

COVID-19 IN NIGERIA: WHERE ARE WE?

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Abstract

Background: With students still at home for more than 5 months, international flights yet to resume, businesses not operating in full capacity and the claim by even some Nigerians that coronavirus does not exist, there is a need to look into where this country stands in her response to this pandemic ravaging the world.

Objective: To investigate the situation of covid-19 in Nigeria, the level of the virus transmission and its mode of transmission.

Materials and Method: The study made use of secondary data collated by the Nigeria Centre for disease control (NCDC) available at <https://ncdc.gov.ng/reports/weekly>.

Results: Nigeria accounted for 4.4% of all the confirmed cases in Africa and 4.3% of recovery rate. The total number of coronavirus test done in Nigeria at the time of study was 391,501, of which 53,021 (13.5%) were found to be positive. Majority of the confirmed cases 53,021 (76%) have recovered and were discharged from isolation with 1,010 (1.9%) deaths leaving only 11,730 (22%) active cases. Almost half 25,261 (47.6%) of all the confirmed cases were from South-Western region of the country followed by North-Central which accounted for 17.7%. For confirmed cases, males were more compared to females with 64% and 36% respectively.

Conclusion: The present situation revealed that the rate of contracting the virus in Nigeria is relatively low, which could be as a result of implementation of preventive measures or the actual number of cases is more than reported as a result of inadequate testing facilities.

Keywords: COVID-19, Nigeria, Lockdown, Pandemic, Infection transmission.

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INTRODUCTION

In late December 2019, a new infectious respiratory disease outbreak occurred in Wuhan in the Hubei Province of China.¹ Coronavirus disease 2019 (COVID-19) is caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a novel coronavirus from the same family as SARS-CoV and Middle East respiratory syndrome coronavirus (MERS-CoV) with outbreaks of SARS in 2003 in Guangdong province, China and MERS-CoV in Saudi Arabia in 2012.^{2,3} The COVID-19 has since the outbreak spread to other nations with about 216 Countries or territories with confirmed cases as of August 28, 2020.⁴ It has been reported that this pandemic can claim up to 40 million lives globally.⁵

On March 11, 2020, COVID-19 was declared a pandemic by the WHO. As a respiratory infectious disease, COVID-

19 primarily spreads through respiratory droplets which are often produced through cough and sneeze.⁶ The droplets get to the lung by dropping in the mouth or nose of people who are in close contacts.⁷ Clinical signs of COVID-19 disease appear after an incubation period of 14 days.⁸ These signs are as follows: fever, headache, dry cough, nausea, dyspnoea, fatigue and so on.^{8,9} Apart from the fact that COVID-19 can infect any individual, it has been observed that people above the age of 65, with weakened immune system and other underlining conditions are at risk of mortality.¹⁰ Such pre-existing health conditions include high blood pressure, diabetes and stroke.¹¹

The novel coronavirus pandemic remains a serious threat¹ as a lot is still in the dark; with no curative medication or even vaccine at this point in time.¹² However, the ability

to control and reduce the transmission depends on adherence to measures of prevention and control that have been set aside by various medical bodies.¹³ These measures include social distancing, contact tracing, testing of suspected contacts, patient isolation, quarantine, wearing mask, use of hand sanitizers and regular washing of hands with soap and running water.¹⁴

The Africa Centre for Disease Control (Africa CDC) has been leading the continent's response to the COVID-19 outbreak with South Africa with the highest number of confirmed cases with a figure of 625,056 cases as of 30th August 2020.^{15,16} Nigeria the most populated country in Africa with over 200 million people and about 6.4 million people aged 65 years or more reported its first case on 28th February 2020.^{16, 17} According to the Nigeria Centre for Disease Control (NCDC) which is the leading team to the response of the outbreak in Nigeria, this case was imported; since then the cases have risen on a daily basis to 53,317 confirmed cases and 1,011 deaths as of 27th August 2020.^{18,19}

A Presidential Task Force (PTF) on COVID-19 was established by President of Nigeria to respond to the pandemic through multi-sectorial approach.²⁰ The COVID-19 has caused strict measures to be taken by Federal government of Nigeria, such as travel restrictions, ban on social gatherings, closure stores and markets lockdown in some states, dusk-to-dawn curfews, school closure, suspended religious gatherings in a bid to limit the spread of the COVID-19²⁰ because Nigeria is one of the developing countries relying on road transportation as the main means of movements, with congestion in public transport.¹⁷ NCDC has also deployed Surveillance Outbreak Response Management and Analysis System (SORMAS) to improve contact tracing in the country.

However, some of the measures laid by the government especially the lockdown began to affect the economy badly;²¹ this led to ease of the lockdown just after 5 weeks,²¹ despite its positive effect on the virus transmission.²² Even in the healthcare system, regular clinical activities such as outpatient treatment have been affected greatly in order to control COVID-19 transmission with healthcare providers lamenting on the

unavailability of personal protective equipment and ventilators to combat COVID-19.²³ There is an urgent need to increase the Intensive Care Units capacity and isolation centres in Nigerian hospitals in order to manage those that come down or test positive to the COVID-19.¹⁶ With students still at home for more than 5 months, international flights yet to resume, businesses not operating in full capacity and even some Nigerians claim the virus does not exist there a need to look into where this country stand in her response to this pandemic ravaging the world. Against this background, the study will examine the situation of covid-19 in Nigeria, the number of the testing centres and the mode of transmission of the virus in the country.

MATERIALS AND METHOD

Design of the study

A retrospective data collated by NCDC on COVID-19 confirmed cases 27 February when the first index case was reported to 27 August, 2020 was used.

Study location

Nigeria is a Federal Republic comprising 36 States and its Federal Capital Territory, Abuja. The states are grouped into six geopolitical zones, the North-Central (NC), North-East (NE), North-West (NW), South-West (SW), South-East (SE) and South-South (SS). Nigeria covers an area of approximately 923,768 sq. km, and has a large low plateau intersected by two major rivers, the Niger and Benue, in the central region of the country. It is bordered to the west by Benin, to the east by Chad and Cameroon, and to the north by Niger. Its coast in the South lies on the Gulf of Guinea on the Atlantic Ocean and Lagos.²⁴ Nigeria is Africa's most populous country with the total population estimated to be 207 million in 2020, with approximately 52% living in urban areas.²⁵

Data source

The study made use of secondary data collated by the Nigeria Centre for disease control (NCDC). NCDC is an open public health institution in Nigeria established in Nigeria to lead preparedness, detection and response to infectious disease. The data is available at <https://ncdc.gov.ng/reports/weekly>. The data obtained

from the NCDC website was collated and prevalence and case fatality rate were calculated using Microsoft excel.

RESULTS

Proportion of Corona virus cases in Nigeria in relation to Africa continent

Table 1 showed that Nigeria accounted for 4.4% of all the confirmed cases in Africa and 4.3% of the recovered cases were from Nigeria. About 3.5% of African fatality rate was contributed from Nigeria and 4.3% of the active cases were from the country too.

Cases of corona virus and number of samples tested in Nigeria

The total number of corona virus test done in Nigeria at the time of study was 391,501, of which 53,021 (13.5%) were found to be positive. Majority of the confirmed cases 53,021 (76%) have recovered and discharged from isolation with 1010 (1.9%) deaths leaving only 11730 (22%) active cases as can be seen in table 1.

Distribution of coronavirus cases in Nigeria according to geopolitical zone

Table 3 shows the distribution of coronavirus cases in Nigeria according to geopolitical zone. Almost half 25261 (47.6%) of all the confirmed cases are from South-Western region of the country followed by North-Central which accounted for 17.7%, South-South 7113 (13.4%), North-West 5228 (9.9%), South-East 3553 (6.7%) and North-East 2475 (4.7%). Surprisingly, most of the active cases 5247 (44.7%) were from North-Central region, and seconded by North-Western region of the country 4332 (36.9%), followed south-east 676 (5.8%), North-West 672 (5.7%), South-South 539 (4.6%) and North-East 264 (2.3%).

Gender distribution COVID-19 confirmed cases

Male were the predominant of the confirmed cases than female with 64% and 36% respectively as can be seen from figure 1.

Provenance of the confirmed cases

Figure 2 showed only negligible (1%) amount of the confirmed cases had history of travelling abroad, 24% had

contact with a known infected person while majority had unknown exposure.

Distribution of Recovery rate and Fatality rate according to region

Forty seven percent which is almost half of the recovery rate was witnessed in the South-West, followed by the North-Central (18%), South-South (14%), North-West (10%), South-East (7%) and North-East (4%) respectively. Similarly, most of the death cases were seen in North-Central (31%) followed sequentially by South-South (24%), North-East (15%), North-West (13%), North-Central (9%), and South-east (8%) respectively as can be deduced from figure 3.

Distribution of testing centres across the regions

As seen in figure 4, For optimal testing 64 public and private laboratories are up and running across the different regions of the country with 19% in South-Western region, 17% in South-South, 16% in South-East, 19% in North-Central, 17% in North-West, and 9% in North-East (NCDC, 2020). There was equal distribution of testing laboratories across all the region with the exception of North-East with only 10 (9%) of the 64 (100%) testing centres.

Table 1: Proportion of Corona virus cases in Nigeria in relation to Africa continent as of 27 August 28, 2020.

Variables	Africa (%)	Nigeria (%)
Confirmed cases	1,211,954	53,021 (4.4)
Discharged cases	941,818	40,281 (4.3)
Fatality rate	28,610	1,010 (3.5)
Active cases	241,526	11,730 (4.9)

Source: (35)

Table 2: Cases of corona virus and number of samples tested in Nigeria as at 27 August, 2020.

Variable	N	%
Sample tested	391,502	-
Confirmed cases	53,021	13.5
Discharged cases	40,281	76
Fatality rate	1,010	1.9
Active cases	11,730	22

Source: (19)

Table 3: Distribution of coronavirus cases in Nigeria according to geopolitical zone.

Region	Confirmed cases	Active cases
South-West	25261 (47.6%)	4332 (36.9%)
South-East	3553 (6.7%)	676 (5.8%)
South-South	7113 (13.4%)	539 (4.6%)
North-Central	9391 (17.7%)	5247 (44.7%)
North-West	5228 (9.9%)	672 (5.7%)
North-East	2475 (4.7%)	264 (2.3%)

Source: (19).

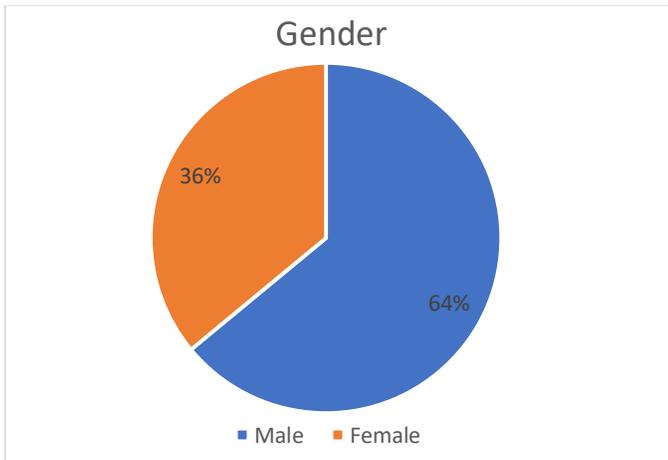


Figure 1: Gender distribution COVID-19 confirmed cases. Source: (19).

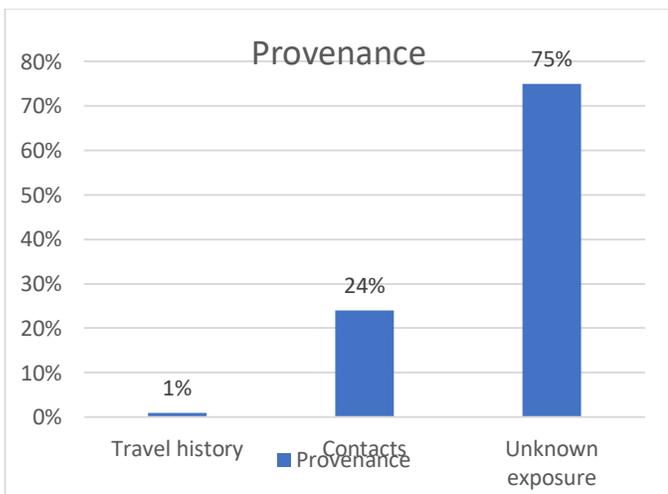


Figure 2: Provenance of the confirmed cases as of 27 August 2020. Source: (19)

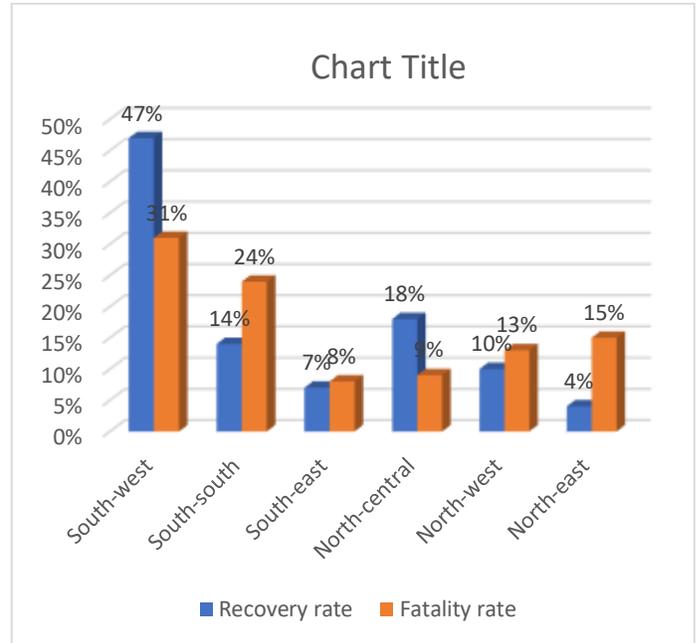


Figure 3: Distribution of Recovery and fatality rate across the geopolitical zone as of 27 August 2020. Source: (19)

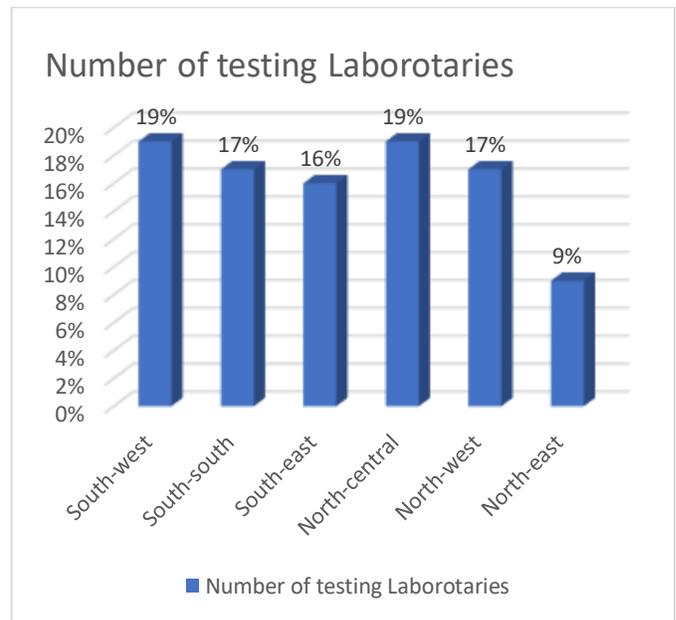


Figure 4: Distribution of testing centres across the regions. Source: (19)

DISCUSSION

The present situation revealed that the rate of contracting the coronavirus in Nigeria is relatively low. This was supported by a Finding from a previous study that revealed 40% of the total confirmed cases in Africa were from South Africa, followed by Egypt (18%), Nigeria (6.8%), Ghana (4.6%) and Algeria (3.6%).²⁶ This could be as a result of the implementation of preventive measures including lockdown that was shown to have slowed down the infection spread in the country²³ or that the actual number of cases is more than reported due to the failure of exposed individuals to report themselves for test or even due to denial attitudes.²⁷ Although Nigeria was the second country in Africa to report a case of coronavirus, the late entry of the virus into the country has also shown the increase in the country's level of preparedness and surveillance to disease of public health emergencies.²⁸ In addition, taking a look at the state of the healthcare system of the country before emergence of the virus in the country has also shown an improved response to the pandemic.²⁹

The ratio of confirmed cases to the number of tests done expressed in percentage is termed positivity rate. A positivity rate within the range of 3-12% was approved by WHO to be a goal standard level of an adequate testing capacity of a country.³⁰ As at the time of this study, 391,501, tests were done, of which 53,021 were confirmed to be positive cases given a positivity rate of 13.5% which is slightly higher than the global standard. This low positivity rate implies that as at 27 August, 2020, Nigeria was testing wide enough to locate the cases of the virus and that the number of confirmed cases is almost equal to the number of the actual cases circulating in the community.²⁷ Nigeria has a higher positivity rate than some African countries such as Sudan (55%),²⁷ South Africa (17.1%), Egypt (70.8%)³¹ and non-African countries such as Mexico (20%), and Bolivia (50%)³² but having lower rate than Korea (1%) and Australia (1%)³² Kenya (7.5%) and Morocco (2.4%).³¹ This also indicated that, Nigeria is doing better than some countries in Africa and even some European countries in termed reaching out to the cases of the virus.

The Mode of transmission of this virus among people has been tracked to be through direct contacts (cough, and sneeze) with sick persons, recent history of travelling into high risk countries abroad and unknown exposure. The first index case of the virus was confirmed from an Italian man who travelled into the country,¹⁸ As of the time of the study, only one percent of the confirmed cases were from abroad which showed that Nigeria has taken the necessary precaution at earlier stage and at the right time to prevent inter-country transmission of the virus. This is true especially considering the fact that the initial cases had history of travel abroad.²⁹ Majority of the confirmed cases couldn't identify previous exposure with a positive case is another justification for the government to imposed nationwide lockdown. This is because the contact must have happened during a public gathering that may be religious, at market, motor pack or any other gatherings.

The North-Western region of Nigeria recorded the highest recovery rate of about half of the total recovery figure while the North Eastern part has the lowest recovery rate. This could be associated with the high percentage of testing centres and isolation facilities available in the North-Western region of Nigeria. However, most of the active cases were found in the North-Central with the least active cases in the North-East. Having the lowest testing facility in the North-East might be due to lesser number of people submitting themselves for testing or due to the fact that some individuals do not believe the existence of the virus.

Testing which is an important aspect in curbing the spread of covid-19 provides a means of identifying and isolating the infected individuals to prevent them from going round and spreading the virus to other individuals.³⁴ Furthermore, without the testing, the fight against the virus would be done blindly.³⁵ The high number (64) of the testing centres found out by this study highlighted the high level of response of the country to the pandemic because there were only few laboratories for testing in the country at the initial stage of the virus but immediately, government and private testing centres were set up in the country across all geopolitical zone. It was stated that as of January 2020 only South Africa and Senegal had the

capacity of performing COVID-19 test in the whole African countries.³⁵ In addition, within three months period (29 May to 27 August, 2020), the number of testing laboratories has increased from 26 to 64 in the country.²⁹

CONCLUSION

The present situation revealed that the rate of contracting the virus in Nigeria is relatively low. Nigeria has fair a good testing capacity with a positivity rate of 13.5%. The predominant mode of the transmission of the virus was through unknown exposure. The North-Western region of Nigeria recorded the highest recovery rate while north eastern part has the lowest recovery rate

RECOMMENDATION

Although, the tension created by the virus at the initial stage is fading out on a daily basis since the lockdown measure was lifted. However, the government should scale up testing capacity, creating more isolation centres where they are few most especially in the North-East and North-Central, maintaining social distancing and other necessary precautions to limit the spread of infection as the country is getting towards total reopening and restoring normal life.

AUTHORS' CONTRIBUTIONS

DG conceive the study, collected data and was involved in writing the first draft. TY did literature review, wrote first draft and was involved in writing the last draft of the manuscript. All authors read and approved the final version of the manuscript,

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CONFLICT OF INTEREST

Authors declare no competing interest

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