



Challenges of Administering COVID-19 Vaccine in Some Selected States of Northeast Nigeria

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ABSTRACT

The COVID-19 pandemic has successfully registered itself among the league of global epidemics that the world is currently battling. The virus, which emerged in December 2019 in China, quickly spread worldwide, paralysing socioeconomic, political, and cultural activities around the globe. Nigeria is one of the African countries that is most affected by the COVID-19 pandemic, especially socioeconomically and politically. Although the pattern of spread in the country indicates a higher incidence in the South than in Northern Nigeria, some factors made the case in Northern Nigeria an interesting study. The study is an examination of the challenges that influenced the process of administering the COVID-19 vaccine in Northeast Nigeria. The study used a quantitative phenomenological study as a methodology. Data were collected from selected informants with relevant and valuable information on the subject matter in the area of study. The data obtained were analysed and interpreted using content analysis. Culture, religion, and perception, in addition to the attitude of the political class, all contributed to the negative perception of COVID-19 as a pandemic and its vaccine as a preventive measure. Most of the inhabitants of Northeast Nigeria are found to have harboured negative thoughts against the Virus and its vaccination because of some reported cases of side effects and the way the politicians turned the pandemic into a racket of money-making. The study recommends, among others, that royal fathers, religious clerics, and opinion moulders should be rigorously engaged in a massive campaign to disabuse all negative perceptions and to convince the populace on safety and prevention.

Keyword: Administering, Challenges, COVID-19, Northeast Nigeria, Pandemic, Vaccine.

INTRODUCTION

COVID-19, declared a global pandemic, broke out in December 2019 in the industrial city of Wuhan in China. Unlike the previous pandemics experienced in the world for almost a century, COVID-19 is pervasive, persistent, and has been transforming into a dimensional form since its emergence (Wren-Lewis, 2020). In less than two months of its outbreak, the world has been paralysed politically, economically, socially, and virtually in all ramifications. Although the pandemic is devastating in America, Asia, and Europe, Africa is not left behind. Some countries, like South Africa, Egypt, and Nigeria, are recording high incidences and cases (Voth, 2020). To mitigate the effects of the pandemic, several measures are adopted by world countries, including travel bans, lockdowns, palliatives, and enhancement of the equipping of infectious disease centres with responsive tools and actions. Nigeria is affected by COVID-19 in terms of cases of infection, economic paralysis, and the curtailing of social activities. The pandemic spread across the country quickly, leading to issues of responses and actions by all

governments in the country. While the pandemic is being responded to medicinally, the recent development in the discovery of its vaccine has relieved the world and set rays of hope for countering the Virus (Campbell & McCaslin, 2020). But the major problems associated with the vaccine are distribution, accessibility, storage, transportation, and circulation. The World Health Organisation (WHO) lamented how developing countries are deprived of vaccine supplies despite the devastating nature of the pandemic. The Nigerian economy was so sharply affected that procuring the vaccines is becoming difficult, resulting in reliance on interventions and grants to access the vaccines. This is not the major issue with vaccination in the Nigerian context. The outburst of religious clerics, inherent cynicism of Western motives in our country, and inadequate awareness hindered the intake of the vaccine by individuals, particularly in Northern Nigeria (Sule & Sambo, 2020). The Northeast is the most affected because of the impacts of the Boko Haram insurgency, the concentration of IDPs, and other factors (Sambo & Sule, 2021). This research proposes to investigate the challenges of administering the few COVID-19 vaccines allocated in the Northeast States, taking Gombe, Taraba, and Yobe as the areas of study.

The COVID-19 pandemic is a global Virus that affects all countries of the world, and the process of recovery is being measured by the level of distribution and intake of vaccines. Countries that succeeded in convincing their citizens to accept the vaccine are gradually relaxing their measures of lockdown and travel ban, thereby making the revival of economic and social activities quicker than anticipated. In Nigeria, the case is different (WHO, 2022). Despite the significant spread of the virus, with 245,404 confirmed cases out of the total sample test of 3,863,081, 3,058 deaths so far, 217,247 discharged cases, and active cases of 25,099 as of January 6, 2022, people refused to take the case of COVID-19 as seriously as it should be, even with all the sensitization, measures, and steps taken by respective governments (National Centre for Disease Control, 2022). This scenario keeps the cases rising, particularly the Omicron variant, which spreads faster. Several negative factors contributed to the situation. The traditional belief made a significant portion of the population discard the Virus as a conspiracy of a non-existing disease to scare the world and achieve a clandestine agenda (Sule & Sambo, 2020). The inadequate measures taken by the Government also contributed when lockdowns and travel bans were imposed but people violated them owing to insufficient intervention in palliative care (Campbell & McCaslin, 2020). The influence of religious clerics contributes to disbelieving the existence of pandemics.

But most importantly, the shortage of vaccines is another problem that is itching in the process of countering the spread of the pandemic in Nigeria. Importantly, it is not the shortage of vaccines that is the issue as much as the will to accept them (Shittu, 2020; Shaaban, 2020). In Northern Nigeria, specifically the Northeast, many people are adamant about receiving the shot of all persuasions. The government, by making an effort to enforce it, is also compounding the conspiratorial rumours in the region (Onaleye, 2020). Religious centres and media are flooded with eulogies and placating commentaries to assuage people to accept, but they don't seem to respond accordingly (Onwujeke et al. 2020). This situation, if it persists, will affect the process of the recovery of the Northeast in its programme of deradicalisation, rehabilitation, reintegration, and wooing of foreign investors because no foreign investor will risk investing in a pandemic-ridden area. Grants, interventions, and other benefits may also be lost in the process. This study, therefore, identified this matter as a research gap that is yet to be investigated by researchers and that requires urgent attention for policymaking.

The research aims to investigate the challenges associated with the administration of the COVID-19 vaccine in Northeast Nigeria, taking three states as the areas of study. The specific objectives are as follows: to determine the level of preparation of the Government and its agencies in delivering adequate vaccines in Gombe, Taraba, and Yobe States of Northeast Nigeria; to examine the major factors that impede the successful administration of Covid-19 vaccine in Gombe, Taraba, and Yobe States of Northeast Nigeria; to investigate the measures taken by various governments in persuading the inhabitants of Gombe, Taraba, and Yobe States of Northeast Nigeria to accept the vaccine; and to analyse how the low level of acceptability of Covid-19 vaccine will affect the recovery and development of Gombe, Taraba, and Yobe States of Northeast Nigeria.

The research utilised Public Choice Theory, which explains the government's decision-making emanating from the actions of individuals and their responses. The theory suggested that it is difficult to obtain public support or agreement for common-sense public health interventions. This has to do with

priority settings in a given area and the influence of some factors. For example, vaccination can be rejected by individuals based on belief, faith, myths, religious inclination, perception of the government's performance and policy preferences, and other issues. In this regard, the government will find it difficult to convince the public to accept health policies except if cost-benefit and cost-effectiveness analysis are set aside for a more aggressive approach that may be costly (Hauck & Smith, 2014). This theory succinctly captured the Nigerian situation by explaining the difficulty in accepting COVID-19 policies and vaccines in Gombe, Taraba, and Yobe States of Northeast Nigeria and beyond. The influence of several factors, including faith, belief, perception, and myth, is preventing many from accepting the vaccine, and the Government is finding it a worrisome development in eradicating the COVID-19 Virus in the country through protective measures. Thus, as the theory insists, the Government needs to overlook the cost-benefit analysis and embark on measures that will cost more but will persuade the inhabitants of the Northeast and other parts of the country to vaccinate through conditional cash transfers and other incentives. This will be less when compared to the cost of what Nigeria may lose if other countries that succeeded in full vaccination acquire the status of COVID-19 risk-free zones, leaving Nigeria vulnerable and isolated.

The study adopted a quantitative approach to ensure a fair representation of views and opinions from all stakeholders. Data sources included both primary and secondary sources. Primary data was collected through structured questionnaires and specialized interviews with health sector experts. Secondary sources consisted of documented materials related to the study topic. The study focused on the states of Bauchi, Gombe, and Taraba in the Northeast due to accessibility and safety concerns in other states affected by the Boko Haram insurgency. Data collection used a multi-cluster survey technique, and the analysis was conducted using the Special Package for Social Sciences (SPSS). A total of 276 questionnaires were returned out of the 300 administered. Additionally, direct participant observation and in-depth interviews were conducted, involving religious clerics, healthcare workers, NGO members, and academics, with a total of eighteen informants.

RESULTS AND DISCUSSION

COVID-19 Pandemic Outbreak

The term COVID-19 is an abbreviation for "Coronavirus Disease 2019," a virus that occurred in Wuhan, China, in December 2019. The virus became mysterious and appeared in most pandemics before spreading rapidly beyond Wuhan during this period. The COVID-19 pandemic is an infectious disease that is easily transmitted by close contact with the victim of the virus. When humans are infected, their breathing becomes very difficult, with severe colds and catarrhs, severe fever, and weight loss. The virus is also difficult to fight in the patient, resulting in rapid death (Hosseini-Nezhad et al., 2022). COVID-19 was not the biggest pandemic in world history. According to historical records, there were more than 20 major pandemics, including the Antonin plague Hamin Manga in AD. 165–180, Cyprus AD 250–271 plague, Justinian AD 541–542 plague, black death 1346–1353, Cocoliztli pandemic 1545–1548, 16th-century American plague, London pandemic 1665–1666, Marseille pandemic 1720–1723, Russian pandemic 1770–1772, Philadelphia pandemic 1793, influenza pandemic 1889–189 Asia Influenza, 1981-Current Pandemic of Acquired Immune Deficiency Syndrome (AIDS), 2009-2010 H1N1 Influenza, 2014-2016 West African Ebola Hemorrhagic Fever, 2016 Dicavirus, and more recently, the COVID-19 pandemic (Jarus, 2022). However, COVID-19 is more worried because, in the history of the world, the borders have collapsed and the interrelationships have never been as elucidated as in the current era of globalisation. With the development of modern technology and the internet, travelling has become faster and easier. This filled large border gaps and barriers that did not exist before (Caron, 2021).

COVID-19 continues to spread rapidly and randomly, affecting both men and women of all ages. As of July 16th, 2022, the total number of cases worldwide is 565,883,145 million, the total number of deaths is 6,383,353 thousand, the total number recovered is 537,315,286 million and the total number of doses is 12,290,872,695 billion with 4.48 billion people (62.1%) fully vaccinated. The highest incidence is in the United States with 91,082,520 million cases and 1,048,289 million death cases, followed by India with 43,710,027 million cases and a total of 525,604 thousand cases, and Brazil with 33,142,158 million cases and a total of 674,846 thousand death cases (Worldometer, 2022). Africa has a share of COVID-

19 cases. In Africa, a total of 47 countries were affected, affecting 8,700,137 million people and killing 172,838 thousand. South Africa was the hardest hit, with a total of 3,998,466 million infections, followed by Morocco with 1,244,892 million cases, Tunisia with 1,087,030, Egypt with 514,182 thousand cases, and Ethiopia with 490,557 cases (Statista, 2022). Countries around the world, including Africa, swiftly implemented survival and austerity policies against the global economy, which was hit hard by the COVID-19 epidemic. Inflationary runaway, rising food and commodity prices, declining government revenues, curbing global economic activity, and unemployment have occurred (Damooei, 2022). Governments around the world are introducing palliative care in all countries to mitigate the poverty, food shortages, and inflation tragedies that plague families. More importantly, measures to combat the virus have been promoted by the universal adoption and application of the COVID-19 protocol, including social distance, the use of face masks, hand washing with disinfectants, travel bans, and blockades. It was (Choudhary et al., 2022). For countries suffering from uncertainty, such as Nigeria, steps have been taken to address the increasing uncertainty surrounding the outbreak of COVID-19.

COVID-19 in Nigeria

The COVID-19 virus is a political issue for major national and international players. Declaring a global pandemic, global health authorities have taken action to prevent and counter the epidemic, but the pandemic has avoided all actions and is as pervasive as wildfires. However, the discovery of the vaccine quickly convinced the world that the pandemic would be successfully contained (Samaddar, 2020; Rosberg & Knell, 2020; and Wang, 2020). Since World War I and World War II, there have been no events like COVID-19 that have paralysed the political, socio-economic, and cultural activities of the world. The increased level of global interoperability heralded the unprecedented spread of the virus around the world (Osler, 2020). Nigeria first encountered the virus in March 2020, when Italian travellers landed in Lagos and tested positive. Since the advent of COVID-19 in Nigeria, there have been concerns about readiness levels, infrastructure conditions, impacts on oil prices, sick medical facilities, Nigerian attitudes towards responding to health threats, and other issues. It is increasing (Sule & Sambo, 2020). As the number of infectious diseases continues to grow in Nigeria, medical facilities are being exhausted, raising serious concerns about sample testing availability and accessibility. The federal and state governments have taken steps to allocate money to provide test kits, quarantine centres, and palliative care products, but people's attitudes remain calm even during blockades and interstate travel bans. (Campbell & McCaslin, 2020).

The study area, Nigeria, reported the first case on February 16, 2020. At this time, an Italian who returned from overseas travel was found to be virus-positive. As of March 26, 2020, Nigeria had enrolled more than 50 confirmed cases. The pandemic forced the blockage and closure of almost all activities in April 2020; more than 1,300 cases were reported, killing a total of 40 people (Campbell & McCaslin, 2020). The samples tested as of July 16, 2022, totalled 5,349,305, confirmed cases 258,874, active cases 5,274, discharged cases 250,456, and deaths 3,144 (NCDC, 2022). States with high incidences are mostly from the southern parts of the country, as indicated in Table 1 below.

Table 1. States in Nigeria with the Highest Confirmed Cases of COVID-19

S/No.	States	Total cases	Number of deaths
1	Lagos	101,683	769
2	FCT Abuja	28,822	249
3	Rivers	16,886	154
4	Kaduna	11,314	89
5	Plateau	10,259	75
6	Oyo	7,707	202
7	Edo	5,810	321
8	Ogun	5,436	82
9	Delta	5,173	111
10	Ondo	5,099	109

Source: NCDC 2022

As illustrated above, most of the states with incidences and cases of death from the virus are from the south, but some Northern states too are among the top, such as Kaduna and Plateau. However, no Northeast state is among the top ten (10), the area of study, and that has made the study pertinent and

policy-oriented because if adequate measures of prevention such as vaccines are adopted in the region, it will be prevented, saving the states in the region from a huge loss of responsive funds, loss of life, and other setbacks from the economic lockdown and travel ban.

COVID-19 in Northeast Nigeria

COVID-19 was not prevalent in the Northeast. It is less common in the Northwest and south of the country. The Northeastern states have the following deposits: According to the total number of cases in Zone 10,231, the total number of deaths 210, and the distribution by state, the total number of cases in Gombe was 3,307, the number of deaths was 66, the total number of cases in Bauchi was 1,967, the number of deaths was 24, and in Borno, the total number of cases is 1,629, the number of deaths is 44, the total number of cases in Taraba is 1,473, and the number of deaths is 34. Adamawa had a total of 1,203 cases, 32 cases, and Yobe had 634 cases (NCDC, 2022). Perhaps some of the reasons for the lower infection and mortality rates in the northeast compared to other regions are in less economically active states than in other regions, which are more populous than in other regions. Religious clerics played a big role in changing or influencing people's perceptions of accepting preventative protocols that have been very helpful in controlling the spread of the virus, as reported in the results section of the research and detailed interviews conducted.

The vaccination coverage in Nigeria so far is dismal, with less than 12% of the total population being covered with full doses. The data provided by the NCDC disclosed that the Northeast and Northwest have the lowest incidences of the vaccines. The Northeast constitutes less than 1% of the total full doses of vaccination, according to the NCDC (2022). People are being persuaded to accept the vaccines for protection, but the response is discouraging. Some findings from the respondents in the interview, as revealed in the discussion section, disclosed how people are monitored and followed up in mosques and churches to vaccinate, but they are shying away from the protection measures due to an insensitive perception of the pandemic as less perilous.

COVID-19 Vaccines in Nigeria

One of the factors that is worrisome is the accessibility and acceptability of the vaccine. Besides being inadequate, the policymakers are battling with the populace to believe in the pandemic and accept its vaccine. In some circumstances, the influence of some religious clerics from the two major religions, Christianity and Islam, accentuated the suspicion. Although it was reported that the positive role of the clerics supersedes the negative side, many individuals in Nigeria wholeheartedly rejected some of the conspiracy theories and misperceptions from the clerics and rejected the existence of the virus, which by extension means its vaccine (Sule & Sambo, 2020). Above that, the neglect of health care service delivery by various governments in the country made the response to countering COVID-19 more difficult. For instance, the poor are left at the mercy of dilapidated and ramshackle public health centres with minimal impact on quality healthcare services (Jimoh et al. 2020). This made them lose hope in the Nigerian health system. When the poor are now being reached for vaccination against an infectious disease like COVID-19, they feel a hidden motive is behind it, and they are blatantly rejected. The media, some clerics, traditional rulers, medical practitioners, and public commentators worked assiduously to convince the public, but the level of acceptance of the vaccine is still low. This can be understood from how the religious centres on Friday and Saturday delivered summons calling on the public to accept the vaccine (Nnnana, 2020).

It has been observed that the Government itself is not fully ready to vaccinate all Nigerians. For the time being, it is paying attention to civil servants and other privileges. This problem is not serious because the few available doses are being dogged by people, leaving much to be desired in the process of administering the virus (Hruby, 2020). If the COVID-19 pandemic is not arrested through vaccines and other measures of protection such as the use of facemasks and hand sanitizer, there is the danger that many countries, including the source of the pandemic, China, may recover quickly and get themselves declared and certified COVID-19 risk-free countries, while Nigeria may stay longer for many years as a potential risk zone. This is evident in the case of the Polio vaccine and other infectious diseases that were surmounted more than 50 years ago in many parts of the world, but Nigeria recently overcame them in less than 5 years (Wahab & Erunke, 2020). The implications are that Nigeria may find it difficult to recover economically because foreign investors will be scared away because they might not have finished absorbing the shock of the pandemic in their respective countries (Olatunji 2020). Nigeria may

face political tribulations globally, and its participation in social events will be greatly limited. Accessing global grants for health interventions, donations, and other privileges will be difficult for the country, and international trade with Nigeria may be immensely affected because the granting of visas and other requirements may be impaired. Thus, administering the COVID-19 vaccine is a herculean task that Nigeria must face squarely and immediately. This study is policy-oriented research to present practical measures for achieving the desired vaccinated population. This is proposed to be undertaken through a study of a selected area in Northeast Nigeria that can be adopted for implementation in other parts of the country.

It is revealed as of July 14, 2022, that the Nigerian Government succeeded only in administering 55.5 million doses of the COVID-19 vaccine, with 24.3 million Nigerians fully vaccinated, which constitutes 11.8% of the total population (NCDC, 2022). This means that the acceptance of the vaccine is sequentially low and the provision by the Government is tangentially below expectation, or rather, the ability to persuade the people to accept and get themselves vaccinated is inadequate if the Government has provided enough doses, which seems not to be true. However, the opening up of international borders and normalisation of global activities, including international travels, festivals, and meetings such as pilgrimages and organisational assemblies, is helping in getting Nigerians vaccinated since you can't travel internationally without being certified as a COVID-19-vaccinated fellow. The 40,000 Nigerian pilgrims, even though not all of them successfully made it to the Hajj, were vaccinated before their departure to Saudi Arabia (NCDC, 2022).

Responses towards Countering the Spread of COVID-19

Nigeria, like any other country in the world, is taking swift action to counter the COVID-19 pandemic. One of the measures adopted was the full adoption and implementation of the COVID-19 protocol, designed and promoted by the World Health Organisation. The protocol identifies and provides quarantine centres for the quarantine of suspicious carriers, establishes centres to treat infected patients and social distances, prohibits movement between states, and uses blockades and face masks for hygiene. And continuous use of hand sanitizers, and all other hygiene practises consist of public contact and post-contact processes. In addition, NCDC will provide a test kit for COVID-19, and the centre will use individual text messages on mobile phones, local language media programmes on local radio and television, and public signs, banners, and exhibitions for Nigerians. Raised awareness. In all cities and rural areas, key public figures such as traditional rulers and ministers of religion help inform the pulpit and other places of worship (Sambo & Sule, 2021).

Several financial remedies have been introduced by the federal government to ease the difficulties of the blockade. Some of these relief efforts include payment of social investment programmes, promotion of loan repayments from anchor borrowers and merchant Moni, contact with households, distribution of cash and food to poor families in 36 states and the FCT of Abuja, and the continuation of what the government started in 2017. School lunch programme (Sambo & Sule, 2021).

The Nigerian government has also introduced additional measures, including the provision and distribution of palliative care funding, the procurement of inspection and isolation centre facilities, and the evacuation of the Nigerian Diaspora's homes stranded due to a global blockade by all countries. Started to support infectious diseases in the Diet. Bill 2020 stumbled upon a bribe claim from the Bill Gate Foundation and some strict provisions enshrined in it, with some observers and analysts giving the NCDC director almost the same authority as President Nigeria. It says to give Emergency (Attah et al., 2021).

Discussions and Findings

In this section, data obtained were grouped, discussed, and interpreted from the field studies to derive some insights and insights. We created a table for the questionnaire section and analysed the content of a detailed personal interview with the informant. The discussion was related to existing work on this topic. The information below shows the main views of the respondents from the completed survey.

Table 2. Responses of the interviewers on the challenges of administering the COVID-19 vaccine in Northeast Nigeria

S/no.	Responses	Agreed	Disagreed	Total
1.	Public perception on COVID-19 as a pandemic in Northeast Nigeria	217 (78.62%)	59 (21.38%)	276 (100%)
2.	Response of the Nigerian Government to countering COVID-19 pandemic in Northeast Nigeria	206 (74.64%)	70 (25.36%)	276 (100%)
3.	Response of the public to countering and preventing the COVID-19 pandemic in Northeast Nigeria	189 (68.48%)	87 (31.52%)	276 (100%)
4.	Public perception of COVID-19 vaccine as a preventive measure in Northeast Nigeria	143 (51.81%)	133 (48.19%)	276 (100%)
5.	The Government provides enough vaccines for COVID-19 in Northeast Nigeria	117 (42.39%)	159 (57.61%)	276 (100%)
6.	Public acceptance of COVID-19 vaccine in Northeast Nigeria	93 (33.70%)	183 (66.30%)	276 (100%)
7.	Influence of culture and environment in accepting COVID-19 vaccine in Northeast Nigeria	223 (80.80%)	53 (19.20%)	276 (100%)
8.	Intensive awareness and incentives can improve acceptance of the COVID-19 vaccine in Northeast Nigeria	243 (88.04%)	33 (11.96%)	276 (100%)

Source: Field Survey 2022.

The table 2 above represents the diverse responses of the respondents in the interviews. On the question of how the public perceived COVID-19 as a pandemic in Northeast Nigeria, 217 (78.62%) responded that most of the inhabitants in Northeast believed that COVID-19 was a pandemic, while 59 (21.38%) disagreed that people in Northeast accepted that COVID-19 was a global pandemic. This means that the majority of the inhabitants in the area of study agreed that the virus is a pandemic, which is a significant breakthrough because people in the region often exhibit nonchalant attitudes when responding to pandemics.

On the issue of the response of the Nigerian Government to countering the COVID-19 pandemic in Northeast Nigeria, 206 (74.64%) agreed that the Government responded immediately and swiftly, which is a significant percentage of the majority, but 70 (25.36%) disagreed that the Government responded as expected. This means the majority in the Northeast believed that the Government has done well in responding to the pandemic, but the quarter of the respondents that disagreed is not a negligent number, and the Government needs to be proactive to dispel this negative perception by a few individuals to enable cooperation in responses.

The respondents were asked how the public responded to countering and preventing the COVID-19 pandemic in Northeast Nigeria, whether it was collaborative, cooperative, or hostile. The responses of 189 (68.48%) accepted that people responded positively to taking preventive measures to counter the pandemic, and the protocols of prevention such as wearing facemasks, social distancing, travel bans, and the use of hand sanitizers were adopted by the majority, but 87 (31.52%), which is nearly one-third of the respondents, opined that people failed to respond appropriately in adopting protocols and preventing measures.

The interviewees were asked how the public perceived the COVID-19 vaccine as a prevention measure in Northeast Nigeria, and 143 (51.81%), which is a simple majority, accepted that the public perceived the vaccine as a scientific way of preventing the virus, with 133 (48.19%), nearly half of the respondents thinking otherwise. This means the rate of acceptance of vaccines based on public perception is still not more than half of the population, going by the sample of the respondents. Here, there is a huge gap and a tedious job of cajoling the inhabitants to accept the vaccine to counter the spread of the pandemic.

On the question of whether the government provides enough vaccines for COVID-19 in Northeast Nigeria, 117 (42.39%), a significant minority of the respondents accepted that there were enough vaccines; perhaps the public refused to accept that, which is why the rate of vaccination is low in the region, with less than 10% of the total population fully vaccinated in Nigeria, while 159 (57.56%),

a significant majority disagreed that the government has provided enough vaccines to the populace in Northeast Nigeria. This means, by interpretation, that the government is not able to supply enough doses to people in the Northeast and must step up efforts to do so to enable maximum protection.

On whether the public accepted the COVID-19 vaccine in Northeast Nigeria, which is different from the above question of the provision of the vaccine by the government, 93 (33.70%) of the respondents, which is one-third and a minority, believed that the public accepted the vaccine, while a significant majority of 183 (66.30%), about two-thirds, disagreed that the public accepted the COVID-19 vaccine and settled for rejection. This means that even if the government has provided enough doses, it is difficult to have them accepted. As observed by the researchers, severally, the medical and health workers often frequented churches and mosques, pleading with the public in Northeast Nigeria to vaccinate, but the response was slow and uncooperative.

The respondents were asked how culture and environment in the Northeast influenced the acceptance or rejection of the COVID-19 vaccine in Northeast Nigeria, and their responses indicate that 223 (80.80%) of the majority accepted that the reasons why the vaccine is rejected by the majority in the area of study are due to culture and the environment bedevilled with poverty, illiteracy, a low level of awareness, the government's negligence, and other related factors, while a minority of 53 (19.20%) disagreed that culture and environment are influential in how people accept or reject the vaccine in the Northeast. This means it is about perception and culture, which are difficult to demystify in a short time.

When the respondents were asked about the role of intensive awareness creation and incentive in improving the acceptance of the COVID-19 vaccine in Northeast Nigeria, 243 (88.04%) agreed that awareness and incentive can boost the level of acceptance of the vaccine, but 33 (11.96%) disagreed with the submission. This means that for the COVID-19 vaccine to be accepted by the inhabitants of the Northeast, the government needs to engage the media and other platforms of communication such as religious pulpits, public lectures, town hall meetings, and other crowd-addressing processes to initiate incentives such as some token for vaccination in cash or kind to motivate acceptance.

Apart from the respondents' views, the specialised interview was conducted with some selected informants, as referred to in the methodology. The informants from categories A to D expressed various views and positions on the subject of study, which are summarised and presented below. Some of them that are assertive and fact-breaking are quoted directly, while repetition was avoided because most of them expressed similar views. Once an opinion is presented by an informant, the same view is abandoned to avoid unnecessary repetition. In the interview, one of the informants revealed that:

"One of the challenges of administering the COVID-19 vaccine in Northeast Nigeria is the public's perception of the authenticity of the virus as a pandemic. A significant portion of the population is cynical about the pandemic, thereby taking the vaccine with unseriousness" (An in-depth interview with an informant in category A on March 4, 2022).

In another view, an informant disclosed that:

"The weak and inadequate response of the Nigerian Government, particularly in the provision of palliatives and first aid measures, discouraged the citizens in Northeast Nigeria to accept COVID-19 as a pandemic and to respond by accepting the vaccine" (An in-depth interview with an informant in category C on April 24, 2022).

Besides, the public itself is not cooperating in countering and preventing measures to address the COVID-19 pandemic, as narrated by one of the informants, who admitted:

"Even with all the massive enlightenment about the dangers of COVID-19 and its impacts on the Nigerian and global political economies, most of the inhabitants of the Northeast failed to adopt countering and preventing measures emanating from the perception of conspiracy and misinformation" (An in-depth interview with an informant in category D on March 9, 2022).

The most difficult aspect is the acceptance of the vaccine, which, according to one of the informants, is bedevilled with:

"Inadequate supply of the vaccines, scarcity of health personnel and health centres, the influence of culture, religion, and misinformation, and the vulnerable economic situation of Nigeria affected by a sharp decline in the price of oil, which the country heavily relies on as the mainstay of its foreign exchange, and the view that there is a conspiracy in the whole pandemic saga" (An in-depth interview with an informant in category B on April 19, 2022).

Thus, the informants unanimously agreed that massive awareness creation, incentives, and other persuasive measures can placate people in Northeast Nigeria to accept the COVID-19 vaccine only if the Government on its part is ready to supply enough doses. One of them stresses that:

"For the people in Northeast Nigeria to accept the COVID-19 vaccine, the Government must devote a substantial amount of money to media and public awareness creation on the perilous nature of the pandemic and its devastating effects on Nigerian political economy and socio-cultural activities. This may be followed by incentives in cash and in kind in the form of conditional cash transfers to be integrated into the existing Government's social intervention programmes. (An in-depth interview with an informant in category C on March 23, 2022).

In another view, an informant suggests that:

"The problem is, even if you succeed in assuaging people to participate in taking the vaccines, is the Government ready to supply enough to cover the population? The Nigerian economy is affected by the effects of the pandemic, and the health workers are being deprived of the benefits of their sacrifices during the pandemic. It is much more difficult. Besides, the fake vaccines are flooding the Nigerian pharmaceutical market, which is another headache to contain" (An in-depth interview with an informant in category D on April 2, 2022).

Findings

The study discovered many issues based on the submissions of the respondents, participant observation, and informants' interviews. One of the main findings is that the public's perception of COVID-19 in Northeast Nigeria as a global pandemic is encouraging, as the majority accepts that position, but there is a remnant of those who are pessimistic about the virus and are reluctant to accept or adopt any measure of prevention, including the vaccine.

Additionally, the study discovered that the Nigerian Government itself failed to respond accordingly to the outbreak of the pandemic with inadequate palliatives, ineffective monitoring and provision of vaccines, and other preventive measures, which caused the apathy of the populace in Northeast Nigeria in cooperating to accept vaccines.

The study realised that there are many challenges to administering the COVID-19 pandemic in Nigeria, including the sharp effects of the pandemic on the Nigerian economy, political corruption, inadequate supply, public perception and acceptance, a lack of adequate awareness and motivation, and the flooding of the Nigerian pharmaceutical market with fake vaccines, which further accentuate the fears of people in the Northeast about the pandemic and its vaccines.

CONCLUSION

The COVID-19 pandemic is a controversial virus in Nigeria, particularly in Northeast Nigeria, where it is embraced with cynicism, hostility, suspicion, and pessimism. A significant portion of the population declined and remains reluctant to adopt prevention protocol measures, specifically vaccination. Challenges were encountered in COVID-19 vaccine administration in the zone because of perception, inadequate supply, weak governmental responses in terms of palliatives and other interventions, the sharp effects of the pandemic on the Nigerian economy that relies heavily on selling crude oil for foreign exchange, and a low level of awareness. A field survey undertaken in this research

revealed the various perceptions, responses, and adoptions of the pandemic or admitting it as a genuine pandemic. Hence, it is becoming difficult to counter or address the spread of the pandemic. This is coupled with the asymptomatic character of the virus, which discourages people from taking it with the seriousness that it deserves. However, it is pertinent that the pandemic be effectively countered to restore Nigeria to normalcy and make it globally safe for continuous transactions and activities, and this is not possible if any region is left behind in taking the vaccine or prevention measures.

Based on these, the study recommends that there is a dire need to involve religious clerics and opinion moulders to persuade the populace in the Northeast to embrace measures for preventing and countering the pandemic. The government, for its part, should endeavour to procure enough vaccines that will cover a substantial number and drive towards safety. The government must intensify palliatives and other social interventions as incentives to cajole people to accept the vaccine, and the media should be utilised in massive awareness creation and enlightenment to make people understand the inimical effects of the virus and its spread and the essence of prevention.

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