living with HIV can be worrisome. In two studies on COVID-19 in immunocompromised elderly people (24, 25), immunosenescence was discovered as a factor leading to increased mortality among the elderly. Generally, immunosenescence refers to the gradual deterioration of the immune system due to advancing age (26). According to the Centers for Disease Control and Prevention (CDC) reports, older adults with an underlying disease (HIV), besides a weakened immune system, may be at an increased risk of infection with COVID-19 (27).

Generally, humans tend to blame others (e.g., foreigners traveling to or from the source country) for the spread of new diseases and outbreaks (28). Therefore, travel restrictions can be challenging for patients in times of crisis, especially for the PLHIV (29) and those who need facility-based HIV testing (30, 31). Due to home quarantine and travel restrictions, several cases of domestic violence, gender-based violence (GBV), and sexual abuse have been reported, mostly in women and young girls. The Lagos State alone recorded a 60% increase in domestic violence, a 30% rise in sexual violence, and a 10% increase in physical child abuse during the lockdown period, which began in late March (32).

In April 2020, the United Nations Population Fund (UNFPA) (33) predicted a possible increase of 20% in domestic violence around the world in 2020 as a result of the COVID-19 pandemic; however, the impact of this pandemic on HIV services is not known yet. According to a study carried out in Sub-Saharan Africa by the Population Reference Bureau (34), GBV was an independent risk factor for HIV. Since young women are more likely to experience sexual and physical violence by an intimate partner, they are exposed to a high risk of infection, as they are unable to negotiate for safe sex or even seek treatment due to the presence of an abusive partner. Moreover, communities in rural ar-

eas continue to be ignored in pandemic responses, while urban areas continue to take the spotlight (35). These rural areas normally have low levels of literacy, healthcare coverage, and access to healthcare services, all of which are possible barriers to care delivery, especially when dealing with neglected tropical diseases, such as HIV (36).

Establishment of the Prevention of Mother-to-Child Transmission of HIV (PMTCT) program, as a major strategy for HIV prevention, continues to face stigmatization, according to a recent qualitative study that explored the barriers to PMTCT interventions in Kano, the second most populous state in Nigeria (37). Overall, spirituality and religion continue to affect the community's perception of PLHIV, besides the PLHIV's views about themselves (38). These perceptions can have positive or negative outcomes (39). In Nigeria, religious beliefs have encouraged some PLHIV to stop using their ART medications in the hope of treatment through prayers by religious figures, without actually being tested for HIV. In some religious organizations, stigmatization toward PLHIV causes depression and other mental health issues, leading to medication termination and, finally, death (40).

Similarly, findings of another study revealed that healthcare workers perceived themselves to be highly at risk of COVID-19 infection, causing a decline in the delivery of healthcare services, including HIV services (41, 42). Also, financial constraints and unemployment continue to prevail during the COVID-19 pandemic, resulting in the patients' limited access to public transportation for receiving ART treatment and facility-based care (43). On the other hand, the global pledges and initiatives, such as the Global Fund, seem to be inadequate, as we are facing a different kind of pandemic (44).

### 3.3. Effects of Barriers to Care for HIV on Public Health

Jewell et al. (31) analyzed the impact of COVID-19-related disruptions on HIV prevention and treatment services, using five HIV models (Imperial College London Model, Epidemiological Modeling Software, Optima HIV, HIV Synthesis, and Goals). After mathematical modeling, it was found that disruptions in ART delivery to PLHIV can cause an increase in mortality, while disruptions in HIV prevention programs (e.g., Peer Education, PREP, and use of condoms), besides closure of clinics for HIV testing and counseling, can increase the mortality rates significantly over time.

The WHO reported that between April and June 2020, almost 36 countries reported disruptions in the delivery of ART services (45). In these countries, 11.5 million people were receiving ART (45% of total PLHIV on ART) (46). Moreover, according to the National Health Analytical Tool regarding the health service uptake during the COVID-19 pan-

demic, a total of 505,903 individuals were counseled and tested for HIV in March, as compared to 311,786 individuals in April after the pandemic (47). The statistics continue to reflect how barriers to HIV services have great impacts on public health.

### 3.4. Bridging the Gaps with Effective Solutions

The availability of various testing options for HIV is a way to tackle barriers to the delivery of HIV testing services. The testing options for HIV include the finger-prick test and oral HIV self-testing. Due to the COVID-19 pandemic, HIV self-testing (home-based), in addition to HIV counseling, can be done over the phone instead of facility-based testing (48, 49). Generally, HIV self-testing is a confidential test, which has been recommended to reduce the stigma against facility-based testing (50). In this regard, a study was carried out in Nigeria using a youth participatory design approach, and an innovation Bootcamp model was proposed to develop HIV self-testing for young people. The results of this study indicated that HIV self-testing is essential for addressing the barriers to HIV testing and can serve as an entry point for the delivery of HIV prevention services.

Moreover, Ucheoma et al. (51) suggested that engaging young people through vocational skills training, community events, and reward systems can change the uptake of HIV prevention and testing not only among young people but also in the adult population of Nigeria. Considering the progress in HIV testing in Nigeria, the country cannot afford to regress. Although the development of HIV programs for pregnant women in low-resource settings is essential (52), young people should not be overlooked, as they are among the most at-risk populations (MARPS). Interventions, such as peer education, can increase the accessibility of HIV preventive medications, pre-exposure prophylaxis (PrEP), and post-exposure prophylaxis (PEP). Also, the implementation of mobile HIV counseling and testing (mHCT) can help tackle HIV in the event of another pandemic (53).

In schools, young people are less exposed to education about HIV and sexual/reproductive health (54). Therefore, improvement and implementation of the family life and HIV education (FLHE) programs can have great impacts on the fight against HIV/AIDS, especially among adolescents (55). The fight against HIV has indicated the need for empowering communities and involving them in response to the disease. Overall, human rights must not be compromised; all forms of stigma and discrimination must be eliminated; and vulnerable and marginalized groups must be supported (56). Moreover, the availability of treatment and test kits, infrastructure development, and timely re-

muneration of healthcare workers are vital in times of crisis and pandemics.

In addition, essential preventive services, including HIV prophylaxis, antenatal and postnatal care, and HIV prophylaxis for newborns must be prioritized (57). Also, HIV services should be decentralized to rural areas, as HIV centers are normally located in inaccessible areas for rural populations (58). Moreover, in ART dispensing, clinicians must be open to extended multi-month ART (i.e., dispensing 3 - 6 months of antiretroviral supply), which can guarantee uninterrupted treatment and reduce coinfections, as well as the risk of COVID-19 transmission (59).

Today, countries are turning to telehealth and telemedicine, as most clinicians are on the frontline in the fight against COVID-19 and may not be able to prescribe HIV prophylaxis (PREP) (60); this shift is underway in Nigeria and can have positive impacts on HIV prevention. On the other hand, people's apathetic attitude toward the use of face masks in Nigeria is a critical issue (61). Evidence reported by the WHO (62) shows that the use of face masks can help reduce the risk of community transmission in areas affected by COVID-19 (63). The Nigeria Center for Disease Control (NCDC) (64) continues to provide regular information on different media platforms not only about the number of infected cases but also on how preventive measures, such as the use of face masks, can help overcome COVID-19.

In times of pandemics, men must be engaged in HIV prevention and treatment as supportive partners, clients of HIV services, and change agents. According to the information provided by the Population Council (65), addressing the barriers to men's timely engagement in HIV prevention and care is critical during the COVID-19 pandemic. After 100 days of response to COVID-19, the NCDC highlighted that effective collaboration is a key factor in this response (66). Therefore, we must view COVID-19 and HIV responses as a collaboration, not a competition, to develop strategies for the management of these pandemics.

Generally, collaboration in the community is an important phenomenon. HIV programs should bring men and women close together to determine how certain factors in the community make them vulnerable to HIV. Community dialogues continue to change the narrative of negative social and cultural norms affecting HIV (67). Also, prevention, as an important pillar of public health, can be more sustainable by ensuring a supportive environment that promotes health-seeking behaviors and ultimately reduces stigmatization against infected individuals (68).

In Nigeria, religious and spiritual beliefs influence the public's view about HIV patients and affect their interactions with their families and friends. Therefore, religious organizations can provide social support for society mem-

bers, promote health-seeking behaviors, and discourage HIV-related risky behaviors. For example, the involvement of PLHIV in religious activities, such as religious programs (virtual programs due to social distancing), is an effective coping mechanism for improving their health and well-being (69).

In conclusion, the fast-growing field of HIV research should not be ignored in the heat of the COVID-19 pandemic. So far, historical approaches to disease outbreaks have been effective in the management of COVID-19, including social distancing, travel restrictions, and stigma reduction (70). Analysis of recent epidemics shows that strengthening the healthcare system (30) in terms of infrastructure, human resources, and budget allocation is indispensable in maintaining HIV services during the COVID-19 outbreak.

#### 4. Conclusions

Based on the present findings, a unique and inter-sectoral approach is needed to address the barriers to HIV service delivery during the COVID-19 pandemic. Also, funding of HIV services is highly critical at this time. Therefore, HIV services (i.e., prevention, testing, and treatment programs) cannot be postponed to solely focus on COVID-19, otherwise Nigeria will face a double pandemic.

#### Footnotes

**Authors' Contribution:** Study conception and design: A.B. and L.O.; analysis and interpretation of data: A.B. and Y.A.; drafting of manuscript: A.B. and L.O.; and critical revision: Y.A.

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