COVID-19 AND PUBLIC HEALTH POLICY IN NIGERIA: RE-APPRAISING THE NATIONAL EMERGENGY STRATEGY (2020-2022)

Araziua Dennis Owenorisiede Department of Public Administration University of Benin Benin-City, Nigeria. <u>owenorisiede.araziua@uniben.edu</u>

Abstract

The advent of Coronavirus disease (Covid-19) in China towards the last quarter of 2019 gripped the entire world with fear, horror and anxiety, due to its mortality rate and the potential impact on global health system, particularly in developing countries. In Nigeria, though the Covid-19 pandemic started with just a single index case, but within a short period of time the virus had graduated into a frightening community level transmission pattern which elicited the concern of numerous stakeholders in the health sector. It is against this backdrop, therefore, that this paper attempts to examine the nexus between Covid-19 and public health policy in Nigeria; and how the latter could be used to prevent, control and combat future pandemic and other health emergencies in the country. Using the Risk Society Theory as a premise, this paper posit that sometimes due to the overreaching tentacles of globalization, a local public health crisis in one corner of the globe, if not collectively and efficiently managed, could disrupt and trigger other adverse consequences on health security, socio-cultural lifestyle and national economies in other parts of the world. The paper adopts the qualitative and analytical method of inquiry to interrogate both phenomena and concludes by proffering some concrete and pragmatic recommendations that could be taken to deal appropriately with future incidents of national health emergencies through the instrumentality of public policy.

Keywords: Covid-19, Pandemic, Strategy, Public Health Policy, Public Health Emergency

Introduction

In recent times, the intermittent outbreak of infectious diseases, especially those of the viral sub-group, like HIV/AIDS Virus, Ebola Virus and the Covid-19 Virus, have become the world's leading cause of death, medical burden and social dislocation in many countries, particularly those in Third World region where health facilities are often inadequate and in deplorable condition. This precarious situation is evidently so because, over the years, the threat posed by these infectious diseases knows no racial, religious, socio-economic or geopolitical boundaries and prejudices in its spread and impact. Thus, when the World Health Organization (WHO) first announced the outbreak of another infectious viral disease (the Covid-19) in early 2020, it caused quite a scare in the hearts of many stakeholders around the world, especially due to the initial morbidity and mortality rate associated with the disease. Consequently, this heightened state of health security amongst the global populace, particularly health experts, policy-makers, pharmaceutical researchers and development agencies, compelled many governments to enforce some strict regulatory measures to protect their citizenry (Macleod, 2020).

In the case of Nigeria, the Federal Government of Nigeria (FGN), on February 27th 2020, confirmed the first case of Covid-19 in Lagos, through the Nigeria Center for Disease Control (NCDC). This index case involved an Italian citizen who works in Ogun state but recently returned from Milano, Italy (Punch, 2020). Expectedly, the news of the presence of the disease in Nigeria elicited mixed

reactions from the general public and was further heightened by the sordid state of our healthcare facilities, the fatalistic attitude of the Nigerian populace, and the lack of political will on the part of the government to act promptly.

However, many days after the confirmation of the first index case of Covid-19, the Nigerian government, through the Federal Ministry of Health (FMoH), hurriedly constituted different sociomedical strategies to combat the pandemic. These measures, which involved many stakeholders from the health, security, civil society, media, social works, local community, religious and government sectors, was coordinated by the NCDC, the government agency responsible for the detection, prevention, investigation, control and treatment of communicable diseases.

Unfortunately, as the spread of Covid-19 pandemic intensified in Nigeria, the country was also dealing simultaneously with enormous socio-economic strain, which further exacerbated existing inequalities in the society, and consequently affected the lives and overall welfare of the most vulnerable people in the society. Therefore, as noted by Akinyemi (2020), for a country that is overwhelmingly tied to the informal sector, the Covid-19 pandemic in Nigeria not only disrupted the nation's economic productive sector, but it also impacted negatively on human security and the general wellbeing of the citizenry.

Conceptual Clarification

Covid-19: According to the World Health Organization (WHO), the coronavirus disease, otherwise known as Covid-19, is a highly contagious disease caused by a new strain of virus (the Severe Acute Respiratory Syndrome Coronavirus-2) that has not been previously identified with humans. However, the first known case of the disease occurred in December 2019 in a sea food market in the city of Wuhan, Hubei Province, China.

Pandemic: Medically, a pandemic is an outbreak of an infectious disease that occurs over a wide geographical area, across multiple countries and continents and usually affecting a significant number of people. Therefore, for any disease to attain the status of a pandemic it must not only be ubiquitous across the globe, it must also be very infectious and highly fatal.

Strategy: Is a framework or plan of action intended to unify all activities and decisions geared towards achieving a long-term goal or aspiration. Generally, it involves setting goals, priorities and determining actions to achieve the goals and mobilizing resources to execute the actions. More often than not, a strategy usually describes how the ends (goals) will be achieved by the means (resources) available to man, organization or the state.

Public health Policy: This represents public laws, regulations, actions and decisions implemented by government or any of its agencies within a specific jurisdiction or territory which protects and promotes the health of people and the community where they live, work, play or learn in order to ensure their general well-being.

Public Health Emergency: In medical terms, a public health emergency is defined as any occurrence of imminent threat of illness or health conditions caused by an infectious biological agent, toxin, epidemic, pandemic, natural disaster or bio-terrorism that poses a substantial risk to the health and general wellbeing of humans and their environment, especially those with the potential of causing death, calamity and disability which requires urgent action.

Theoretical Framework

Since the end of the Cold War and the introduction of neo-liberal economic policies in the 1990s, the world has witnessed an increased level of global trade, global movement of capital and global migration of people, especially skilled professionals, from one continent to another. Also, due to the activities of the various multi-billion-dollars pharmaceutical industries and international development agencies, the globalization of the health industry have tended to benefit the developed nations and their citizens more; and at the expense of their counterparts in developing countries (Axford, 2013).

However, globalization which signifies the compression of time and space in international politics and global economy has not only contributed to the prosperity and socio-economic development of many countries, particularly those in the Global North, but it has also facilitated the transmission and spread of outlandish ideas (homosexuality and transgender practices) and infectious diseases (HIV/AIDS, Ebola and Covid-19) into Third World nations, like Nigeria.

As noted by Akpomera (2020), the global transmission of diseases is unfortunately one of the dysfunctional effects of globalization which simultaneously offers both opportunities and catastrophe to individuals, communities and nation–states around the world. This is particularly so today because trade and technological advancement in telecommunication and transportation has transformed the world into a global village. Consequently, the health and prosperity of individuals, commercial corporations and nation-states are intrinsically tied to each other, irrespective of racial, religious, socio-cultural or geographical distance or diversity.

Thus, in view of the recent global upheaval cause by the Covid-19 pandemic, one salient theory that best captures the physical, economic and socio-medical devastation the disease has caused around the world is the Risk Society Theory. This theory was first introduced into the globalization literature by Beck (1992) in the early 1990s and was later amplified by Gidden (2002) in the early 2000s. The theory is basically concerned with the evaluation of unintended and unforeseen side-effects of modern life (e.g. alcoholism, drug addiction, homosexuality, criminality, infectious diseases and other social vices) occasioned primarily by globalization.

Therefore, according to the postulations of the Risk Society Theory, most modern advancement recorded in any field or sector of the economy often comes with a concomitant proportion of risk, which is most times precipitated and exacerbated by human intervention that may eventually lead to the gradual creation of a communal, national or global risk society. In Amzat's (2020) view, therefore, a risk society becomes a systematic way of dealing with hazards and insecurities induced and entrenched by forces of globalization and modernization.

Furthermore, these side-effects of globalization, as articulated by Sharp & Hahn (2011), are capable of changing human societies, especially in terms of lifestyle, health status, psycho-emotional wellbeing and socio-economic activities, as recently witnessed in China where a local health incident was mismanaged and allowed to snowball into a global pandemic that affected almost all continents of the world. Therefore, as the world is being de-territorialized through international trade, transport and telecommunication technologies, so also is the world becoming more and more prone to health risk and other man-made hazardous activities.

According to Fauci (2021), sociologically, in the long-run, the Covid-19 pandemic has not only succeeded in de-globalizing the world, especially in terms of the social restrictions it imposed on many

countries and individuals during the period of the pandemic, it has also shown to the entire world how vulnerable humanity and all its civilizations, institutions and prosperity can be to global health risk that could be trigger from the most remote part of the world because of our increasing social connectedness.

Nexus between Covid-19 and Public Health Policy in Nigeria

For so many years, after the attainment of independence, the Nigerian state have been toying with the idea of instituting a sustainable health policy for its teaming population that will suit our peculiar socio-cultural and ethno-religious diversity. But that did not materialized until the late 1980s when the Babangida regime promulgated the first ever comprehensive National Health Policy for the nation; with profound impact on Nigeria's health system, especially in the area of primary healthcare system (Monye, 2006).

However, as laudable as the 1988 National Health Policy was; some scholars, health practitioners and policy analysts still identified many obstacles that militated against the effective implementation of some of its provisions. For instance, Emuakpor (2010) avers that the 1988 National Health Policy, and all others that followed later, seems to lay too much emphasis on the pharmaceutical aspect of disease control, while neglecting the public health emergency component which deals with the detection, prevention and control of epidemic or pandemic disease outbreaks.

But after almost two decades of that pioneering public health policy initiative of 1988, the document was once again revised in 2004, during the Obasanjo Presidency. As usual, some few inadequacies and abnormalities were noticed in the 2004 revised National Health Policy which necessitated a review of the document to reflect current trends and realities, especially to capture the unfinished Millennium Development Goals (MDGs) and the new Sustainable Development Goals (SDGs). This last initiative later culminated in the enactment of a new National Health Policy in 2016 which provides a guideline to support a significant improvement in the performance of the Nigerian health system (FGN, 2016).

Nevertheless, as noted by Abayomi, et al (2021), Nigeria is not particularly a novice in confronting public health emergencies, especially those of epidemic or pandemic proportion. Right from the colonial era, and with the assistance of various foreign development agencies, the Nigerian state have confronted and flattened the curve of many highly infectious diseases (like polio, measles, HIV/AIDS, etc.) much to the admiration of the World Health Organization (WHO) and the global health community.

But despite these limited and isolated successes recorded in the fight against highly infectious diseases in the past; Nigeria's effort in combating major public health risk emergencies are still, at best, reactionary, selective and on an ad-hoc basis, rather than being proactive, comprehensive and sustainable (Sodipe, et al, 2021). Consequently, when the Covid-19 virus came into Nigeria, in early 2020, there was no clear-cut national health emergency strategy, neither was there any pragmatic road-map on ground to be taken in order to curtail the spread of the disease.

For instance, while the rest of the world were shutting down their borders and imposing travel restriction on all in-borne and out-borne airlines, after the WHO have officially declared the novel Coronavirus outbreak a Public Health Emergency of International Concern (PHEIC) on January 30th, 2020, the Nigerian government officials were still luxuriating and waiting for the first case of the virus to be confirmed in any part of the country before hurriedly activating its public health emergency measures. This lackadaisical attitude to public health emergency, no doubt, impeded all subsequent efforts to combat the spread of the disease in the country.

Re-Appraising the National Covid-19 Emergency Strategy

Preventive Response: The Covid-19 pandemic broke out worldwide in the early months of 2020, posing a global health challenge that was unprecedented in recent times. To curtail its deadly impact and spread, most countries around the world started mobilizing human, material and technological resources to combat a common foe. Nigeria, on its part, reported its first Covid-19 case on February, 27th, 2020, and upon the detection; the National Centre for Disease Control (NCDC) activated a national response mechanism to mitigate the potential threat posed by the virus.

In recognition of the need for a collaborative effort in fighting the pandemic, the Federal Government of Nigeria (FGN) inaugurated a 12-member Presidential Task Force (PTF) to coordinate and champion all efforts geared towards curtailing the disease in Nigeria. Consequently, the Federal Ministry of Health (FMoH) adopted a unified approach in tackling the menace by imposing the following measures: the closure of all educational institutions, government offices, markets, hotels and recreational centers, as well as partial restriction on inter-state travels (Vanguard, 2020).

Other measures adopted includes, the imposition of a lockdown on Lagos, Ogun and Abuja, being the epicenters of the disease in Nigeria, the suspension of all sporting activities, cultural and religious festivals, restriction on all social gatherings, as well as the enforcement of the mandatory use of facemask in public spaces. Unfortunately, because of the social nature of our society and the informal status of our economy, these lockdowns and restriction of movements disrupted many businesses and households' income, thus causing untold hardship and anxiety in the lives of the people.

Also, as reported by NCDC (2021), due to the initial futility encountered in the treatment of the Covid-19 disease, the FGN, through the FMoH directed the Coalition of Epidemic Preparedness Innovation (CEPI) to oversee three agencies (i.e., the Nigerian Institute of Medical Research, the Nigerian institute of Pharmaceutical Research and Development, and the National Agency for Food and Drugs Administration) to research and find a cure to the virus, even if it means incorporating the use of local herbal remedies.

As the infection rate began to increase daily across the federation, the NCDC later encouraged the establishment of infectious disease centers, molecular laboratories and public health emergency operational units by many state governments in public hospitals. Apart from providing equipments (like ventilators, dialysis machines and nose masks) needed for critical cases in the hospitals, the NCDC within the same period also facilitated the training of over 50,000 health workers in the area of infectious disease detection, prevention, control and treatment.

However, as observed by Amzat, (2020), the general response of the Covid-19 outbreak in Nigeria could at best be described as reactionary and medic-centric. For instance, both the Federal and State governments in Nigeria did not set up Covid-19 isolation centers until after the report of the presence of the virus in the country. Also, there was no molecular laboratory in any other part of the country, apart from Lagos state, where Covid-19 test could be effectively carried out. In fact, the original index patient that was first identified in Ogun State had to be transferred to Lagos for further diagnosis

and treatment. This apparent lack of medical facility really hindered the initial efforts put in place to combat the communal spread of the disease.

Major Challenges during the Pandemic

Over the years, the Nigerian healthcare system has been grappling with the need to provide adequate and affordable services to the ever-growing population but to no avail. Consequently, one of the earliest challenges at the onset of the Covid-19 pandemic in Nigeria was that of distrust and nonchalant attitude exhibited by the citizenry towards the government. According to Akinyemi (2020), many Nigerians perceived the Covid-19 pandemic as another bogus scheme or false alarm by government officials to embezzle public funds. Thus, such negative perception of the people, coupled with the initial inadequate knowledge about the disease mode of transmission contributed to its rapid spread within the communities. Another difficulty that health authorities had to grapple with at the initial stage of the Covid-19 pandemic in Nigeria was the lack of proper medical documentation and profiling of everyone traveling into and out of Nigeria during that period. Perhaps, due to the fear of stigmatization and other security reasons, many citizens and visitors, alike, in Nigeria often provided false or misleading information at hotels, hospitals and major entry and exit point into the country which made contact-tracing of suspected infected persons quite difficult.

Also, one other fundamental challenge that was encountered during the fight against Covid-19 in Nigeria was the fractured emergency governance policy and lack of effective synergy and coordination among the various multi-layers of authorities saddled with the responsibility to combat epidemics and pandemics. In fact, during the Covid-19 pandemic, most of the federal and state agencies were either scrambling for personal gains, or working at cross-purposes with no apparent zeal to serve the interest of the populace (Ilesanmi & Fagbule, 2020). Worse still, even some state governors flagrantly politicized the Covid-19 pandemic by denying the existence of the virus in their respective states without any scientific evidence.

Furthermore, Nigeria has one of the highest rates of brain-drain in the world, especially in the health sector where newly graduated medical professionals (doctors, nurses and laboratory scientists) are always on the lookout for greener pastures abroad. Thus, when the Covid-19 pandemic hit Nigeria, many of our hospitals were completely overwhelmed and ill-prepared, because most of the highly-trained and experienced medical professionals that would have lend a helping hand in the management of the crisis were not available to give the needed expert medical care. As a result of some these lapses, therefore, many people lost their lives needlessly in government hospitals and isolation centers in Nigeria.

Lastly, though the Nigerian constitution provides for a legal framework for the declaration of a state of emergency in the federation whenever and wherever there is a physical, environmental, health or security threat in the country; but unfortunately the President of the Federal Republic of Nigeria never exercised that power during the Covid-19 outbreak. Surprisingly, rather, the President later relied on and selectively preferred to invoke and implement the old but extant Infectious Disease Law (Quarantine Act of 1926) that dealt only with the restriction of movement (Lukman, 2020).

Impact of Covid-19 Pandemic in Nigeria

At the very onset of the Covid-19 pandemic, many Western health experts, development agencies and international media outlets projected that Nigeria, and many other African countries, might face difficult times dealing with the prevention, control and treatment of the disease, once the virus spreads to its shores. Evidently, their fears were based on the uncontrolled population size of the country, the decaying

health infrastructural system, as well as the impact of other poverty-induced epidemic diseases (like Malaria, Cholera and Lassa Fever etc) already raving the nation (Ochu, et al, 2021).

Thus, the first major impact of Covid-19 pandemic in Nigeria was felt mostly in the health sector itself. Generally, the Covid-19 outbreak not only overwhelmed our medical and health personnel, but it also exposed their vulnerability to workplace hazard. Indeed, as noted by Dan-Nwafor, et al (2020), many frontline healthcare workers, particular doctors and nurses, got infected with the Covid-19 virus in the course of duty. Thus, due to the lack of protective gears and equipment in the hospital environment some patients and care-givers lost their lives needlessly to the disease.

Another major impact of the covid-19 pandemic on the Nigerian society was in the area of food security. Indeed, the forceful closure of markets and the travel restrictions imposed by the various state governments during the Covid-19 outbreak, not only led to the high cost of transportation and food throughout the federation, but also resulted in the hoarding of essential commodities by greedy middlemen. Even the economic palliatives that the federal government subsequently introduced to alleviate the suffering of the people was so badly mismanaged and politicized that it resulted into rioting, vandalism and looting from irate youths across the country (Abubakar, 2021).

Sociologically and culturally, the Covid-19 pandemic also affected and disrupted our pattern of play, behavior and recreation which is built around our age-long customs and traditions of close-knitted kinship and communal living (Arisuku, 2021). For instance, the strict implementation of the social distancing rules and the prohibition on large social gathering resulted in the suspension and postponement of many traditional festivals, wedding ceremonies and burial rites in many communities and states of the federation. This situation eventually triggered the anger, criticism and uncooperative attitude of the people towards the fight against the Covid-19 pandemic.

Perhaps, the most profound impact of the Covid-19 outbreak in Nigeria was felt in the socioeconomic sector. For instance, due to the drastic lockdown measures instituted by the federal government, many productive socio-economic activities were either suspended or shut down completely, thus leading to extensive job loss, especially in the tourism and hospitality sub-sector. Also, according to Awofeso and Irabor (2020), during the Covid-19 outbreak, incidents of domestic violence and other social vices reportedly increased in many households and communities where the breadwinners have lost their sources of livelihood; which further exacerbated the precarious human security crisis in the country.

Conclusion

In early 2020, Nigeria was faced with a potentially catastrophic impact of the Covid-19 pandemic, due mostly to high population density, epileptic health infrastructure and the prevalence of other endemic infectious diseases in the society. As in other countries, stakeholders in the Nigerian health sector had to make rapid and consequential decisions, though with limited scientific understanding of the disease, in order to protect the citizenry from the onslaught of the deadly virus.

According to Aregbesola and Folayan (2021), contrary to the initial projections by many health experts, the spread of the Covid-19 infection and the mortality rate in Nigeria was fairly modest. Following the implementation of some belated public health measures the infection rate declined considerably, even though under-testing may partly explain some of those low incidents. Therefore, although the spread and severity of the Covid-19 outbreak in Nigeria appears to have been limited by policy, however, these decisions triggered many other unpleasant socio-economic consequences in the life of the average citizenry.

However, despite the limited successes recorded in the fight against Covid-19, Nigeria is yet to develop a comprehensive national health emergency policy that will outline the various preventive strategies and recovering measures needed to combat health emergencies and natural disaster cases like epidemics, flood, drought, earthquake, etc. Rather, as noted by Sofori (2021), what is on ground, right now and was used during the Covid-19 outbreak, are more or less shallow, disjointed, divergent and ad hoc policies that cannot stand the test of time.

Recommendations

From the foregoing analysis, therefore, this paper makes the following recommendations:

Review of National Health Policy: An urgent review of the 2016 National Health Policy, in order to bring it to current realities that will capture salient areas hitherto neglected in the old document; especially the aspect that deals with public health emergency response and strategies.

Institutional and Regulatory Reform: A complete reform and streamlining of all interventionist agencies in the health sector in order to allow each one function in their areas of specialization and core mandate rather than working at cross-purposes.

Re-Investment in Social Security: Government should revisit the issue of social security policy in Nigeria. This can come in the form of reinvestment in the health sector, especially in the establishment of health insurance policies, unemployment benefits or hazard allowance for medical personnel.

Public Health Enlightenment: Government should re-jig its public health enlightenment and management system to ensure quick and accurate dissemination of information to the citizenry in order to counteract any form of rumor mongering and unfounded conspiracy theories concerning health issues.

Review of Medical Curriculum: Henceforth, more emphasis should be laid on preventive medicine rather than curative or pharmaceutical aspect of public health management, particularly in the clinical and academic training of health professionals in the country.

References:

Abayomi, A., Balogun, M. A. & Ogunsola, F. (2021). From Ebola to Covid-19: Emergency preparedness, response plans and actions in Nigeria. *African journal of tropical medicine*. 2. (4).

Abubakar, I. et al. (2021). "Lessons from co-production of evidence and policy in Nigeria's covid-19 response". *Journal of global health and hygiene*. 4. (3).

Akinyemi, K. O. et al. (2020). Intrigues and challenges associated with Covid-19 pandemic. Journal of contemporary medicine, 3. (2.).

Akpomera, E. (2020). International labour migration governance and covid-19 crisis: Issues and challenges. University of Benin. *Journal of administration and development*, .5. (1).

Amzat, J., et al. (2020). Coronavirus outbreak in Nigeria: Burden and socio-medical response during the first 100 days. <u>www.ncbi.nlm.nh.gov/pmc/aricles</u>. Doi: 16.1016/j.ijid.2020.06.

Aregbesola, B. S. & Folayan, M. O. (2021). Nigeria's financing of healthcare during the covid-19 pandemic: Challenges and recommendation <u>https://mpra.ub.uni-muenchen.de/185293</u>

Arisuku, O. (2021). Socio-cultural consequences of covid-19 lockdown and social distancing: The Nigerian experience. *Journal of sociology and criminology, 133. (3).*

Awofeso, O & Irabor, P. A. (2020). Assessment of government response to socio-economic impact of covid-19 pandemic in Nigeria. Social science research network. Htps://paper.ssern.com.

Axford, B. (2013). Theories of globalization. Polity Press. 117 – 119.

Beck, U., Lash, S., & Wynne, B. (1992). Risk society: Towards a new modernity. Sage.

Crock, T. (2016). Governing systems: modernity and the making of public health in England, 1830 – 1910. Thomas West Publishers.

Dan-Nwafor, et al. (2020). Nigeria's public health response to the ovd-19 pandemic, January- May 2020. *Journal of global health. Doi: 10.7189/jogh.10.020399*.

Emuakpor, S. A. (2010). The evolution of healthcare system in Nigeria: Which way toward the 21st century. *Nigerian medical journal of epidemiology*, 3. (7).

Fauci, A. S. & Folkers, G. K. (2023). "Pandemic preparedness and response: Lessons from covid-19". *Journal of infectious diseases. DOI: 10.1093/infdis/jiad095.*

FGN, (2016). National health policy Act, federal government of Nigeria, official Gazette, No. 145, Vol. 101, notice No.208.

Gidden, A. (2002). Runaway world: How globalization is shaping the world. Profile Books, Pp. 244-250.

Ilesanmi, O. S. & Fagbule, O. F. (2020). Realities of covid-19 pandemic in Nigeria: Coping with the challenges and charting a way toward. *Annals of Ibadan postgraduate medical journal, 18. (1).*

Lukman, A. (2020). Nigeria's emergency (legal) response to covid-19: A worthy sacrifice for public health? <u>https://verfassungsblog.de-nigeria's-emergency-legal-response-to-covid-19</u>.

Macleod, V. (2020). Covd-19: A history of coronavirus laboratory health and safety. *www.scrip.org/journal*, 12. (8).

Monye, F. N. (2006). "An Appraisal of the National Health Insurance Scheme of Nigeria". *Commonwealth law bulletin, 32 (3). Pp 415-427.*

NCDC, (2021). Two years of covid-19 response: Building on lessons from covid-19 and how to strengthen Nigeria's health security for the future. <u>www.nedc.gov.ng/health-security</u>.

Ochu, C. L.et al (2021). "Fighting a global war using a local strategy: conceptualism covid-19 response in Nigeria". BMO Africa.

Perdiquero, E. (2001). "Anthropology of public health: building differences in culture and society". *Journal of epidemiology and community health*, 55. (71)

Piret, J. & Boivin, G. (2021). Pandemics throughout history. https://doi.org/10.3389/fmicb.2020.631736.

Premiumtimes, (2021). Covid-19 victory and other events in Nigeria's health sector. www.premiumtimesng.com

Punch Newspaper (2020). (editorial). "Now that the virus is finally here", Monday 2nd, March.

- Sharp, P. M. & Hahn, B. H. (2011). "Origins of HIV and the AIDS Pandemic", cold spring harbor perspectives in medicine. Doi.10.1101/csh. perspective.
- Sodipe, O. et al (2021). The efficacy of the Nigerian response to covid-19: challenges, lessons and opportunities. CPEEL. 2.(6).

Sofori, J. P. (2021). Socio-economic implications of covid-19 pandemic in Nigeria,

Global journal of social sciences. 20. (8).

Vanguard Newspaper (2020). "Covid-19 and lockdown measures. How effective is it?" Thursday 28th, May. (editorial).

WHO (2020). Coronavirus disease 2019: Situation report, 73. World health organization.

WHO, (2019). Health emergencies and disaster risk management framework. https://www.WHO.int/hav/techguidance/preparadness.