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Coronavirus outbreak in Nigeria: Burden and socio-medical response during the first 100 days

Jimoh Amzat\textsuperscript{a,*}, Kafayat Aminu\textsuperscript{b}, Victor I. Kolo\textsuperscript{b}, Ayodele A. Akinyele\textsuperscript{b}, Janet A. Ogundairo\textsuperscript{b}, Maryann C. Danjibo\textsuperscript{a}

\textsuperscript{a} Usmanu Danfodiyo University, Department of Sociology, Sokoto, Nigeria
\textsuperscript{b} University of Ibadan, Department of Sociology, Ibadan, Nigeria

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\textbf{A B S T R A C T}

\textit{Background:} The coronavirus disease of 2019 (COVID–19) pandemic shocked the world, overwhelming the health systems of even high-income countries. Predictably, the situation has elicited social and medical responses from the public and governments, respectively. Nigeria recorded an imported case from Italy on February 27, 2020. Hence, this paper assesses the early socio-medical response to COVID–19 in Nigeria in the first 100 days after the index case. The paper employs analytical methods and collates data from various media reports and official sources.

\textit{Findings:} The incidence of COVID–19 grew steadily in Nigeria, moving from an imported case and elitist pattern to community transmission. The case fatality stood at 2.8%. The country recorded an upsurge (52% of total cases) in the transmission of COVID–19 during the short period the lockdown was relaxed. This paper presents a concise response framework to highlight some specific multisectoral responses to the pandemic. A combination of social and medical responses to a large extent helped Nigeria curtail the spread of the virus.

\textit{Conclusion:} The potential of overwhelming COVID–19 is still imminent in Nigeria as the country is attempting to hurriedly open the economy, which could sacrifice public health gains for temporary economic gains.

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\section*{Introduction}

The coronavirus disease of 2019 (COVID–19) pandemic gripped the world with a shock, thereby overwhelming the health system of most nations. The World Health Organization (WHO) declared the novel human coronavirus disease (COVID–19) outbreak, which began in Wuhan, China on December 8, 2019, a Public Health Emergency of International Concern (PHEIC) on January 30, 2020 (WHO, 2020). With over seven million cases globally as of June 7 (2020): United States (over two million cases), Brazil (over 700,000 cases), Russia (over 500,000 cases), and in Africa, South Africa (over 54,000 cases) and Egypt (over 38,000 cases) bear the greater brunt. Following this WHO declaration, the Coronavirus Preparedness Group was constituted on January 31 in Nigeria (a country with 36 states and a Federal Capital Territory [FCT]). WHO categorized Nigeria as one of the 13 high-risk African countries with respect to the spread of COVID–19. Nigeria is also among the vulnerable African nations, given the weak state of the healthcare system (Marbot, 2020). In Africa, there are still communities without healthcare facilities, apart from the scarcity of health workers (Amzat, 2011). The projection is that Africa could bear the final burden of the COVID–19 pandemic if the countries do not institute effective measures to combat the pandemic.

Sociologically, the pandemic has caused global social disruption by limiting global social relations. The idea of “social distancing” negates regular social interaction, which is the bedrock of human society (Amzat and Razum, 2014). A contagious disease of global health importance also disrupts the usual norms of close physical contacts since the disease transmits through contact with individuals who already contracted the disease. COVID–19 deglobalizes the world in terms of human migration with airports shut, and social events (sports, festivals and the like) postponed indefinitely. The “stay-at-home” campaign and proscription

\textsuperscript{*} Corresponding author.

\textbf{E-mail addresses:} jimoh.amzat@udusok.edu.ng (J. Amzat), bolkaf@yahoo.com (K. Aminu), vikoloc33@gmail.com (V.I. Kolo), ayogideon2002@yahoo.com (A.A. Akinyele), janetogundairo@gmail.com (J.A. Ogundairo), monwueme5@gmail.com (M.C. Danjibo).

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(large) social gatherings mean that social interaction has been limited.

Globalization, which signifies compression of time and space, aids the transmission of diseases on a global scale, facilitating the spread of COVID-19. The world has been witnessing global trade, movement of people, and the globalization of health (see Youde, 2020). The global transmission of diseases is one of the dysfunctions or latent functions of globalization, which offers both opportunities and catastrophes. The world is a global village; hence the health of individuals is intrinsically linked irrespective of distance. Beck (1992, 1999) and Giddens (2002) introduced the idea of risk society theory. The theory is concerned with the unintended and unforeseen side effects of modern life, which backfire on modernity itself (Wimmer and Quandt, 2006). These side effects change human society: a health risk in Wuhan (China) becomes a pandemic, through human migration, affecting all countries of the world, with several thousands of deaths. As the world is being de-territorialized, facilitating trade, communication, and information, it is also prone to (health) risks. Beck (1992) noted that the world reflects the creation of health hazards, which jeopardize human living conditions at a global level. According to the theory, modern advancements also come with a reproduction of risks: in this case, manufactured risks that lead to the gradual creation of risk society (Giddens, 2002); “Manufactured risks” are exacerbated and controllable by human interventions. A risk society is “a systematic way of dealing with hazards and insecurities induced and introduced by modernization itself” (Beck, 1992:21). For Beck, “risk” is used in the contexts of hazard and vulnerability. The spread of COVID-19 has shown how the world is vulnerable to risks through social connectedness due to advancements in transport technology. This theoretical background about pandemic-induced disruption and risk explains the globalization of COVID-19. It is, therefore, not surprising that COVID-19 has engulfed the world with the resultant socio-medical impairments. Nigeria also faces the growing burden of COVID-19. In this context, this paper assesses the new burden and socio-medical response to COVID-19 in Nigeria, focusing on the first 100 days (February 27 – June 7, 2020). The paper relies on secondary sources and the objective analysis of official media reports.

The first month of COVID-19 in Nigeria (February 27 - March 27, 2020)

According to the Nigerian Centre for Disease Control (NCDC), the training of the rapid response teams across the 36 states in Nigeria was concluded in December 2019. On January 28, the NCDC further revealed that a Coronavirus Group had been set up to activate its incident system to respond to any emergency. Additionally, the NCDC worked with 22 states in Nigeria to activate their emergency operations centers to manage and link up with the national incident coordination centers (Ihekwazu, 2020). Although the government had strengthened the surveillance at the airport since January 2020, Nigeria recorded its COVID-19 index case that was imported from Italy, on February 27. This raised concerns about the effectiveness of airport surveillance and, by extension, the country’s general preparedness. The index case (an Italian) had visited some other states of the federation before testing positive for COVID-19. The pre-COVID-19 preparedness was grossly inadequate.

Nevertheless, the onset of COVID-19 sent waves of panic across Nigeria, like in every other country. Due to globalization, the health risk of communicable diseases could be pandemic (Martin, 2005; Tausch, 2015). Trade and travels facilitate the flow of people, who incidentally could move, carrying a health risk (in this case: the coronavirus). From one imported index case, many countries (including Nigeria) face tremendous health challenges with multiple cases and deaths. Since the first index case in Nigeria, the number of cases has been increasing (see Table 1), although at a snail pace due to public health interventions.

Upon the detection of the index case, the NCDC activated a multi-sectorial National Emergency Operations Centre (EOC) to oversee the national response to COVID-19. Subsequently, the Presidential Task Force (PTF) for coronavirus control was inaugurated on March 9, 2020. The PTF announced that travelers from 13 COVID-19 high-risk countries had been restricted from entering the country. The Port Health Services and NCDC monitor the self-isolation of returnees from the affected countries from then onward. The concern from several quarters was that the ban on high-risk countries would have taken immediate effect. By the time the ban took effect, the nation had recorded more imported cases. Unfortunately, most of those who arrived in the country did not comply with the 14 days self-isolation recommended by the NCDC.

The NCDC disclosed that all confirmed cases of COVID-19 in the country between February 27 and March 17 (the first 30 days) were imported by returning travelers. As of March 27, one month after the first case, ten states in Nigeria had 81 clinically confirmed cases. Three patients had fully recovered, and one death was reported. At this time, Lagos State had the highest number of cases (52; 64.2%). By April 5, the number of positive cases had increased exponentially to 232. The death toll had risen to five, and 33 persons had recovered while states with positive cases in Nigeria totaled 14.

Epidemiology of and Early Response to COVID-19 in Nigeria

Within the first 30 days, the NCDC observed that 70.0% of the individuals tested positive for COVID-19 were male, and 30.0% were female. Their ages ranged between 30 and 60 years. People aged 31-50 years were the most affected (39.0%). About 44.0% (101) of the cases were imported, some 41.0% (96) had incomplete epidemiological information; the sources of their infections were unknown. Thirty-five (15.0%) patients were known contacts of positive cases (NCDC, 2020) – suggesting community transmission or cross-infection. Lagos State accounted for over 50% of the cases in Nigeria, followed by Abuja (20.3%) and Osun State (8.6%). Common characteristics of Abuja and Lagos include being the sites of major international airports and hubs of commercial and administrative activities in the country.

Similarly, Egiibo, the epicenter of the infection in Osun State, has many of its indigenous people working in Cote d’Ivoire and

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**Table 1**

| Incident of Coronavirus Outbreak in Nigeria (February 27- June 7, 2020). |
|-----------------------------|-----------------------------|
| Incidence of Coronavirus February 27 – March 27 (first 30 days)  |
| Number | Percentage |
| Total positive cases | 81 | 3.7% (of positive cases) |
| Total discharged | 3 | 1.2% (of positive cases) |
| Total deaths | 1 | |
| Incidence of Coronavirus February 27 – April 27, 2020 (first 60 days) |
| Total positive cases | 1337 | 12.2% (of the total tests) |
| Total discharged | 255 | 19.2% (of positive cases) |
| Total deaths | 40 | 3.0% (of positive cases) |
| Total tests | 10,918 | |
| Incidence of Coronavirus February 27 – June 7, 2020 (first 100 days) |
| Total positive cases | 12486 | 16.3% (of total tests) |
| Total discharged | 3957 | 31.7% (of positive cases) |
| Total deaths | 354 | 2.8% (of positive cases) |
| Total tests | 76802 | |

Source: Nigeria Centre for Disease Control (NCDC, 2020; Worldometer, 2020)
other neighboring countries that are already battling with hundreds of COVID-19 cases. When COVID-19 forced some of them to return to Nigeria, many returned positive for COVID-19. From the first index and other imported cases, there has been a continuous spread across other states through inter-state travels.

During the first 30 days of COVID-19 in Nigeria, the disease distribution was elitist. The majority of those who tested positive were returnees from abroad (NCDC, 2020). Air travel is predominately elitist in Nigeria because of the high rate of poverty. The political elite also bore the early brunt of COVID-19 with three state governors and some political appointees testing positive for COVID-19. Due to the (initial) trend, the initial perception was that COVID-19 was a disease of the elite, who returned from international travels or had contact with the political bourgeoisie. Such perception, which has not dissipated, undermined control efforts. Sooner than expected, there was evidence of community transmission as COVID-19 broke the class boundary. It then became the responsibility of every Nigerian to take preventive responsibility.

COVID-19’s mode of transmission is still under scientific investigation; hence, people are advised to observe safety guidelines (such as safe handwashing, social distancing, or staying at home). These behavioral change imperatives transform the nature of social life and realities in Nigeria. The new social normal adversely impacts livelihood and survival chances, amidst grossly inadequate palliatives. Experiences and lessons from the worst-hit countries (e.g., the USA, the UK, Italy, France, and Spain) prove that no country can adequately prepare to contain the COVID-19 pandemic. Globally, only a few countries have achieved generalized testing. In most countries, significant challenges being faced due to the COVID-19 pandemic include inadequate healthcare personnel to manage the patients, insufficient medical resources (especially personal protective equipment [PPE] and ventilators), and inadequate facilities and treatment centers, among others.

Many health experts projected that Africa would face a hard time and struggle to keep the coronavirus outbreak under control once it is confirmed on the continent. The concerns were based on pervasive poverty, weak healthcare systems, and the diseases ravaging most parts of Africa. As of June 7 (2020), no country in Africa was coronavirus-free; the confirmed cases (in Africa) stood at 192,721, with about 5,200 deaths and 85,107 total recoveries (Worldometer, 2020). Generalized testing is a significant measure for detecting cases; unfortunately, universal testing may not be possible in all parts of Africa (including Nigeria) due to inadequate resources. Nevertheless, every imperfect-but-best-possible-effort to stop the infection constitutes marginal gains and a step in the right direction until a cure is discovered.

The African Centre for Disease Control (Africa CDC) trained experts from Nigeria and 15 other African countries on the diagnosis of COVID-19 using Polymerase chain reaction (PCR), between February 6th and 8th (Africa CDC, 2020). Therefore, most tests (in Nigeria) (as of June 7) have been through PCR tests in molecular laboratories, while studies to validate the integrity of the Rapid Diagnostic Test (RDT) kits are ongoing. There are also plans to add Gene-Xpert machines once they are available (NCDC, 2020). Between February 27 and June 7, about 76,802 persons were tested in Nigeria (see Table 1). The number was described as paltry in a country with an estimated 200 million population (Akor et al., 2020). COVID-19 testing is being done in runs; each run takes an average of six to seven h. For each person, the result takes between 20 and 48 h to be ready. Efforts are being made to reduce the timing to 12 h (Akor et al., 2020). Due to limited testing and treatment resources, the Federal Government (FG) has targeted only those in pressing need of testing. Therefore, those to be tested are the following:

1 returnees from overseas trips who are symptomatic within 14 days of their arrival (the returnees were advised to self-isolate for 14 days upon return to Nigeria),
2 persons who had contact with confirmed cases and developed symptoms within 14 days of contact,
3 those having COVID-19-related symptoms of unknown cause,
4 and persons residing in areas with a moderate or high prevalence of COVID-19.

The number of molecular laboratories with the capacity to test for COVID-19 increased from five to 23 (as of June 7). Currently, private molecular laboratories are not being used for COVID-19 testing in Nigeria. Over three months after the index case was confirmed, more than one-third of the 36 states are without a testing laboratory. Samples are to be sent to Abuja or any of the available molecular laboratories if any case is suspected from the states without testing centers (Michael, 2020). Although there is no cure for the COVID-19 infection, the NCDC revealed that the treatment of COVID-19 patients harmonizes with the guidelines from the African Centers for Disease Control. Additionally, the Federal Government is making efforts to eradicate the virus by directing the Coalition of Epidemic Preparedness Innovation [CEPI] to oversee three agencies (the Nigerian Institute for Medical Research [NIMR], the Nigerian Institute of Pharmaceutical Research and Development [NIPRD], and the National Agency for Food and Drugs Administration and Control [NAFDAC]) that will research and find a cure to the virus (Ifijeh, 2020). NAFDAC has accepted some local herbal remedies for testing.

Table 1 shows the rate of recovery from COVID-19 as of June 7, 2020. Treatment of positive patients takes an average of one month. Most of the patients who succumbed to the infection in Nigeria reportedly had severe underlying health conditions, which became complicated by the coronavirus disease (NCDC, 2020). Following international best practices, the NCDC has made a prescription for safe burial practices with minimal risk to the deceased’s loved ones. COVID-19 requires competent laboratory diagnosis and stringent care procedures. Therefore, home management by primary caregivers (relatives) should not be an option, although the PTF is considering it due to limited resources and facilities. The virus is highly contagious; hence, it requires PPE, which is even inadequate for those in the front lines. If implemented, the option of home care might lead to an upsurge in the burden of COVID-19 in Nigeria.

The growing burden of COVID-19: The next 60 days (March 28 - June 7, 2020)

The number of new infections has been undulating since the outbreak started in Nigeria (see Table 1). The highest number of new cases in the first 100 days was recorded on May 30, when 553 of the total samples tested came back positive. Between March 28 and June 7, the country recorded an upsurge of the total number of confirmed cases (see Table 1). There is a positive relationship between the number of cases and the creation of more testing centers. Table 1 also shows an increase in the case fatality rate (CFR) and the number of discharged patients within this period. A walkthrough testing center was opened by the Oyo and Ogun state Governments (Nigerian Tribune, 2020; Editor, 2020). A possible reason for the high number is the stage of infection; the country had reached the phase of community transmission (News Agency of Nigeria, 2020a). Signs of community transmission were first publicized at a press briefing on April 1, and this later became more evident with 203 positive cases whose sources of infection remain indeterminate, according to the NCDC (Oyeleke, 2020).

As of June 7 (2020), only one State out of the 36 and FCT has yet to record any COVID-19 cases. Lagos, Kano, and the FCT have the
highest incidence, with 46.2%, 8%, and 7.6%, respectively. Lagos remained the epicenter of Nigeria’s COVID-19 crisis. The NCDC noted that a majority (80%) of COVID-19 patients have exhibited mildly mild symptoms, and some made a full recovery. Despite the capacity response, more deaths were recorded as the CFR increased from 1.2% (on March 27) to 3% on April 27, but dropped to 2.8% as of June 7 (see Table 1). The case fatality rate from COVID-19 in Nigeria has been described as the highest in West Africa (Sobowale, 2020). Most of the fatalities were recorded among persons with underlying health conditions (NCDC, 2020), predominantly chronic/non-communicable diseases that constitute a public health burden in Nigeria and Africa in general (Okpetu et al., 2018).

Furthermore, 812 healthcare personnel (representing 6.5% of the positive cases) reportedly contracted COVID-19 in Nigeria (Shaban, 2020). Some of these cases were from patients with a subclinical coronavirus infection who presented in hospitals with other conditions while hiding vital information from health workers (Ayeleso, 2020). A shortage of personal protective equipment at some isolation centers is another reason why some health workers were infected (Adedoro, 2020). An additional contributory factor is the unethical practices by some medical practitioners who run private hospitals in locations such as Lagos. Private hospitals were said to be secretly treating patients, who tested positive for COVID-19, without government approval (Adelakun, 2020). The infection of healthcare personnel in Nigeria has created apprehension and could further strain COVID-19 control efforts in the country. In response to this, the Lagos State Government initiated a telemedicine platform, Eko Telemedicine, to cater to COVID-19-unrelated health problems in the state (Adediran, 2020).

Public health education and response to COVID-19

Public health education and risk communication campaigns on coronavirus commenced in earnest with the reported index case of COVID-19. Both conventional and social media, including WhatsApp, Twitter, and Facebook, have assisted in disseminating updates on the virus (see Akinmayowa and Amzat, 2020). The NCDC provides regular updates on the outbreak with support from major telecommunication operators in the country. Additionally, there are sensitization activities across some streets in the country by the National Orientation Agency (NOA), non-governmental organizations (NGOs), faith-based organizations (FBOs), and other development partners. The NCDC regularly publishes guidelines on the prevention of coronavirus (social distancing, safe handwashing, maintenance of personal and respiratory hygiene, etc.) as well as a directory of helplines for each state (NCDC, 2020).

Messages on the COVID-19 infection were equally translated into local languages to reach the general Nigerian population. The NCDC uses a communication campaign with the theme, #TakeResponsibility, on social media for a Nigerian audience (NCDC, 2020). This is to emphasize the role of the individual both in the prevention of COVID-19 and the social upkeep of their health while the pandemic lasts. However, the extent to which public health education has influenced positive behavioral changes among Nigerians remain vague. Many people and faith-based organizations have continued to defy the directives on social distancing and public gatherings by organizing social events, while some worship centers also conducted congregational services. The government consequently adopted enforcement strategies through the deployment of police, military, and paramilitary organizations. However, this development also generated many problems due to the brutality of some security officers (Kalu, 2020).

Experiences from the 2014 Ebola outbreak and Lassa fever should have helped the country prepare for the COVID-19 outbreak. The first strategy after the index case was contact tracing. Some of the challenges to the implementation of the contact-tracing strategy include lack of support and cooperation from the returnees who reportedly filled fake contact addresses and incorrect phone numbers in the forms at the point of entry (News Agency of Nigeria, 2020b). Consequently, the early days’ initial bottlenecks included poor contact tracing and delayed closure of all entry points into the country.

Another vital response was a lockdown to prevent community transmission of COVID-19. There was a lockdown in two states (Lagos and Ogun) and the FCT for four weeks effective from March 30, 2020, with restrictions on inter-state travels throughout the country (Muanya et al. 2020). Then a relaxed lockdown began on May 4, 2020, replacing the total lockdown with a curfew from 8 pm to 6 am while the interstate travel ban was still in place. Both the lockdown and the curfew exempted workers in essential services (health workers and security personnel) and those involved in the movement of essential commodities (food and drugs). The lockdown/curfew was put in place with the hope that people would adhere to the basic safety guidelines of social distancing, handwashing, and the use of facemasks in public places. Nigeria recorded a relative increase in the number of COVID-19 cases during the relaxed lockdown. From May 18 (two weeks after the relaxed lockdown) to June 7 (a total of 20 days), Nigeria recorded 6,527 positive cases, which represent a 52% increase in the number of positive cases (see NCDC, 2020). The relaxed lockdown is a precursor to the gradual reopening of the economy, which could further lead to a COVID-19 upsurge if hurriedly implemented.

The consideration of a further lockdown has some dilemmas; there are both intended and latent consequences. The lockdown and stay-at-home directive exact adverse effects on peoples’ livelihood—with disproportionate effects on the vulnerable population, most of whom are daily income earners. The UNDP (2020) observed that the vulnerable population mostly works in the informal sector, which requires close person-to-person interactions for cash transactions and patronage. While the lockdown was critical for disease containment, it undermines the economic and social foundations for survival and the resilience structures of Nigeria’s most vulnerable population (UNDP, 2020). The projection is that millions more Nigerians will be pushed into poverty, and temporary and permanent unemployment, which will further expose them to the “hunger-virus.” Lockdown-induced poverty and unemployment might, therefore, trigger an increase in other social problems, including general insecurity, kidnapping, and gender-based violence. The response to COVID-19 presents a dilemma involving a consideration of the trade-offs between public health interventions and socio-economic consequences. The economy can be reactivated through sound economic stimuli, and recovery policies, since the country has obtained COVID-19 recovery loans of US $288.5 million and US $3.4 billion from the African Development Bank (AfDB) and the International Monetary Fund (IMF), respectively (IMF, 2020; AfDB, 2020). A hurried reopening would intensify the health crisis, nullify any presumed early economic gains, and delay the recovery process.

Generally, the response to the coronavirus outbreak in Nigeria could be described as medico-centric and reactionary. The federal and state governments only set up isolation centers after positive cases were confirmed in the country. For instance, there was no molecular laboratory in Ogun State, where the index case was identified; the patient was transferred to Lagos State for diagnosis and treatment. The same applies to other states (such as Akwa Ibom, Oyo, Sokoto, and Abia), where the governments acquired medical equipment to fight the outbreak only after positive cases had been reported. The inadequate proactive preparedness accounted for the initial panic wave created by COVID-19 in Nigeria. The pandemic also exposed the healthcare infrastructure’s generally deplorable state—a significant reason for the medical
tourism embarked on by the Nigerian elite. The greatest lesson of COVID-19 for Nigeria is the impossibility of taking foreign medical trips mainly to Germany, the UK, and the US for the treatment of COVID-19. It is a norm for most African politicians, who underfund and under-develop their health institutions, to travel abroad for healthcare. The federal and state governments are squeezing out funds to upgrade or set up some facilities to boost the COVID-19 response capacity.

The Federal Government released a five billion Naira (US$ 12.5 million) special intervention fund and an aircraft to the NCDC for emergency responses. An additional ten billion Naira (US$ 25 million) was also released to Lagos State, the epicenter of the outbreak (NCDC, 2020). The President also approved that pilgrimage transit camps be converted to isolation centers (Olaniyi, 2020). The Federal Government also advised all state governors to establish a minimum of 300-bed treatment facilities, in anticipation of a further upsurge. These announcements were made after the number of positive cases had escalated. Many of the states underdrew the pandemic potential of COVID-19, with some governors believing that God would not allow COVID-19 to be reported in their states. Only a few states (such as Anambra and Cross River) have been proactive by instituting some measures, the creation of isolation centers, compulsory use of facemasks, and a ban on public gatherings before any confirmed case had been reported.

Figure 1 presents a typical response framework based on an understanding of Nigeria’s response so far. At the federal level, there is a Presidential Task Force (PTF) which coordinates the national plan against COVID-19. Each state of the federation also has a State Task Force. The task force’s principal mandate is to draw up strategies, implement them, and mobilize stakeholders to insure a multisectoral response to the pandemic. Government officials mainly dominate the PTF, although there is an attempt to mobilize other stakeholders. For instance, faith leaders (FLs) have been substantially neglected despite the fact that Nigeria is a religious country (see Amzat, 2020). Despite the initial ban on religious gatherings, some FLs conducted congregation services. The FLs should have been appropriately engaged, instead of the blunt state directive that has not yielded the desired results. However, religious houses were hurriedly reopened in early June for regular services with the presumption of adherence to safety precautions during services. For some faith institutions that previously defied state directives, the possibility of compliance with safety guidelines is very low; hence, religious gatherings could be significant in explaining the next surge of the pandemic in the country.

The PTF has been holding daily press briefings to enlighten people and address some pressing concerns. This includes deliberate efforts to debunk some myths or rumors about COVID-19. More efforts are still required to reach rural dwellers and non-literate communities (Akinmuyowa and Amzat, 2020). Rumor surveillance is very vital in curbing misinformation and myths (Amzat and Razum, 2018). It is also necessary to “treat” some “covidiots,” those who hold and spread myths or misconceptions about COVID-19. The “covidiots” also include those who refuse to observe precautionary measures because of such misconceptions. The medical response relies on the availability of testing kits, the creation of isolation centers, and PPE provision for health workers. The country also needs to motivate health workers to hold the front lines against COVID-19. There have been some controversies regarding the meager hazard allowance and life insurance provisions for the “frontliners.”

Due to increasing evidence of community transmission, the PTF recommended case searching, involving house-to-house search, which has resulted in an increase in the number of cases detected, especially in Lagos (NCDC, 2020). More case detection means more contact tracing. The process further involves social filtering, recognizing those with or without risks, and promoting safety measures. The ultimate result is to quash the host-agent link to reduce the incidence of COVID-19. The palliatives and economic stimuli are meant to minimize the adverse effects of a lockdown or restricted movement. As previously observed, the informal sector

![Figure 1. COVID-19 Response Framework.](image-url)
dominates the Nigerian economy; most of the participants are daily wage-earners. The government has been struggling to cushion the adverse economic effects through the distribution of food items that have been grossly inadequate and unevenly distributed. The country has no reliable database of vulnerable citizens; a national registration of citizens has not been effectively implemented. The vulnerable citizens face the “hunger-virus” amidst the coronavirus lockdown. Unfortunately, the pandemic has significantly threatened the country’s economy due to the collapse in oil prices, lockdown, limited economic activities, and increased spending on health. While the framework has helped in the fight against COVID-19 in Nigeria, some loopholes still undermine it.

Conclusions: checking some loopholes in the state’s response

COVID-19 disrupts the globe: a typical case of unintended consequences of globalization. The flow of people aids the flow of infectious diseases (such as the Ebola virus disease and coronavirus). From a few imported cases, most nations are now battling with thousands of cases and deaths. In Nigeria, the country’s existing health facilities and equipment (including ventilators and PPE) are grossly inadequate to handle the medical emergency due to COVID-19 (Bekwe, 2020; Mac-Leva et al. 2020). Although the number of isolation facilities and capacity for intensive care units (ICU) in the country is growing, they are inadequate as many states are still struggling to set up isolation and treatment facilities.

Beyond the shortage of personal protective equipment (PPE), health workers also face high risks and challenges. They are always on the front line—taking care of the numerous COVID-19 patients increases their exposure to infection. As in the case of the Ebola virus disease, health workers often have a substantial share of the casualties (Amzat and Razum, 2018). The fight against COVID-19 cannot be sustained and effective without properly motivating health workers. As the front line soldiers, all health workers should be covered by life insurance. Given the altruistic behavior of health workers, their protection should be paramount in the fight against COVID-19. It is also vital to provide PPE for health workers in the regular health centers, not only those staffing the isolation centers. Since COVID-19 presents with a symptom complex, i.e., like malaria and other diseases, individuals with suspected COVID-19 might report at health facilities where health workers and other patients might be exposed to COVID-19. Also, in the absence of PPE for the regular health workers, suspected COVID-19 cases might be rejected, which might lead to an upsurge in mortality from non-COVID-19 diseases.

There are concerns that the fragile health system might be unable to care for a high incidence of COVID-19 infection, which could lead to dreadful consequences in terms of morbidity and mortality. Many western countries (including Italy, the USA, and Spain) seem to have been overwhelmed by thousands of daily deaths. Again, the pressing concern is that the last burden of COVID-19 might be in Africa, and Nigeria could carry the most onerous burden if more effective precautions against the virus are not continuously enforced. The rush to fully reopen the economy might be a significant factor in a possible uncontrollable rise in cases after the first 100 days of COVID-19 in Nigeria. Evidence from the relaxed lockdown supports this fear if the economy is prematurely reopened without substantial precautions. Public health gains should be prioritized along with, if not prior to, economic gains.

Furthermore, there is a gross shortage of health facilities and health workers in rural areas where more than 60% of Nigerians reside (Amzat and Razum, 2018). A rural COVID-19 outbreak might spell doom for any community in Nigeria as well as Africa. At present, the urban outbreak is overwhelming some countries, including South Africa. The African continent must be very proactive in preventive and public health campaigns.

While the lockdown has been helpful, it limits economic activities. In a typical resource-constrained society, it creates the “hunger-virus.” A four-week lockdown was enforced to restrict the movement of people to curb the spread of the virus. The informal sector dominates the Nigerian economy. A lockdown prevents most people in this sector from economic activities, which will invariably increase poverty and unemployment while threatening human survival in general. Unfortunately, there was a gross shortage of palliatives in the form of foodstuffs and cash, which could have cushioned the effects of the lockdown. There is no proper coordination in the distribution of the meager palliative. This raises the question of equity in the allocation of resources. The millions of people not empowered before the pandemic constitute a considerable burden in the government’s efforts to distribute palliatives. Without adequate palliatives, civil resistance to the lockdown and other precautions is imminent, which is inimical to the public health strategy of curtailing the virus.

Finally, there is poor coordination among Nigeria’s component units: the 36 states and the Federal Capital Territory (FCT). Initially, there was a controversy as to whether a state governor could independently lock down a state without recourse to the federal government (FG). Despite the controversy, Lagos State announced a partial lockdown before the federal government did the same with an initial 14-day lockdown of two states and the FCT. Some other states were hesitant to effect a lockdown while some were proactive, irrespective of state-FG power relations. The control efforts could have been better organized if the NCDC had established a link with state COVID-19 coordinators who would then advise the state governors. A multisectoral coordination and proactiveness enabled Nigeria to successfully fight the 2014 Ebola virus disease; the same approach would help in defeating COVID-19.

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Ethical Approval

Ethical approval for this study was not required following our institutions’ policy since the work did not involve the use of human subjects or animal experiments.

Conflict of interest

The authors have no conflict of interest to declare.

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