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**COVID-19 PANDEMIC: MANAGEMENT IN THE STATE OF OSUN**

## COVID-19 PANDEMIC: MANAGEMENT IN THE STATE OF OSUN

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### ABSTRACT

The COVID-19 Pandemic which started in China and became a global threat with high morbidity and mortality was a shock to the world, especially the developing countries with poor health facilities. Nigeria was not exempted as the pandemic ravaged the world. Osun state had its own share but with adequate preparation and effective management of the pandemic by a team of health workers across the various specialties and support from other stakeholders like the security agencies, the press and various donors at different levels, the pandemic was well managed in the State of Osun. Facilities were put in place and mortality among confirmed cases was about 2.2%. In spite of the initial global reluctance to take the COVID-19 vaccines, Osun State is the third most COVID-19 vaccinated in Nigeria.

### INTRODUCTION

COVID-19 pandemic was one of the greatest viral infections in this century. The infection began in Wuhan, China, in December 2019 and spread like a wide fire throughout the world within a few months of its occurrence. It was associated with severe morbidity and mortality.<sup>1</sup>

The virus has also been called human coronavirus 2019 (HCov-19 or hCov-19)<sup>2</sup>. Available evidence indicates that it is most likely of zoonotic origin and has close

genetic similarity to bat coronaviruses, suggesting it emerged from a bat-borne virus which shows little genetic diversity, indicating the spill-over event introducing SARS-CoV-2 to humans.<sup>3,4</sup>

SARS-COV-2 Virus has been described as a novel virus and is a positive sense single-stranded RNA virus that is contagious in humans. Based on its phylogenetic relationships and genomic structures, the COVID-19 belongs to the genera 'Betacoronavirus'. Human Betacoronaviruses (SARS-CoV-2, SARS-CoV, and MERS-CoV) have many similarities, but also have differences in their genomic and phenotypic structures that can influence their pathogenesis. COVID-19 contains single-stranded (positive-sense) RNA associated with a nucleoprotein within a capsid comprised of matrix protein.<sup>5</sup> Its structure is shown in figure 1.

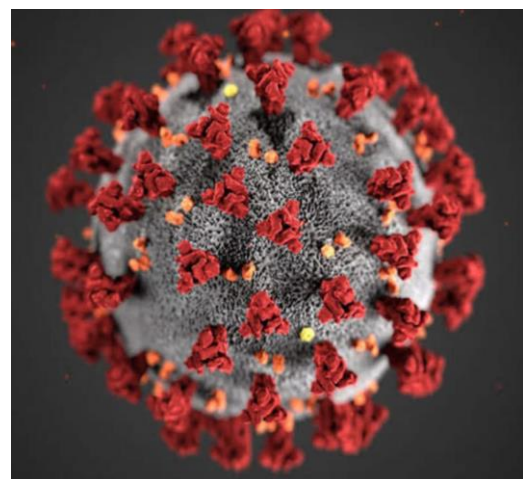


Figure 1: Structure of COVID-19 Virus

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The World Health Organisation (WHO) declared the outbreak a public health emergency of international concern on January 30<sup>th</sup>, 2020 and a pandemic on March 11<sup>th</sup>, 2020.<sup>6</sup> Its most common symptoms are fever, cough, tiredness, loss of taste or smell. Others are sore throat, headache, aches and pains, diarrhoea, a rash on skin, or discolouration of fingers or toes as well as red or irritated eyes. More than 200 countries and territories have been affected by COVID-19, with major outbreaks occurring in Brazil, Russia, India, Mexico, Peru, South Africa, Western Europe and The United States.<sup>7</sup>

Globally, as of 5:43pm CEST, 28 October 2022, there have been 626,337,158 confirmed cases of COVID-19, including 6,566,610 deaths, reported to WHO. As of 26 October 2022, a total of 12,830,378,906 vaccine doses have been admitted.<sup>8</sup> As at 30<sup>th</sup> October 2022, the total number of COVID 19 cases in Nigeria was 266,183 with 3,155 deaths.<sup>9</sup>

In most African countries including Nigeria, there are still communities without health care facilities, apart from the scarcity of health workers. This was a big challenge to the care of COVID-19 patients at the onset of the pandemic. The projection was therefore that Africa could bear the final burden of the COVID-19 pandemic if the countries did not institute effective measures to combat the pandemic.<sup>10</sup>

On 28<sup>th</sup> January, 2020, the Federal government of Nigeria assured citizens of the country of its readiness to strengthen surveillance at five International airports in the country to prevent the spread of coronavirus. The airports were Enugu, Lagos, Rivers, Kano, and Abuja, the Federal Capital Territory.<sup>11</sup>

The first case of COVID-19 in Nigeria was confirmed by the Minister of Health on 27<sup>th</sup> February 2020 when an Italian national tested positive in Lagos. On March 9<sup>th</sup> 2020, a second case was announced at Ewekoro in Ogun state of a Nigerian citizen who came in contact with the Italian.<sup>11,12</sup>

The first case of COVID-19 in Osun state was on 25<sup>th</sup> of March, 2020, and this was a UK returnee to Osun State who had presented himself to our isolation centre following some symptoms on arrival from the United Kingdom.<sup>13</sup> This first case in the state was followed by the arrival of a group of Ejigbo-bound passengers from the Republic of Benin in four luxury buses. They were directed to a centre already prepared at Ejigbo. Eight of these were subsequently reported positive and managed at the centre.<sup>14</sup> Others were left to leave the centre following repeated negative results.

Thereafter, isolated cases started presenting to both public and private hospitals in the state and were referred to the isolation centres where they were tested and admitted where positive and contact tracing started.

## STATE PREPARATION AND CONTAINMENT OF COVID-19 PANDEMIC

The executive governor of the state, Mr. Gboyega Oyetola, took the issue of the pandemic very seriously and all members of the executive council were properly carried along with discussions on the best approach to ensure that the people of the state were not brought to harm. Several meetings were held with stakeholders to identify possible facilities to prepare for this pandemic especially when considering the impacts of the pandemic on developed countries with modern facilities having so much mortality at the start of the pandemic.

A technical action committee on COVID-19 was set up by the government on 29<sup>th</sup> February, 2020 with the following members: Dr. Gbenga Adepoju (Director of Public Health) as the Incident Manager, Dr. Olagunoye Ajibola, Dr. Olufemi Oroge, Dr. Ehimare Adagbaje, Prof Peju Esimai and Pharm. Awoyemi Fatimo among others. The committee was to carry out awareness and educate the populace on what needs to be done to avoid getting infected and ensure effective management of confirmed cases.

The Deputy Governor, Mr Benedict Alabi was to oversee the committee's activities.

Several other subcommittees were set up and many facilities inspected before the state settled for State Specialist Hospital, Asubiaro, Mercyland Hospital, Osogbo, General Hospital, Ejigbo, and Obafemi Awolowo University Teaching Hospitals Complex Ile-Ife where a 20-bedded ward was renovated and equipped for the care of COVID-19 cases. Other facilities explored were in Ede, Iwo, Ikirun and all the other General Hospitals in the state as possible sites to admit patients in case the pandemic became widespread. However, renovation works and equipping of Asubiaro, Mercyland and Ejigbo General Hospital were done in addition to facilities at the OAUTHC for immediate admission and isolation of cases.

Other high ranking members of the executive council of the state involved in the management of the COVID-19 pandemic were the Chief of Staff to the governor, Dr Charles Akinola, Commissioner for Health, Dr. Rafiu Isamotu and Special Adviser on Public Health, Pharm Siji Olamiju, Commissioner for Works, Eng Remi Omowaye, the Commissioner for Information, Mrs. Funke Egbemode, the Special Adviser to the governor on Security, Mrs. Abiodun Ige and a host of other heads of ministries and parastatals. Prof. Peter Babatunde Olaitan took over from Dr. Gbenga Adepoju as the Incident Manager at the peak of the pandemic in July 2020. The State Epidemiologist was also a major participant in this. Dr. (Mrs) Omolola Adeagbo became the state Epidemiologist during the period. Some members of the committee are shown in figure 2.

Many health personnel volunteered to be part of the team that managed the pandemic. They were drawn mainly from the UNIOSUN Teaching Hospital, Osogbo, Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife and the State Ministry of Health as well as the state's Hospitals Management Board.



**Figure 2:** The Commissioner for Health, Dr. Rafiu Isamotu, with the Special Adviser to the Governor on Public Health, Pharm Dr. Siji Olamiju and the Incident Manager, Prof. Peter Olaitan (left to right) at one of the review meetings

The management team was divided into five major groups: Surveillance, Logistics, Risk Communication, Case Management and Research and statistics groups. The main target of the management of COVID-19 at the beginning was containment of the disease such that it would not spread within the state and the country at large. This was the reason for the initial national lock-down following announcement that the infection was already present in the country and the state. Management at the initial phase included contact tracing of all infected patients as well as isolating the infected cases in isolation centres till they were tested and confirmed negative.

## DONATIONS

Several organisations and Non-Governmental Organisations including the World Health Organisation, UNICEF and individuals donated to assist the states. The donations included ambulance vehicles, consumables, drugs and laboratories (Figure 3). The Coalition Against COVID-19 (CACOVID) also made donation of consumables and medical equipment which assisted the care of the patients tremendously



**Figure 3:** *The Governor of the state, Mr. Gboyega Oyetola receiving donation of ambulance vehicles from one of the donor agencies.*

### FROM PCR TO RDT

The only laboratory in the state that was able to assist with the diagnosis of Coronavirus was the African Centre of Excellence for Genomics of Infectious Diseases (ACEGID) at the Redeemers University, Ede, as the diagnosis could only be done in a molecular laboratory. The laboratory received several samples from different states of the country at the beginning of the pandemic and hence there was a relatively long duration of sometimes up to a week before a result could be obtained as the Polymerase Chain Reaction (PCR) was the only method that could be used to make a diagnosis.

This was able to pick early infections that would not be picked by Rapid Diagnosis Tests (RDT) and is unlikely to have false positive and false negative results like the RDT. This was a challenge as the delay even in the face of clear symptoms could cause a challenge in decision making for isolation and contact tracing. Some patients with severe diseases who died while waiting for the result of the PCR were also sources of challenge. This was because the burial team was expected to bury every case of COVID-19 death within 72 hours.

The government of the state subsequently supported the Osun State University, Osogbo, to equip the molecular laboratory of the university which subsequently took over the processing of some of the samples.

The subsequent development of antibody-based and antigen-based rapid diagnostic tests assisted in no small amount as these improved immediate diagnosis and decision making of the team. A friend of the state subsequently donated another molecular laboratory to the state, located at the Mercyland Hospital and accredited by the NCDC. The sensitivity of the Rapid Diagnostic Test has since improved considerably leading to improved early decision making on the patients.

### LOCK-DOWN AND ITS IMPACTS

Following the first set of cases of COVID-19 in Nigeria, a lock-down was announced by the Federal Government which involved all the states in the country. This was meant to prevent the spread of the disease as surveillance activities and contact tracing of people who had contact with those positive for the virus were carried out easily. The lock-down was total initially with no movements except for those on highly essential activities like the health workers and security operatives. Social gatherings were prohibited and no religious gathering was permitted. This took significant part of March to August 2020. This of course had implications on the economy at both individual, corporate and government levels.

The Risk Communication group under the leadership of the Commissioner for Information produced several advertorials informing the populace about the need for the lock-down. The Commissioner for Health, Special Adviser on Public Health and the Incident Manager also featured in several programs on radio and television to explain the pathology of the virus and its associated morbidity and mortality. Live programmes were organized on air and citizens of the state were able to ask questions and get educated and enlightened about the disease.



There were also apprehension, misgivings, misinformation and misunderstanding of the disease. A lot of these were passed round through the social media. Citizens initially avoided being tested when they had contacts with an infected person. The governor and the first family had to be tested and announced this to the state to encourage the citizens that being tested was important to get properly treated and prevent infecting others.

Protocols to prevent the infection were set and announced. These included regular hand washing, social distancing, donning of face mask and reporting to health facilities when any of the symptoms of the disease was observed. The civil service workforce was restricted to only the senior staff initially to avoid overcrowding in offices. Many of the citizens actually responded positively to these while a few did not comply.

Different groups of the citizens of the state were also invited to meetings chaired by the governor of the state to educate them about the need for prevention of the diseases in view of the morbidity and mortality that were then known about the disease. They were also educated on the reasons for the lock-down as many people with daily paid jobs resisted the lock-down for lack of understanding as well as inability to work and earn a living. The groups included religious groups-Christians and Muslims, traditional religionists, market women, people in hospitality business as well as the security operatives. Arrests were made with fines paid by obstinate individuals to serve as warning to others. Free food items were also distributed as reliefs to the citizens especially those on hospitality and daily paid jobs.

### **SURVEILLANCE AND THE ROLE OF SECURITY PERSONNEL**

The security personnel under the leadership of the Special Adviser to the governor on Security were mobilized to ensure compliance and enforce curfew and lock-downs. They moved from one part of the state to another. These included the Police,

Civil Defence, Amotekun etc. The security personnel also warned against social gathering and guarded the borders of the state in ensuring that no unwanted or unscreened individual who might be at risk of transmitting COVID-19 was permitted into the state without proper screening. The security personnel also ensured that market women and men, religious houses and hospitality centres abided by the enforcement of lock-down and other subsequent COVID-19 protocols.

### **RISK COMMUNICATION**

The ministry of Information was part of the team from the beginning and actively informed the citizens of the state through the media and social means. Bill boards were erected throughout the state to warn against social gatherings that did not comply with the protocol of COVID-19 management. Risk communication was also carried out by the Honourable Commissioner for Health, the Special Adviser to the governor on Public Health as well as the Incident Manager through interviews and discussions. The governor of the state also continued to inform the citizens on the state of the pandemic regularly. Hand washing, wearing of face masks and social distancing were all demonstrated to the populace. These went a long way in the education and compliance of the public with COVID-19 protocols.

### **THE CONSTITUTION AND ROLE OF CASE MANAGEMENT TEAM**

The case management team involved almost all specialties of health care including experts in the field of Public Health, Internal Medicine, Psychiatry, Surgery, Obstetrics and Gynaecology, Paediatrics, Radiology, as well as Nurses, Laboratory Scientists, Pharmacists, Physiotherapists and Dieticians. Others included the ambulance drivers, the catering team, the burial team and other technical members.

Three major centres were run with the hope of expanding as the cases possibly increased.

These were Obafemi Awolowo University Teaching Hospitals Complex (OAUTHC), Ile-Ife with 18 beds, the Mercyland Isolation Centre which had about 345 beds and admitted only patients with mild symptoms, the State Specialist Hospital at Asubiaro where a 20-bedded centre was opened as isolation ward for mild to moderate cases and an 8-bedded Intensive Care Unit (ICU) was also opened, well equipped with ventilators, monitors, and all facilities needed in an ICU (Figure 4)

There was also a well equipped theatre for surgical and obstetric emergencies in COVID-19 patients. Two caesarian sections and two laparotomies were successfully carried out at the centre on COVID-19 patients during the period. There was also an haemodialysis machine purchased for the purpose of dialysing COVID-19 patients in renal failure as this was a common complication observed among the patients.



**Figure 4:** *One of the Osun State isolation centres at Mercyland Hospital, Osogbo (left) and the Intensive Care Unit at Asubiaro (right)*

Aside from these, there was an holding area at the UNIOSUN Teaching Hospital with 6 beds and a similar ward at the Obafemi Awolowo University Teaching Hospital, Ile-Ife with 4 beds. These served as the holding areas for suspected cases of COVID-19. These patients presented either from the private hospitals around or from home. They had symptoms suggestive of COVID-19 and could not be admitted to the main hospital wards pending the outcome of their PCR results.

These were tested and when positive referred to both the case management team and surveillance groups. The case management team took over the care of the patients while the surveillance team was involved in Contact Tracing of all the people in the community who the patient might have had contact with.

All patients were initially admitted, treated and fed. This however was subsequently reviewed as the number of patients was getting much higher and more importantly as the understanding of COVID-19 pathology, presentation and course were better understood. At this point, only patients with moderate and severe symptoms were admitted while those with mild symptoms who could self-isolate at home were given medications and followed up by the home care team.

The Case management team was headed by a Consultant Public Health Physicians both at the Osogbo end (Dr. Jibola Olagunoye) and Ile-Ife (Prof. Adedeji Onayade).

The home care team was headed by a Consultant Public Physician, Dr Bukola Opakunle. The home patient is typically a patient with mild to moderate symptoms who was assessed as being able to take instructions and understood when to call the health workers if there was a need for this. The care team collected the phone number(s) of the patient at presentation and counseled him/her on the need to self-isolate. Such a patient is then given medications and calls were made daily to follow up on his/her symptoms, signs and medications being used. Severe cases from isolation centres, OAUTHC, Ile-Ife, UNIOSUN Teaching Hospital, Osogbo, other public and Private Hospitals and sometimes from home, were transferred to the Intensive Care Unit at the State Specialist Hospital, Asubiaro, Osogbo.

Most of the severe cases presented with respiratory distress and initial response to this was to put them on ventilators. However, many didn't do well on ventilators and later understanding showed that what was needed was a high oxygen flow equipment to support the respiration of these patients

rather than ventilation. We joined the rest of the world in implementing this and this led to positive responses from many of our patients. Regular oxygen supply was achieved through the oxygen plant of the UNIOSUN Teaching Hospital, Osogbo.

The Burial team was headed by Mr. Fafioye as burial was expected to be done under strict effective Personal Protective Equipment (PPE) wears which could not be guaranteed by the relations. The burial team therefore buried all confirmed cases of COVID-19 during the pandemic. This was usually done within 48 hours of the demise of the patient. This however was not understood by relations and resulted in a lot of quarrels and sometimes violence from the relations despite all explanations. There was associated stigma perceived by relations of dead patients that their family members died from COVID-19. In addition to this was the culture of keeping corpses for some time before burial with a ceremonial burial program which was not permitted by the pandemic and this was resisted by many family members and sometimes law enforcement agents had to intervene.

Review meetings were held daily to review cases at both isolation centres and intensive care units via zoom which provided an effective way for daily discussion on all patients, both admitted and those being taken care of at home. All cases were discussed and challenges in managing the patients as well as in the control of the pandemic in the state were also discussed centre by centre and patient by patient. Important decisions involving all areas of care, including logistics, surveillance and risk communication were usually taken at these meetings. Daily reports of different groups were taken and decisions taken together. Security heads as well as the Ministry of Information headed by the Commissioner for Information, Mrs. Funke Egbemode were often invited to the meetings and decisions jointly taken on how to enforce the prevention protocol or the best way to pass information to the people of the state on the risks, symptoms and signs as well as what to

do in case they noticed any of the common symptoms of COVID-19. Contacts were made with other states when there were knotty issues on management protocols as there were changing protocols of management as the pandemic evolved.

Several medications were used in managing the disease including steroids, hydroxychloroquine, ivermectin, antibiotics like azithromycin, as well as multivitamins and immune boosters like vitamin D, vitamin C, and Zinc.

The COVID-19 pandemic had many waves, the most devastating one being the first wave which happened between March and August 2020. This was because the virus was a novel virus, patterns of the disease pathology and treatment were unknown and a lot of trials were emerging with claims and counter claims to their efficacies. The pathology of the disease was also largely unknown at the onset. There was also a lot of misgivings and misunderstandings of the populace as the disease showed symptoms similar to other common local ailments like malaria and typhoid fever and were being treated as such until much later in the course of the disease when it was almost too late to assist the patients.

Respiratory difficulty was the most common terminal presentation and a number of patients presented with oxygen saturation of less than 50%. These groups of patients were usually difficult to manage.

Other waves of the COVID-19 pandemic came with better understanding of the pathology and treatment of the disease and hence the mortality was much less. The last two waves were almost with much less morbidity and mortality as the different vaccines were being administered to the populace and the understanding of the care givers had increased.

A total of 48,570 subjects were tested during the three major waves of COVID-19 pandemic in Osun State. Of these, 4,146 (8.5%) of them tested positive while 93 (2.2%) deaths were reported among the positive cases. Although death was more



common among the elderly, those with underlying co-morbidities like diabetes mellitus, chronic obstructive airway diseases etc, the oldest patient among survivors was 92 years while the youngest case of mortality was an 8 year old girl.

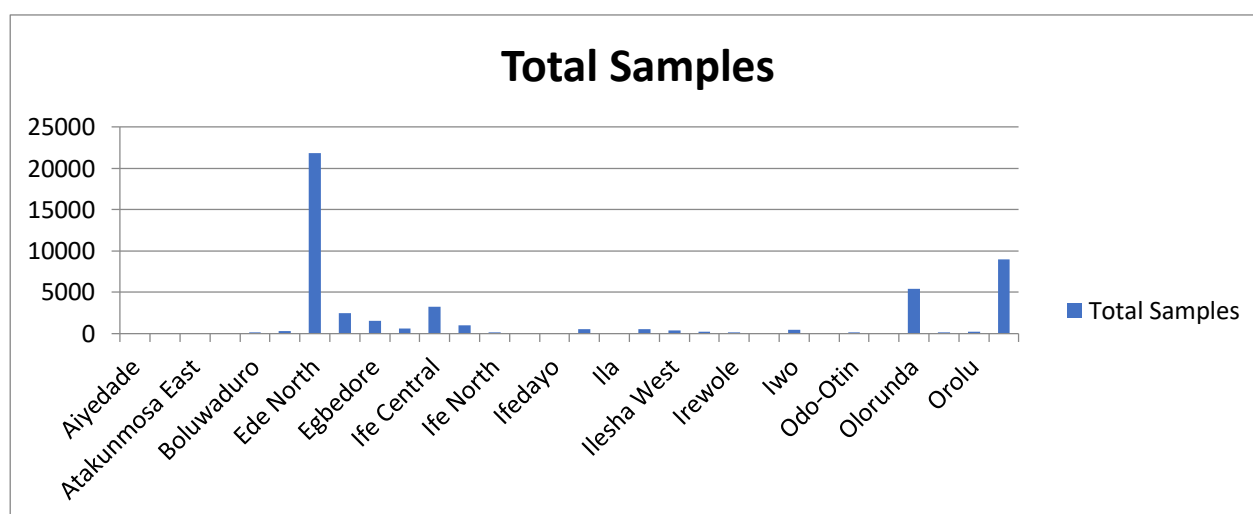
While the above data represented the cases handled by the team at the different centres, a number of suspicious deaths were reported

in the state around the period without either hospital admission or COVID-19 tests. A number of cases were also managed at private hospitals contrary to the rules.

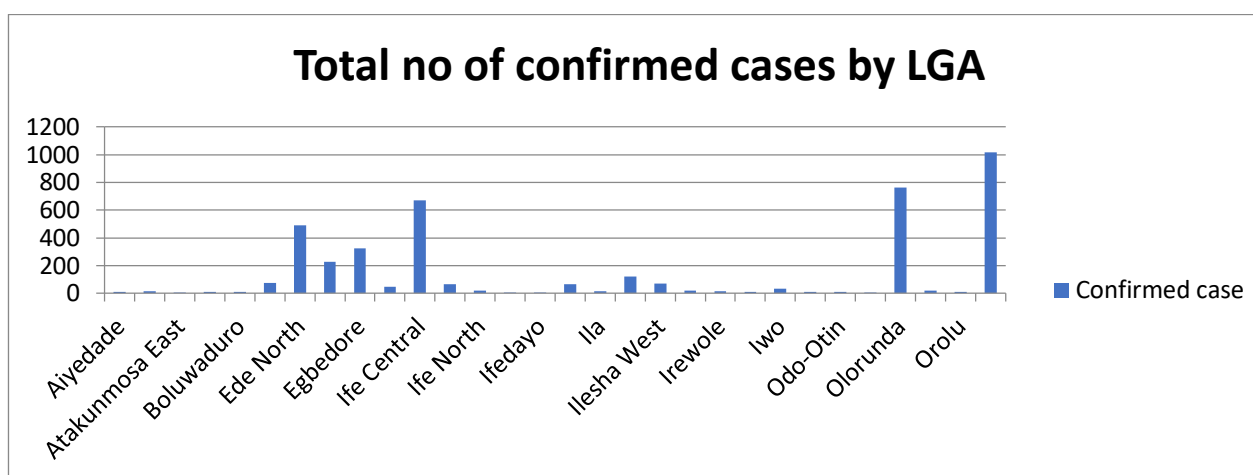
Ede North local government area (LGA) had the highest number of tested subjects (21,811) with 492(22.6%) confirmed cases and 3(0.6%) deaths. It was followed by Olorunda LGA with 8,952 subjects,

1016(11.3%) confirmed cases and 20(2.0%) deaths. Atakumosa West LGA had a total of 9(19.1%) confirmed cases out of the 47 patients tested. There was however no death recorded among them.

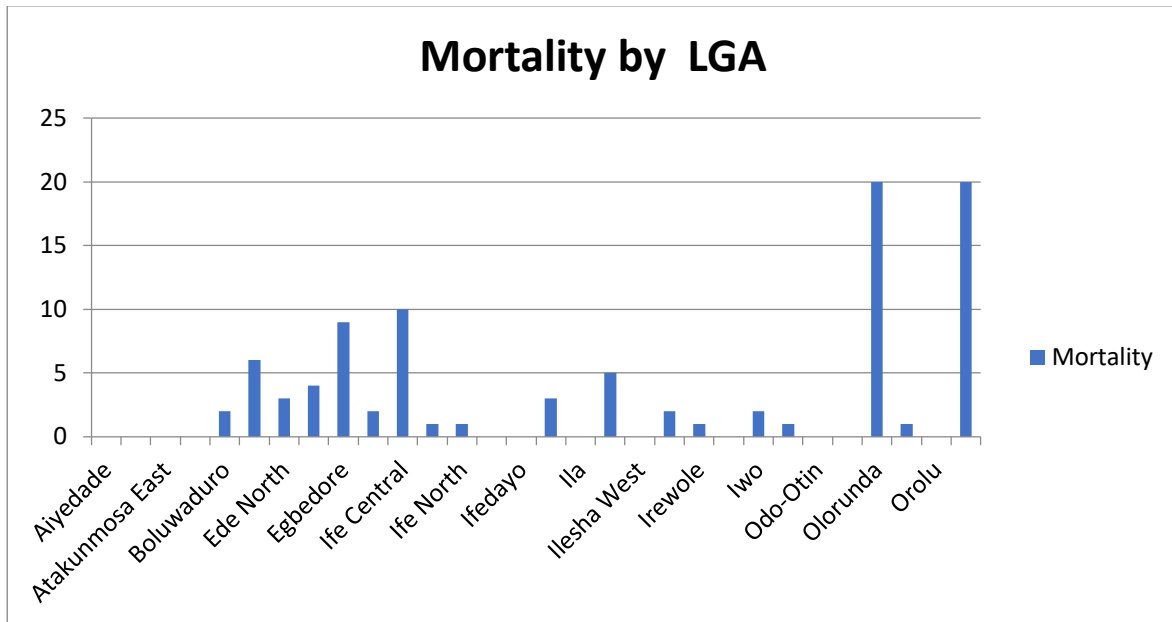
The total number of death reported from COVID-19 in Osun State during the period was 93(2.2%) of total confirmed cases with the highest number being 20(21.5% of confirmed cases) each from Olorunda and Osogbo followed by 10(10.8% of confirmed cases) from Ife Central local government. It must be noted that the major centres for treating very complicated cases of COVID-19 patients including the intensive care unit were located in Osogbo and Ile-Ife. The total number of samples collected, confirmed cases and deaths are as set out in figures 5, 6 and 7 respectively.



**Figure 5:** Total samples collected for COVID-19 tests in Osun State



**Figure 6:** Total number of confirmed COVID-19 cases in Osun state by local government.



**Figure 7:** Mortality from COVID-19 in Osun State per local government

## FOOD SUPPORT

On the 31st of March 2020, the Governor of Osun State, Mr. Gboyega Oyetola set up a committee of 21 eminent Nigerians as Food and Relief Committee to cushion the effects of restrictions placed on human and vehicular movements to curb the spread of COVID-19 in the state. The committee members were Mr. Tunde Badmus, Mr. Adebayo Jimoh, Pastor Enoch Adeboye, Pastor Matthew Ashimolowo, Oba Enitan Ogunwusi, Ojaja II (Ooni of Ife), General Alani Akinrinade (Rtd), Mr. Tunde Ponle, Rt. Hon. Patricia Etteh, Dr Akin Ogunbiyi, Sir Demola Aladekomo, Rt Hon Lasun Yusuff, Dr Wale Babalakin, Dr Segun Aina, Mr Yusuff Ali (SAN), Mrs Folorunso Alakija, Mr Abdulkabir Aliyu, Dr. Deji Adeleke, Senator Iyiola Omisore, Chief Bisi Akande and Ogbeni Rauf Aregbesola. By April 8<sup>th</sup>, 2020, distribution of food and relief materials was commenced which included rice, spaghetti, vegetable oil and noddles.<sup>15,16</sup>

These people, in addition to many others who remained anonymous, donated money and materials towards the enhancement of the food bank used in the COVID-19 relief (figure 8).



**Figure 8:** Relief donation being received for the state of Osun

## COVID-19 VACCINES

While COVID-19 pandemic was the worst pandemic in this century and claimed several millions of lives worldwide, scientists quickly went to work with a lot of experimental drugs and vaccines that could put an end to the pandemic as the virus kept coming in waves with different strains including, Alpha, Beta, Gamma, Delta, Mu, Omicron and all its sub-variants, Epsilon, Theta, and Zeta. The first report of an effective vaccine for COVID-19 was on 31<sup>st</sup> December 2020 when the WHO issued its first emergency use validation for COVID-19 vaccine and emphasized the need for

equitable global access. The first vaccine was Pfizer/BioNTech vaccine released just a year after the first case of COVID-19.<sup>17</sup> This was later followed by several other vaccines produced to fight the pandemic. Several pharmaceutical companies got involved in finding solution to COVID-19 and this led to the production of varying RNA vaccines within a short period of time. The vaccines produced included Pfizer, Nuvaxovid, Moderna, Oxford Astra-Zeneca, Sputnik, Sinopharm, Sinovac, COVAXIN, COVOVAX, Jensen (Johnson and Johnson) and Sputnik Light.

There were a lot of misgivings, misinformation, misunderstanding, and misrepresentation on the vaccines. This was made worse by the social media and internet as the erroneous information kept spreading. This led to initial resistance to having the vaccines including even many health workers. In Osun State, education of the populace was commenced immediately and these were aired on the radio, television, as well as religious houses.

The president of Nigeria, Mr Muhammadu Buhari was the first to receive the vaccine in the country to show an example that the vaccine was safe. The governor of the state, Mr Gboyega Oyetola also personally presented himself as the first to be vaccinated in the state and this was aired live on radio and television for the citizens of the state to be persuaded (figures 9 & 10).



**Figure 9:** The state governor, Mr Gboyega Oyetola receiving a dose of COVID-19 Vaccine



**Figure 10:** One of the elders receiving COVID-19 Vaccine with the Deputy Governor, Mr. Gboyega Alabi observing

The health workers as well as other front line workers, the elderly and people with co-morbidities that could cause them to succumb to COVID-19 infection were the first to be vaccinated as the initial quantity of the vaccine could not go round the entire citizenry. This was followed by other members of the community following the receipt of the second batch of vaccines. There were still misgivings and this has gradually reduced as many of the people have continued to be vaccinated.

As at 15<sup>th</sup> of October 2022 only 27% of Nigerians have taken at least one dose of COVID-19 vaccine while only 20.9% have completed doses. As at today, Osun state is the 3<sup>rd</sup> most vaccinated state with COVID-19 vaccines in Nigeria.

## CHALLENGES OF MANAGING COVID-19 PANDEMIC IN OSUN STATE

1. **Staff:** The challenge with the staff was the unwillingness of many staff to accept to work in an environment where they were not sure they would not be infected. There was great fear at the beginning of the pandemic especially when one considered the mortality even among health workers in many developed world. However, a few agreed to work in the unit with some incentives. Others were



- contacted for consultation through zoom and phone calls.
2. **Facilities:** It was correctly observed that health facilities in the third world countries were poor at the best. This was why predictions were made that there was likely to be higher mortality in the developing countries at the beginning of the pandemic. The state of Osun rose to the occasion like many states in Nigeria and provided several beds for isolating patients with COVID-19 at the different locations with the plan to continue to expand as the cases warranted.
  3. **Understanding by the citizens-trust, disputes on burial:** Poor understanding of the pandemic by the populace was a major challenge. There were the social media arguments and misinformation that the pandemic was a fluke and that there was nothing of such. Even experts had different opinions about the pandemic. This led to misgivings, lack of trust and utter disbelief by the people. Education and enforcement of protocols were the tools used to minimize the effects of these.
  4. **Funding:** The need to provide equipment and facilities rose suddenly throughout the world and this led to increased need to fund health care delivery during the pandemic. Assistance of Non-Governmental Organizations like the World Health Organization, UNICEF, etc, came handy to the government of the state.

## LESSONS LEARNT

1. The deficiency of basic facilities in the state and the country at large was obvious
2. It is possible to contain an infectious disease in our community with the willingness from the government and a well-motivated group of health care workers

3. Our health care workers are able to cooperate and work together during an health crisis

## CONCLUSION

COVID-19 pandemic posed a great challenge to the health, social interactions and economy of the people. A rapid response by the state, donors, other stakeholders and health care workers who were committed to the job of containing and managing the pandemic assisted in no small measure to reduce the morbidity and mortality associated with the COVID-19 pandemic in Osun State..

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