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#### COVID-19 SECOND WAVE (DELTA VARIANT): AWARENESS, PERCEPTIONS AND IMPACTS ON SOCIO-ECONOMIC MILIEUS OF SELECTED RESIDENTS OF LAFIA, NASARAWA STATE, NIGERIA

<sup>1</sup>L. E. O. Abejide and Fatima Sidi Sani Department of Geography, Federal University of Lafia, Lafia, Nasarawa State, Nigeria

**ABSTRACT:** The study examines the awareness, perceptions and impacts of COVID-19 second wave on the socioeconomic milieus of residents of Lafia. Qualitative method was adopted to collect data from purposefully selected New Garage Motor Park and the Ultra-Modern Market in Lafia metropolis. Focus group discussions (FGDs) of eight (8) and seven (7) randomly selected participants were conducted in New Garage Motor Park and the Ultra-Modern Market, respectively while In-depth interview (IDI) was carried out with the official of the State Ministry of Health. The study revealed that though, the residents of Lafia were aware of the COVID-19 second wave, yet they perceived it as a ruse, which has no impact on their socioeconomic milieus; hence, no need of them being vaccinated. It was therefore suggested that government should rebuild trust in the populace by disseminating adequate and timely information against COVID-19 second wave as well as facilitating their socioeconomic wellbeing.

**KEYWORDS**: awareness, impacts, perceptions, COVID-19 second wave, socioeconomic milieus, lafia

#### **INTRODUCTION**

COVID-19 pandemic has put the global community in puzzling and unnerving situation since its emergence in the beginning of the first quarter of 2020. Total lockdown and restriction of movement were imposed on all human activities across the world. The use of face mask, washing hands with sanitizer and social or physical distancing were put in place by the World Health Organization (WHO) via the Center for Disease Control and Prevention (CDC) or Federal Ministry of Health of each country, as health guidelines and protocols to prevent the spread of the virus. Towards the end of 2020, the lockdown and restriction of movement were relaxed with the introduction of the COVID vaccines in many countries of the world, particularly in developed countries. And, as people began to feel some hope or least cautious optimism, it was reported that new mutations of the COVID-19 virus could bring pandemic back, and it might be even stronger; a highly contagious SAR-CoV-2 virus strain, which was identified in Indian in December. According to the report, the virus swept rapidly through that country and Great Britain before reaching the United States (US), where is now predominantly variant (Katella, 2021).

On the other hand, between June and July, 2021, the world was got caught up again within the storms of COVID-19 case resurgence, especially the spread of Delta variant. Ironically, majority of the

developed countries with the vaccines against the virus seems to be reporting skyrocketing confirmed cases, hospitalization and deaths of unvaccinated and vaccinated people, due to the second waves of the pandemic variant -Delta. In addition, COVID-19 vaccination appears not to hold back the spread of Delta variant, even after the injection of the first and second doses. According to the United States Center for Disease Control and Prevention (CDC), Delta variant was said to be more contagious and causing more severe illness than the first wave of COVID-19 pandemic, and the variant spreads rapidly by fully vaccinated people (CDC, 2021a & 2021b).

Meanwhile in Africa, according to the records, as at the end of week 31, South Africa had the highest numbers of reported COVID-19 cases and deaths, with 2,533,466 and 74,813 respectively. This is followed by Morocco; 696,282 cases and 10,335 deaths, Tunisia (613,628 and 21,089), Egypt (284,706 and 16,575) and Ethiopia with 284,091 reported cases and Algeria with 4,550 deaths. However, Nigeria being the most populated country in Africa, as at the end of week 31, the reported COVID-19 cases were 187,588 and 2,276 deaths (NCDC, 2021). This therefore translates to 1.2 per cent of deaths or 1 person dying from the cases reported.

The Delta variant was first reported on the 3<sup>rd</sup> of August, 2021 with 39 cases in Nigeria. The following five (5) states were affected; Akwa Ibom (19) with the highest cases, Lagos, Cross-River, Oyo and Federal Capital Territory (FCT). And since then, the records of the reported cases and deaths of both the first and second waves of COVID-19 in some states have been on the high side, overtime. However one tricky situation of the virus and its second wave is that one state in the country; Kogi State, has been reporting five (5) confirmed cases with no death since the emergence of the pandemic in early 2020. Meanwhile, the state share boundaries with Abuja, the FCT. Another dilemma is the behavioural attitude of the populace abandoning the health guidelines (use of face mask, physical distancing, etc.) mitigating the spread of the virus in areas with high population concentration. Such areas are market, motor parks, motorcycle parks, churches, mosques, event centres, etc. Though, one could have been tempted to conclude that COVID-19 and its variant are myths in the Nigeria. Similarly, research by Abejide, Abubakar, and Ayiwulu, (2020) and the reconnaissance survey carried out prior to this research showed that populace in most areas of the high concentration of human endeavours and activities are deviant to the Nigeria Center for Disease Control (NCDC) health guidelines (use of face masks and physical distancing, etc.). Paradoxically, as this deviant attitude continues, the total confirmed cases in Nasarawa State in week 19 were 2,382. This preceded the reported Delta variant cases in July, which as at the end of week 32, the state recorded 2,414 and 39 deaths; a difference of 39 new cases since the beginning of the second wave. Demographically speaking, this translates to 1.6 percent or at most two deaths out of all reported cases since the emergence of COVID-19 over 18 months ago. However, in order to justify the above statistics, therefore, the necessity for the study. In order to carry out the study, the following research questions are therefore posed to be answered:

- 1) What are the Lafia residents' perceptions towards second or third wave of COVID-19; a reality or a myth?
- 2) Are the residents of Nasarawa State aware of the second or third wave of COVID-19 called Delta?
- 3) What is the level of compliance of the NCDC health protocols among the residents of Lafia?

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- 4) Is the second or third wave of COVID-19 affecting their socio-economic milieu?
- 5) Are the mode of transmission and rapidity of the second or third wave of COVID-19 same with the first wave?
- 6) Are the symptoms of the second or third wave of COVID-19 the same or different from the first wave?
- 7) Are Lafia residents aware of the COVID-19 vaccines?
- 8) What is the level of acceptability of the vaccines as a means of mitigating the spread of second or third wave of COVID-19?
- 9) Are there any symptoms associated with the injection of the vaccines?
- 10) Are the NCDC health guidelines (protocols) the same for mitigating the spread of the second or third wave COVID-19?
- 11) In what way is government implementing the NCDC guidelines (protocols) of COVID-19 second or third wave in the Nasarawa State?

The aim of the study is to analyze the impacts of COVID-19 variant (Delta) on the mobility of selected residents in Lafia metropolis. In order to achieve the aim, the following objectives are generated: to,

- 1) Determine the level of perception and awareness of the second or third wave of COVID-19 among the selected residents of Lafia.
- 2) Examine the level of compliance of the NCDC health guideline (protocols) in curtailing the spread of the second or third wave of COVID-19 among the selected residents of Lafia.
- 3) Examine the differentiation between the transmission, rapidity of spread and symptoms of the second or third waves of COVID-19.
- 4) Determine the impacts of the second or third wave of COVID-19 on socioeconomic activities of selected residents of Lafia
- 5) Analyze the level of awareness and acceptability of COVID-19 vaccines as a means to mitigate the transmissibility of the second or third wave of the virus among the selected residents of Lafia.
- 6) Examine the symptoms associated with COVID-19 vaccination among the selected residents of Lafia.
- 7) Examine government roles in mitigating the spread of the second or third wave of COVID-19 in Nasarawa State.

# **REVIEW OF LITERATURE AND THEORETICAL UNDERPINNING**

#### **Global Trends of the Spread of COVID-19 Variants**

According to Yale Medicine epidemiologist, one unique thing about Delta is how quickly it is spreading (Katella, 2021). The scientist submitted that around the world, Delta will certainly accelerate the pandemic, and in the US alone, the variant was the cause of more than 80% of new COVID-19 cases (CDC, 2021). As been reported by the CDC, Delta's transmissibility came after an outbreak that occurred in Provincetown, Massachusetts after a crowded weekend in the 4<sup>th</sup> of July 2021, which quickly turned into a cluster of at least 470 cases. Although at the emergence of the second wave, the number of reported "variant" cases in general has been very low in the U.S., however, three quarters of those infected in Provincetown were people who had been immunized (Katella, 2021). However, according to forecasters at the Institute for Health Metrics and Evaluation

(IHME) at the University of Washington, reports predicted that case counts will peak sometime between mid-August and early September and that such peak may bring as many as 450,000 daily cases (Wadman, 2021). In addition, the COVID-19 Forecast Hub predicts the daily case count on 21 August will be somewhere between 29,000 and 176,000, using a range of estimates from 41 different models. In India, where the Delta variant was first identified, a massive, Delta-driven wave began in late March and receded by late June, even though mask wearing was spotty and less than 1% of the population was vaccinated as the wave began. In the United Kingdom (UK), a surge that began in early June peaked in mid-July and is now rapidly receding, although daily cases are still many times what they were before the Delta variant took over (Wadman, 2021).

In the US, the CDC labeled the COVID-19 mutation in the country as Delta "a," using a designation also given to the Alpha strain that first appeared in Great Britain. This is followed by the Beta strain which was first surfaced in South Africa, and the Gamma strain was first identified in Brazil. The new naming conventions for these variants, according to the World Health Organization (WHO) were established as an alternative to numerical names (WHO, 2021). Going by the submission of the Yale Medicine epidemiologist, therefore, the variant would have quite dramatic change on the growth rate of the country due to Delta's spread in the U.S. According to the report, Delta was spreading 50% faster than Alpha, which was 50% more contagious than the original strain of SARS-CoV-2. Furthermore, it was concluded that Delta would spread in a completely unmitigated environment; areas where no one is vaccinated or wearing masks, in which it was estimated that the average person would be infected with the original coronavirus strain, which would then infect 2.5 other people. In the same vein, in such unmitigated environment, Delta would spread from one person to maybe 3.5 or 4 other people (Katella, 2021).

#### Mode of the Spread COVID-19 Variants

Strangely enough, it has been reported that the unvaccinated are at risk while not fully vaccinated people are most at risk of been infected with the COVID-19 variant. For instance, in the US, the number of cases is on the rise in some states with disproportionate number of unvaccinated people. States like Alabama, Arkansas, Georgia, Mississippi, Missouri and West Virginia were reported to be having high number of new cases of the second wave due to low vaccination rates (Katella, 2021). On the other hand, kids and young people are a concern of the Delta variant. In the UK and the US, it was revealed that children and adults under 50 were 2.5 times more likely to become infected with Delta. However, no vaccine has been approved for children 5 to 12 in the most of the countries been hit hard by the second wave of the virus or either authorized vaccines for adolescents and young children (Wadman, 2021).

#### **Effects of COVID-19 Variants**

According to Katella (2021), the effects of Delta variant on infected persons have different symptoms associated with how the original coronavirus strain affected people that were being affected before its emergent. Based on the surveys in the UK where more than 90% of the cases are due to the Delta strain, it was reported that cough and sneezing are less common, while headache, sore throat, runny nose, and fever are predominant. In the report of Bai (2021), Delta variant is highly infectiousness and this could be due to its ability to replicate rapidly in the host body. This report was corroborated

by a study from China that people infected with the Delta variant can carry 1,000 times the viral load as those infected with the original virus.

#### Vaccination: Means of Mitigating of COVID-19 Variants

As regards the mitigation of Delta variant, although experts are just researching and learning more about the virus and its breakthrough cases, however, the UK Public Health in England research (the study tracked participants who were fully vaccinated with both recommended doses) showed that at least two vaccines are prescribed to be effective against Delta. The Pfizer-BioNTech vaccine while Oxford-AstraZeneca (which is not an mRNA vaccine and is not yet available in the US) was 60% effective against symptomatic disease and 93% effective against hospitalization (In preprint and yet to be peer-reviewed). In the US, as of August 2021, the Federal Government recommended that Americans who received the mRNA vaccines get a booster shot eight months after their second dose (Katella, 2021). Johnson & Johnson also reported that its vaccine is effective against Delta, but one recent study, which has not yet been peer-reviewed or published in a scientific journal, suggests that the vaccine may be less effective against the variant, which has prompted discussion over whether Johnson & Johnson vaccine recipients might also need a booster. But the first study to assess the Johnson & Johnson vaccine against Delta in the real world reported an efficacy of up to 71% against hospitalization and up to 95% against death (Katella, 2021, Wadman, 2021).

Several assumptions have cropped up during the sudden emergent of COVID-19 variants, but none was well-grounded enough to explain or answer questionable issues on the mutation, transmission and mitigation of the virus variants. On mutation, scientists across the developed countries have identified different mutations of the second wave with various designations. For example, the "Delta" strain was first seen in India, the "Alpha" strain, which first appeared in Great Britain, the "Beta" strain, was first surfaced in South Africa, and the "Gamma" strain first identified in Brazil (Katella, 2021), while the "MU" strain was first detected in January 2021 in Colombia and officially announced by the WHO in August (WHO, 2021). Regarding the transmission, ironically, scientists could not arrive at a common ground on the mode of clinical transmissibility and geo-demographic behaviour (in terms of age and location) of those variants. Some scientists assumed that children, adults under 50 and older population above 60 years are at risk. Coupled with this was the location one lives. On the other hand, some scientists suspected that Delta variant's infection rates would be worse in winter as opposed to the summertime but without any evidence (Wadman, 2021). On mitigation of the spread of the variants, this was hinged on wearing of mask and vaccination; however, it was a conspiracy theory. For instance, no theory has been arrived at to specifically explain the prevention of the mitigation COVID-19 variants but diverse assumptions and speculations. Many studies have submitted that wearing face masks public, indoor spaces, particularly in areas of high transmission and vaccination can't prevent the spread of Delta variant. Meanwhile, some scientists in the US referred to vaccination as "patchwork," while some believed that receiving the vaccine booster doses would avert the spread (Wadman, 2021; Katella, 2021). In the same vein, there have been a lot of conspiracy theories to explain the behaviour and attitudes of the populace in the Nigeria context. Some part of the population believed that neither the first, second nor third wave of COVID-19 is real but a ruse and myth. Some members of the public assumed that government is using the presence of the pandemic to reduce the population of people or the life span of the populace. Also, that government is using the skyrocketing figures released daily by the NCDC to facilitate foreign aid; hence, their defiance to the clinical guidelines against the virus and getting vaccinated. On the other hand, in some public and private organizations, the compliance to the NCDC protocols on COVID-19 is partially exhibited to avoid sanctions from the government at the center.

# METHODOLOGY

### The Study Locations

The study was carried out in Lafia, the capital of Nasarawa State. One major Motor Park and an Ultramodern market in the metropolis of Lafia Local Government Area (LGA) were purposively selected in the eastern part of the town. The New Garage Motor Park is situated along Makurdi Road and the Ultra-Modern Market (Sabon Kasuwa), on the Shendam Road, as indicated on Figure 1. The Motor Park constitutes mobile residents moving into and out of Lafia while the Ultra-Modern market represents the residents within the metropolis of Lafia.



Figure 1: Map of Lafia Metropolis showing the Ultra-modern market and New Garage Motor Park Source: GIS Laboratory, Department of Geography, Federal University of Lafia.

#### **Research Techniques, Data Collection and Analysis**

Qualitative research method was adopted for the study. The National Union of Road and Transport Workers (NURTW), drivers and traders were the targeted residents for the motor park while the traders were the aimed residents for the Ultra-modern markets. The motor park (New Garage) and Ultra-modern market are two major spaces for high concentration of people, in which mobility from, to and within Lafia metropolis is happening daily. Therefore, the selection of the locations (motor park and market) is premised on two postulations: One, the population of both locations is exposed to air within and without their immediate environment. And two, the population in the motor park (drivers, passengers and traders) are regularly having close contacts with one another in the park and when travelling in the vehicles, likewise traders in the market with customers when business transactions are going on within and without their shops.

Focus group discussions (FGDs) and In-depth Interview (IDI) were adopted for the collection of data. Eight (8) participants were randomly selected for the FGDs in the motor park and Ten (10) in the market. IDI was conducted with a stakeholder of public health services in Nasarawa State Ministry of Health (MoH), Lafia. Semi-structured questions centered on the awareness and impact of COVID-19 Delta variant on mobility, businesses and social interactions of Lafia residents, awareness of COVID-19 vaccination, implementation of NCDC health guideline, and the role of government to mitigate the surge of the second wave of the pandemic were generated and discussed during a one-time FGD session, in both selected locations. Questions related to the authenticity and awareness of COVID-19 variants, mode of transmission and symptoms, health guidelines (protocols), if different from that of the first wave and, monitoring and regulation of the health guidelines in Nasarawa State and Lafia, in particular were asked during a one-time IDI session. Information recorded from the FGDs was transcribed, coded, reviewed, and content analyzed based on the objectives of the study.

#### FINDINGS AND DISCUSSION

#### Socio-Demographic Composition of the FGD Participants in the Two Selected Locations

The mean age of the randomly selected focus group participants in the New Garage Motor Park was 35 years, with the standard deviation of  $\pm 1.5$  years while that of the Ultra-Modern Market was 32, with standard deviation of  $\pm 1.2$  years. The gender mixture for the two groups had five (5) males and two (2) females at the New Garage Motor Park, and four (4) males and three (3) females at the Ultra-Modern Market, and all of them were married. Half of the participants in the study locations had formal education up to secondary school while the remaining half had only Islamic education. Two-thirds (66.6%) of the selected participants were Muslims while the remaining one-third (33.3%) were Christians. The occupation of all the discussants at the Ultra-Modern Market was trading while the New Garage Motor Park comprised of five (5) drivers and NURTW officials and three (3) traders. In sum, the socio-demographic characteristics of the selected participants for the FGDs have indicated that they are responsible and sensible enough to discuss and discern about issues pertaining to them, and of national interest.

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#### Type of COVID-19 Variant(s) Present in Nasarawa State

None of the participants could typify the kind of COVID-19 variant ravaging the state for the second time. Similarly, the senior official in the Ministry of Health (MoH), Nasarawa State stated that the COVID-19 variant experiencing in the state has no scientific typological name. He explained further: "From our own records, our laboratory has not been configured to don the typology of variants, but what we noticed is that when we have the first wave, we had the rise in spike of number of cases, then it plateaued and started coming down. Towards the end of last year (2020), we were already celebrating COVID-19 is gone, but earlier this year (2021), we started having increased number of cases, from what we noticed, we know that it was a different type. We postulated it was a different strain, but we were unable to name it type this or that. During the first wave, people started getting used to it, some people got the virus were treated and developed at least some level of immunity. Now with the second wave, we were having cases in triples, and it plateaued and started coming down until Delta variant came. Since the Delta variant started, we have been recording one, two cases and suddenly, we were recording five cases and the cases are increasing and as at now (9<sup>th</sup> September, 2021), we have 2,424 cases and before the beginning of third wave, the cases were 2,401, meaning that the cases jumped by over 20 cases in short time. Therefore, as far as we are concerned, we are grappling with third wave Delta variant. Even though we have no scientific proof to say exactly it is Delta variant, but three days ago, the NCDC daily update showed zero case for Nasarawa State" (IDI, MoH, 2021).

The above submission implies that since the health experts in the state could not have the scientific and or technological knowhow to identify the type of COVID-19 variant(s) present in the state, then it would be difficult for the populace to either believe the presence or accept that the second wave of the virus has ravaging power in the state.

#### Awareness of COVID-19 Second Wave (Delta Variant) by Selected Residents of Lafia

Virtually all the participants in the New Garage Motor Park were aware of COVID-19 variant (Delta) and agreed that the second wave of the pandemic is real. They further submitted that:

"We were the first group of people government met with and engaged us by informing and enlightening people when the COVID-19 second wave spike started. And, because of the nature of our job in the society since we always deal with moving larger part of the population from and into the state, and being the fastest means of communication, even faster than the post office in terms of enlightenment and interaction with people." (FGD, New Garage Motor Park, 2021)

In contrast to the New Garage Motor Park, majority of participants at the Ultra-Modern Market were not aware of the COVID-19 variant or the second or third wave of the virus. Their responded went thus:

"We are not aware of the second or third wave of COVID-19 or its variant in this market. We used facemasks and hand sanitizer in the market when government forced us and claimed that COVID-19 was at its peak, but on the contrary, now we only use facemasks to protect ourselves against dust. Also, we always have our facemasks in our bags, in case of any law enforcement entering into the market to enforce it or gaining entrance into the banking hall". (FGD, Ultra-Modern Market, 2021).

However, the official of the Nasarawa State Ministry of Health corroborated the responses of the participants at the Motor Park in terms of high level of awareness of the second of COVID-19 variant among the populace in the state, and in particular, the people residing in Lafia. The following were the excerpts of his responses:

"The people of the state and of the capital city of Lafia are aware of the second or third wave of the pandemic. The challenge we have now as regards the awareness is because of the symptomology and pathophysiology of the virus; meaning that you can actually have the virus and be walking around on the street. This is creating a lot of doubt about the existence of the cases recorded in the state. However, we (Ministry of Health) have a pillar called communication pillar, which is saddled with responsibility of creating awareness in the state, and we use different form of it. We have electronic media (Television and Radio); we have flyers that we share in schools, markets, motor parks, etc. Also, we organize town hall meetings, we have town announcers that we engage in communities, we use religious leaders, and traditional rulers. All of these are the platforms we use to create awareness but the doubt is enormous. Therefore, the biggest challenge we have in order to fight with COVID-19 is "infodemic;" that is, the misinformation about the pandemic. But now, we have started doing a very big job to counter these negative perceptions.

The above responses indicated that not all the members of the public in the state were carried along with the sudden spike of the second wave of COVID-19 variant. The reason could have been either the populace deliberately denied and ignored the presence of the virus second or third wave or they are angry because of the government position as regards the virus non-existence in the state.

#### Perceptions of COVID-19 Second Wave (Delta Variant) by the Selected Residents of Lafia

All the discussants at the New Garage Motor Park believed the second wave of COVID-19 is real. However, the majority of the participants at the Ultra-Modern Market did not believe that COVID-19 second is real but a ruse and myth. They explained further:

"We have never experienced any case of COVID-19 variant (Delta) in this market or in Lafia" (FGD, Ultra-Modern Market, 2021).

In his response, the official in the MoH set the records straight about the presence of COVID-19 second or third wave in the state and Lafia, in the following order:

"COVID is real in Nasarawa State and not a ruse. Just because people did not come out to say they have COVID does not mean there is none. When laymen on the street say there is no COVID-19 in Lafia, you will understand their background and rationales for their conclusion. Firstly, 80 percent of COVID-19 cases in the state are asymptomatic. In other words, if you have 100 cases, 80 of them did not know they have the virus. They would be walking around and looking healthy. However, may be they needed to travel or it was demanded for some reasons, and they went and had the test and came out positive, or they had contact with someone with the virus, and ask them to go for test and came out to be positive, those are some reasons why a layman will say "we have no COVID-19 in Lafia or the state." Again, a layman attributes sickness to symptoms, then, if one doesn't have signs and no symptoms, why would one say someone is sick? And since there is no symptoms, saying someone is

sick, amounts to lying. Secondly, out of the remaining 20 percent that have COVID-19 symptoms, only 5 percent of them would have bad symptoms, while those with such severe symptoms belong to certain categories: One, people above 50 years; two, people with comorbidity; that is some people having diabetes, cancer, and some other diseases. Basically, those were the people with bad symptoms. Thirdly, the other things that worked for those that said we have no COVID-19 in Nigeria is the fact that in the developed countries, with all their technological advancement, sophisticated healthcare system, their citizens are dying in troops. But here in Nigeria, people are not dying in troops." (IDI, MoH, 2021)

From the above responses, reasons for the mixed feelings among the populace as regards the presence of the second or third wave of the virus could be multifaceted. Firstly, there could be a possibly that the populace was not being carried along with adequate information about the new virus variant. Secondly, it might be because COVID-19 patients are not visible anywhere and the signs or symptoms to show that one has contacted the virus are not visible. Thirdly, it seems the populace believed they have been deceived by government in its proclamation of the virus in the state when such might not be true based on the number of confirmed cases and deaths recorded so far. In sum, the residents of Lafia believed that the state government was assuming arbitrary number of confirmed cases and deaths for them to be eligible for COVID-19 emergency fund from the federal government.

# NCDC Health Protocols Compliant in Curtailing COVID-19 Second Wave by Selected Residents of Lafia

All the participants at the New Garage Motor Park upheld their compliance to the health protocols of the NCDC by putting on facemasks, washing hands with sanitizer and creating physical distancing. They submitted their views as follows:

"In our motor park, we have a machine that sprays chemical substance on the drivers, passengers and the vehicles before embarking on any journey. This is compulsory for drivers and passengers and it is done to mitigate the spread of COVID-19 pandemic. We also mandated all the union staff and drivers (except those with special cases) to be vaccinated. Some had taken the first and second doses, while some just one dose. We always observe physical distancing in all our vehicles. For instance, Sharon Bus now carries 5 passengers instead of 10 passengers (one in the front seat, two at the center and two at the back seats). The 18 Passenger Bus now carries only nine (9) passengers (three seated in each of the rows and one at the front seat). We also reduced the number of passengers conveyed by our town service buses from 14 to 9. On the other hand, any commercial vehicle that did not observe physical distancing in terms of the seating arrangement of the passengers is not from our park" (FGD, New Garage Motor Park, 2021).

On the other hand, the majority of participants in the Ultra-Modern Market were of the different views to the NCDC health protocols of putting on of facemasks, washing hands with sanitizer and creating physical distancing. Their submissions were the following:

"Few of us were practicing social distancing in the market while many of us are not. We used facemasks and hand sanitizer in the market when government forced us and claimed COVID-19 was

at its peak. Therefore, using facemasks is not to prevent us from any COVID-19 variant, but to prevent our nostrils from dust, particularly during the dry season. Furthermore, we always have facemasks in our bags, in case of any enforcement of NCDC in the market or in case we want to gain entrance into the banking hall" (FGD, Ultra-Modern Market, 2021).

The above responses imply that the residents of the state, particularly those in Lafia are rarely or totally not complying with the NCDC health protocols. The field assessment of the two selected locations for this study showed that residents of Lafia do not pay any attention to the NCDC health protocols against the spread of COVID-19 second or third wave of the pandemic. Plate 1 revealed both the traders and customers were going about and mingling without using facemasks or observing physical distance of 1.5 meters apart. This scenario is against the NCDC health guidelines and protocols. Plate 2 depicted none compliance to the NCDC health guideline or protocols; use of facemasks and physical distancing in the New Garage Motor Park as against what transpired during the conduct of the discussions with them some weeks earlier.



Plate 1: Lafia residents in the Ultra-Modern Market, Lafia Source: Fieldwork (September 29, 2021)



Plate 2: Drivers and NURTW officials at the New Garage Motor Park, Lafia Source: Fieldwork (October 5, 2021)

# The Transmission, Rapidity of Spread and Symptoms of COVID-19 Second Waves

Participants at the both study locations were ignorant of the mode of transmission, rapidity of spread and symptoms of the second or third wave of COVID-19 in the state or Lafia. However, the responses of the MoH official on the mode of transmission, rapidity and symptoms of the second or third wave and its similarity with the first wave were as follows:

"All the waves are having the same modes of transmission; we should understand the triad; from the reservoir to the environment to the susceptible person(s). The only different of the second or third wave is the rapidity or speed of spread, the current wave spreads faster than the first wave. In addition, the symptoms scenarios of either of the second or third wave are the same with the first wave." (IDI, MoH, 2021)

The above response summed it up one of the reasons why the Lafia residents did not believe nor aware of the second or third wave of the virus; the "rapidity or speed of spread." The question most of the layman in the public is asking is, "where are the COVID-19 variant patients?" The answer to this question would be a major reason for the populace to trust the state government as the transmissibility and spread of the virus, particularly in Lafia and the state in general.

## Impacts of COVID-19 Second Wave on Socioeconomic Milieus of Selected Residents of Lafia

All the participants at the two location of the study unequivocally lamented on the impacts of COVID-19 pandemic on their socioeconomic settings, particularly during the first wave; though, the second or third has little significant impacts on their social and economic milieu. Few of their submissions on mobility, business transactions and social interactions during the first wave and the second or third wave at the Motor Park went thus:

"COVID-19 during the first wave stopped us from travelling completely, bringing goods from the source to the market stopped. During that time, the park was completely closed for two months, only the market was partially opened. We had nothing to feed our family with, and even the local town service was restricted by the military officers. As regards our social interaction, government did not allow much crowd as before due to the emergence of COVID-19. The political meetings and gathering, wedding ceremonies, naming ceremonies, birthday party, and even burial ceremony were pruned to smallest people. Likewise, our religious activities were affected; Jumat and Salah festivities, church services and spiritual festivities were put on hold. And till now, government don't allow crowd as we used to have before due to their claim in the spike of COVID-19 variant. Population in all our ceremonies has been reduced to few people so as to meet government health guidelines. On our businesses, we that engaged in commercial activities like driving and selling of wares, our businesses were completely terminated. Virtually all our goods were damaged and spoilt, this affected our health while some of us died, and some were completely ruined financially, while some totally lost their customers. And at present, hunger and poverty are what killing us and not the so-called COVID-19 Delta variant" (FGDs, New Garage Motor Park & Ultra-Modern Market, 2021).

As regards to the above submission by the participants, generally speaking, it is obvious that COVID-19 pandemic negatively affected the socioeconomic milieu of the people in Nasarawa state and the residents of Lafia, in particular. However, it seems the means to resuscitate their lives back to what it used to be; most especially their businesses are becoming elusive.

#### Level of Awareness and Acceptability of COVID-19 Vaccines to Mitigate the Spread of COVID-19 Variant among the Selected Residents of Lafia.

Participants at the New Garage Motor Park, particularly the NURTW officials admitted that they are aware and accepted the vaccines as means to mitigate the spread of COVID-19 variant in the State and Lafia. Their submission was as follows:

"We have mandated all the union staff and drivers (except those with special cases) to be vaccinated. Some of us have taken the first and second doses, while some just one dose, waiting for the second dose" (FGDs, New Garage Motor Park, 2021).

In the same vein, participants at the Ultra-Modern Market were aware of the vaccines through the electronic media (TV and Radio), but not vowed not to be vaccinated. They unanimously rejected the vaccine because they believed there is no COVID-19 variant or second wave of the virus in Lafia. The following were their submissions on the vaccines:

"There is no COVID-19 and its variant, since there is no COVID-19 or its variant, why should we take the vaccine?" We don't need the vaccine because the claims by government of high cases of COVID-19 patients in Nasarawa state and Lafia have reduced to the barest minimum or did not exist. In fact, we have not seen one patient of this pandemic ever, therefore, no need for vaccine Above all, the vaccine according to what we heard, is meant to reduce the population of Nigeria" (FGDs Ultra-Modern Market, 2021).

However, the official of the MoH in the state informed the two brands of COVID-19 vaccines available in Nasarawa State.

"We have two brands of vaccine: AstraZeneca, which we had  $1^{st}$  and  $2^{nd}$  doses for some people, though we have exhausted the first tranche, but we have just received the second tranche to complete the  $2^{nd}$  dose for people that had received the first shot. Also, we just received a fresh consignment of Modena vaccine" (IDI, MoH, 2021).

Pertaining to the level of acceptability of the vaccines in the state, the MoH official explained further: "People are coming out to receive the vaccine. As at present, the number of people that have taken the first dose of AstraZeneca vaccine was 34,698 and the second dose was 31,739. For Modena vaccine, only 25% of the 1<sup>st</sup> dose had been administered" (IDI, MoH, 2021).

In summary, the above reactions by the selected residents showed that the populace in general have no faith in and do not trust the government when it comes to their well-being; while the statistics of those being vaccinated by government were not too encouraging. According to the figures released by the office of the Public Health Services, Nasarawa State Ministry of Health, less than 70,000 people out of the total population eligible to be vaccinated had received either first or second shots of the two vaccines available in the state.

#### Symptoms Associated with COVID-19 Vaccination Among the Selected Residents of Lafia.

Only the participants at the Ultra-Modern Market responded to the effects or symptoms of the vaccinated persons in a drastic way:

"We heard that some people that were vaccinated died because of it while some of them collapsed on the spot; therefore, we don't want the vaccine" (FGDs, Ultra-Modern Market, 2021).

However, the official of the MoH gave detailed explanations on the symptoms of the vaccines and debunked any drastic aftermath effects of the vaccination in the following order:

"Any vaccine one receives is a foreign element that is being introduced in one's body. And once such foreign antigen enters the body, there are some reactions and the body immunity of the host will react. If the host body did not react, then one or two things might be happening; one, it is either the element ejected is not potent and or two, the immunity of the host body is very low or weak. If the host body immunity and the antigen introduced are potent, there will be reactions. For some people, it may just be pain at the injection site; some may have mild fever, some, little weakness, etc., so it is by grading. Therefore, the reaction could be from mild to moderate to severe. We do have from normal to extreme symptoms, while the extreme one leads to death. There is something we called "adverse effect," and

in such case, we have a template for reporting such adverse effect, particularly for deaths. However, we have not received any adverse effect in Nasarawa State. If people died because of taking the vaccines, nobody will come out to take the shots, so, we have no report of death of people that had received the vaccine. As far as government in the state is concerned, the vaccines are not targeting at anything else apart from COVID-19 mitigation. It is not for birth control nor to reduce the population or reduce the life span." (IDI, MoH, 2021).

In sum, the above responses showed the kind of negative mindset the populace have towards the government and its policies, which at the end of the day resulting to conspiracy theory. According to a saying, "Out of so many lies, there is an atom of truth," for the participants in the market to have attested to the death of vaccinated people, then the vaccines have serious adverse effects. Even, in the developed countries where these vaccines were being produced, there were reports that some set of people died after taking the shots. On the other hand, the possibility of not reporting the deaths could be as a result of the religious affinity of the victims, if they were Muslims; who were to be buried according to the injunctions of their faith; between 24 and 48 hours.

#### Government Roles in Mitigating the Spread of COVID-19 Second wave in Nasarawa State.

The participants at the New Garage Motor Park unanimously agreed on the following role and approach to mitigate COVID-19 second or third wave by governments:

"Just like other diseases, such as Measles, Polio, HIV/AIDS, Ebola, Malaria Fever, etc., these diseases have their remedies; either medications and/or vaccines to cure them. Let the governments; federal, state and local also provide the remedy for COVID-19 variants. COVID-19 vaccination should be included in the National Programme on Immunization (NPI), so that people could be vaccinated right from childhood to avoid massive spread of the virus. In addition, then categories of people that can and cannot take the vaccine should be specified because we know of five people that died as a result of taken vaccine. Though, physical distancing, washing hands with sanitizer, using face masks and vaccination are good but they are just preventive measures, but above all, government should eradicate poverty, which kill faster than COVID-19 variant" (FGDs, New Garage Motor Park, 2021).

Similarly, the participants at the Ultra-Modern Market voiced their minds out on government responsibilities to mitigate COVID-19 variant in this manner:

"Since government claims that COVID-19 second or third wave is rising, they should teach people how to apply the COVID-19 health protocol, particularly the rural populace. Also, government should improve on the vaccine by substituting it with something like drug that can be swallowed instead of injection. Above all, government should improve on the economy of the country by empowering the populace because once we are financially free; we will obey all the health instructions of COVID-19 variant" (FGDs, Ultra-Modern Market, 2021).

The MoH official informed what government has been doing in order to implement NCDC health protocols in order to mitigate COVID-19 second or third wave in Nasarawa State in general and Lafia in particular. The excerpts of his responses are as follows:

"There are two approaches we imbibing as a stakeholder. First, is education, sensitization and awareness creation, so that people adopt several behaviour change, and second, the use of the regimented of the enforcement of the regulations. Therefore, all the approaches must be adopted; wearing of facemask correctly, get vaccinated, observing physical distance of 1.5 meters, washing of hands with soap and water and or sanitizer, avoiding crowded scenario above 50 people. If we are able to abide by these guidelines, we will be able to reduce the spread of the virus in our state. Our goal in Nasarawa State is to have 90% of the concerned population vaccinated. Once the virus can't jump from one person to another, then we have killed the virus. In addition, during the first wave of the pandemic, the state has no COVID testing laboratory, all our samples were sent to NCDC laboratory in Gaduwa, Abuja for testing, but the state government fast-tracked the building and equipping one of the best in Africa, the Laboratory for Infectious Diseases Diagnosis and Research Center behind the Dalhatu Specialist Hospital (DASH) in Lafia. In this Laboratory, 50 COVID samples can be run and within 24 hours, the results are ready. The normal clinical testing routine for COVID in the Laboratory is free and the vaccine too, is free. But right now, the machines for testing COVID in the Laboratory are to upgraded to Laser so that one COVID sample can be tested at once without waiting for 50 sample" (IDI, MoH, 2021).

From the above, the unanimous responses of the participants in the study showed that COVID-19 second or third wave would thrive among the residents of the state, if government is ignorant of the economic hardship of the populace. But, ready to abide by any health guideline to mitigate the variant, if they have concerned and helping government, in terms of their financial and economic milieus.

# CONCLUSION AND RECOMMENDATIONS

In conclusion, the study has established that though, the citizens of Nasarawa State and Lafia in particular were aware of COVID-19 second wave, but did not believed it has effects on their wellbeing and socioeconomic milieus like the first wave did. The study also found out that the NCDC health guidelines were not being fully adhered to by the residents. In addition, the study revealed that the residents are not interested in the vaccines as means to prevent COVID-19 second or third wave, instead they implored governments at all levels to eradicate of poverty, which they termed as the real COVID-19 variant. Based on these findings, it is recommended that governments at all levels need to work more on revamping the public trust towards their governance, which will facilitate timely dissemination of information about the second wave of the virus and compliance of the mitigating health protocols. In addition, governments should embark of assiduous financial assistance to the pandemic first wave losses; this would help the residents of the state and Lafia in particular to survive subsequent pandemic in the future.

#### **Future Research**

The scope of the study was limited to Lafia metropolis while the qualitative methodology used could have been combined with quantitative had it been grant was awarded for the research. However, the future research could widen the scope of the study in order to give room for comparative analysis over space. In other words, more locations within and outside Lafia metropolis and other local government areas within Nasarawa State could be included for the spatial comparative analysis,

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which would have provided compare and contrast levels of awareness, perceptions and impacts of COVID-19 second wave on the residents of the state.

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