



Global Impacts and Nigeria Responsiveness to the COVID-19 Pandemic

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Abstract

The Coronavirus Disease – 2019 (COVID-19) is officially now a pandemic and not just a public health emergency of international concern as previously labelled. Worldwide, the new coronavirus has infected more than 4.9 million people and leaving more than 300,000 people dead in 188 countries. As countries of the world get locked down in an effort to contain the widespread of the virus, experts are concern about the global impacts of the pandemic on individuals, countries and the world at large. Millions of people are currently under quarantine across the globe. Many countries have responded by proclaiming a public health emergency, closed their borders and restrict incoming flights from high risk countries. This has grossly affected the travel plan of many. Several international programs, conferences, workshops and sporting activities are either postponed or cancelled. As the number of confirmed cases continues to escalate across the globe, hospitals seems to be running out of medical supplies, hospital spaces and personnel. Health workers are being overwhelmed by the numbers of people requesting for testing and treatment. Many of such health workers have been infected with the coronavirus and even lost their lives since the fight against COVID-19 started. Public health experts are also concerned about the huge medical wastes coming from the hospitals at this time and the adverse effects associated with improper management of such medical wastes, both at the hospital and community levels. The pandemic has also impacted negatively on the global economy. There have been serious crises in the stock market, with gross fall in the price of crude oil resulting in inflation and economic hardship among the populace. Many are currently out of job and as a result, the level of crime, protest and violence have continued to escalate in different parts of the world. The deaths of loved ones due to the coronavirus has left many emotionally traumatized. Nigeria, like other African countries is not spared of the ravaging effects of the pandemic, even as the government take strict measures to contain the virus. No doubt, this is very challenging, but the country is capable of surmounting the virus with the needed help from her international partners and cooperation from the citizenry. But if we as a people, remain complacent and continue with business as usual, without taking measures to flatten the curve, the disease will escalate too quickly beyond our capacity to handle and our health system will be overwhelmed and may collapse eventually. We cannot therefore afford to be complacent in our response to containing the pandemic.

Keywords: COVID-19; Pandemic; Global impacts; Nigeria; Response; Containment.

1. Introduction

The World Health Organization (WHO) officially declared the Coronavirus Disease – 2019 (COVID-19) a pandemic on March 11, 2020 [1]. The resolution to use the term “*Pandemic*” came from the organization’s expanding concerns over the virus’s high level of infectiousness and fatality and poor human response to contain the virus at all levels. Worldwide, the novel coronavirus has infected more than 4.9 million people and leaving more than 300,000 people dead in 188 countries of the world [2]. At the onset of the outbreak, the virus was said to have initially spread from animal to human (zoonosis), but now, it is spreading from person-to-person with no geographical restriction [3, 4].

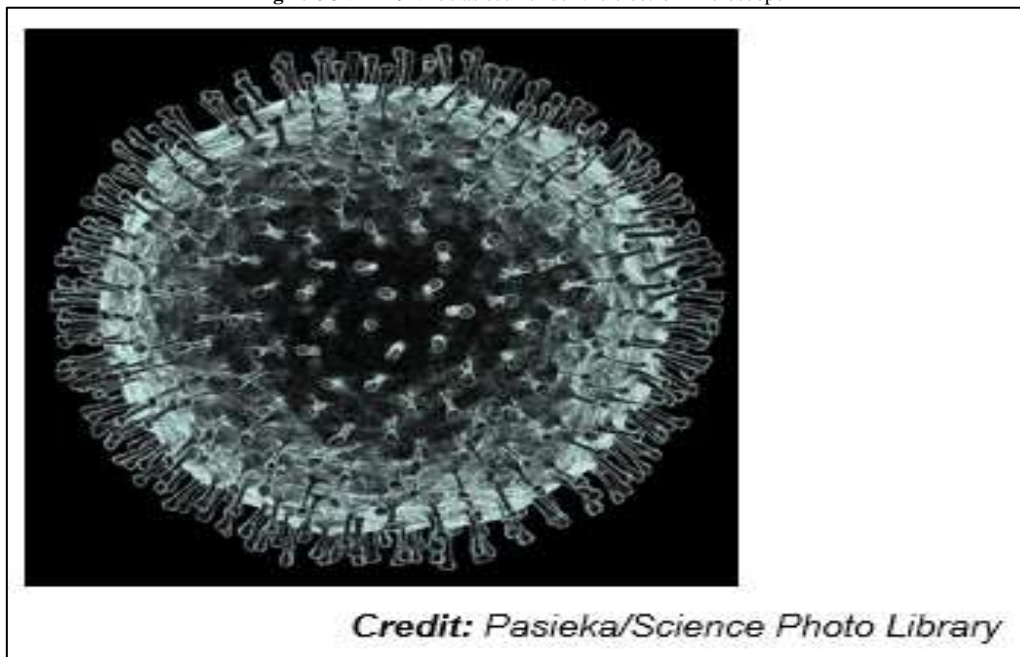
The WHO defines a pandemic as “an epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people. According to the Centre for Disease Control and Prevention (CDC), a pandemic is “an epidemic that has spread over several countries or continents, usually affecting a large number of people” [5, 6]. If the severity of illnesses is not a consideration, nor is the number of deaths, going by the above definition, COVID-19 is already a pandemic long before the World Health Organization declared it as one, an action many health experts considered long overdue.

No doubt, pandemic is one of the three extreme threats to humanity and the world needs to be prepared for it in the same serious way it prepares for climate change and nuclear war [3, 7, 8]. Even though experts have been warning about the risk of a pandemic disease for some time now, it appears many are not prepared for it. Since the new virus was first isolated in Wuhan, China, it has spread to almost every corner of the globe with gross negative impacts on the global health, economy, political and social life of the affected countries. In this current review, we looked at the history of the COVID-19 pandemic, its global impacts, and the Nigeria's responsiveness in containing the virus.

2. History of COVID-19

A new strain of β -coronavirus called the COVID-19 virus (also known as, *the Severe Acute Respiratory Syndrome Coronavirus 2, SARS-CoV-2*) was implicated as the culprit of atypical pneumonia that started in Wuhan, China, late December, 2019 [9]. The novel coronavirus is an enveloped non-segmented positive sense single-stranded RNA beta-coronavirus, with surface spike glycoprotein [10]. Morphologically, it looks like a crown under an electron microscope (Fig. 1).

Fig-1. COVID-19 virus as seen under the electron microscope



China, on December 31 2019, drew the attention of the WHO to the occurrence of several cases of uncommon pneumonia caused by unknown virus among individuals who had either visited or had eaten food bought from the live animal market in Wuhan City of China, the epicenter of the outbreak [11, 12]. The infection has thereafter spread to other Chinese cities, as well as internationally, resulting in the current pandemic. On January 5, Chinese officials ruled out the likelihood that this was a recurrence of the severe acute respiratory syndrome (SARS), an illness that has its origin in China and resulted in the deaths of more than 770 people worldwide in 2002-2003. On January 7, the WHO in a press conference declared that they had identified a new virus, belonging to the family *Coronaviridae*. The virus was temporarily named 2019-nCoV [13].

The first fatal case in China was announced on January 11 2020. It was the case of a 61-year old man who had bought food items from the seafood market. This prompted the Wuhan Authority to place the city under quarantine effectively from January 23 as air and rail departures were abruptly put on hold. Following the report of the first death outside the Hubei province, Beijing cancelled events for the Lunar New Year, scheduled to begin on January 25. The WHO declared the outbreak a global health emergency of international concern on January 30 as 7,711 confirmed cases and 170 deaths were reported in China. The virus had since spread to all the 31 provinces of China and new cases were confirmed internationally in countries including: Singapore, Japan, Vietnam, US, Australia, Germany, Canada and the UAE [14, 15]. The WHO announced the death of Dr. Li Wenliang (The Coronavirus whistle blower and martyr) on February 7 [16]. By February 9, the fatalities in China had exceeded that of the 2002-2003 SARS epidemic, with 37,198 confirmed cases and 811 deaths recorded. As the death toll in China reached 1,016, with 42,638 infections recorded, the WHO announced the official name of the novel coronavirus "COVID-19 virus" [17]. The first confirmed case of Coronavirus in Africa was recorded in Egypt on February 14, 2020 [18]. As the virus continues to escalate globally, the WHO eventually declared the coronavirus outbreak a pandemic officially on March 11 2020 [1, 19].

As at May 20, 2020, the COVID-19 virus has spread to 188 countries and territories, with 4,968,689 total confirmed cases and 326,515 total deaths globally [2]. The top 14 most hit countries as indicated by Johns Hopkins University Center for Systems Science and Engineering are: US (1,454,052), Russia (308,705), Brazil (271,628), United Kingdom (249,616), Spain (232,555), Italy (227,364), France (181,700), Germany (178,473), Turkey (152,587), Iran (126,949), India (112,028), Peru (104,020) and China (84,063) and Canada (81,549).

Fig-2. COVID-19 Global Cases by Johns Hopkins CSSE as at May 20, 2020



The above statistics clearly shows that COVID-19 is no longer a China problem as initially thought by many, but a global one and every country and people should therefore expect and prepare for the disease [20].

3. Global Impacts of COVID-19

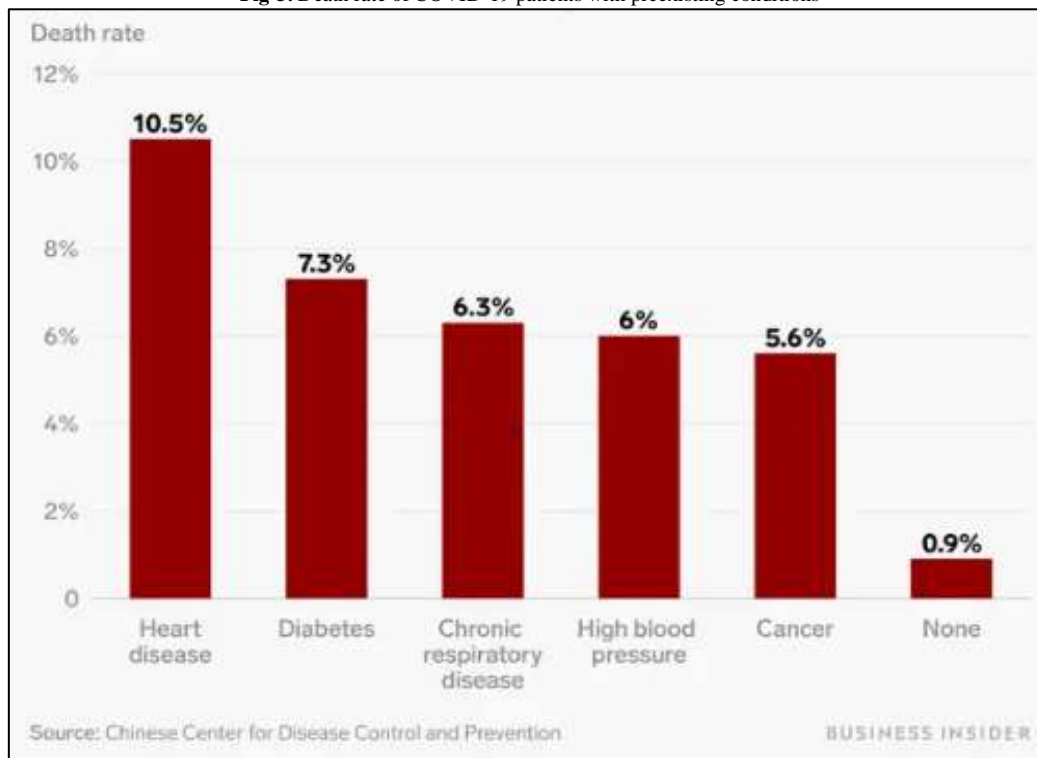
Despite the fact that experts hope that the COVID-19 does not become a pandemic, now we know we are dealing with one just like the avian flu (H1N1) of 2009, but more worrisome is that many countries appear not to be battle ready for the pandemic. Despite all measures being taking, the outbreak shows no signs of abating. The Infectiousness of the COVID-19, no doubt now appears to be higher than that of the 1918 Spanish flu outbreak.

Millions of people were, and are still under quarantine in Italy, Iran, South Korea, France, Spain, Germany, US, UK and other nations across the globe. Many countries have responded by proclaiming a public health emergency, closed their borders and restrict incoming flights from high risk countries. Thousands of travelers are being screened at airports and seaports every day and suspected cases quarantined. This has grossly affected the travel plan of many. Several international programs, conferences, workshops and sporting activities are either postponed or cancelled. In this review, we identified four (4) major negative effects of the pandemic on the world namely: health, economy, social and political impacts [21].

3.1. Health Impacts

The increased hospitalization associated with the COVID-19 pandemic is far over stretching the resilience of the health system of most countries. Hospital and health workers (Doctors, Nurses, Medical Laboratory Scientists, etc) are already overwhelmed by the numbers of people requesting testing and treatment at the same time [22]. Besides the COVID-19 patients, they also have other category of patients to care for, including those with diabetes, cancer, liver failure, kidney failure, hypertensive etc. Most deceased COVID-19 patients were those with one underlying condition or the other [5].

Fig-3. Death rate of COVID-19 patients with preexisting conditions



Primarily, the Coronavirus infects the lungs using a host cell entry receptor called the Angiotensin Converting Enzyme Type 2 (ACE-2) found on Type-2 alveolar cells (pneumocytes) in the respiratory tract. These cell entry receptors are also found in the epithelial cells of the gastrointestinal tract of humans and are also used by the SARS virus [23, 24]. The symptoms start with a fever followed by a dry cough and chest pains, which can lead to breathing difficulty. On the average it takes five days for symptoms to manifest, but some people may present symptoms much later than this. The average COVID-19 patient spends eight days in hospital. If a patient has serious complications and requires a ventilator, the stay is doubled to an average of 16 days. According to the World Health Organization (WHO), about 80 percent of people with COVID-19 recover without needing any specialist treatment, however, the remaining 20 percent who spent time on a ventilator may be at risk of long-term disability and illness. While COVID-19 is sending even young, previously healthy people to the intensive care unit (ICU), the elderly are at greatest risk of both severe disease and long-term impairment [25, 26].

COVID-19's immediate assault on the body is extensive. It targets the lungs, but a lack of oxygen and widespread inflammation can also damage the liver, brain, heart, kidneys, and other organs. Although it's too early to say what lasting disabilities COVID-19 survivors will face, clues from studies of severe pneumonia, suggest that the associated scarring caused by COVID-19 can cause long-term breathing disorder for many. Generally, Patients who spend time in an Intensive Care Unit (ICU), regardless of the illness that put them there, are prone to a set of physical and mental health problems after they are discharged (known as post-intensive care syndrome). The concern here is that the new coronavirus might put ICU survivors at particular risk for some of these problems. Report has it that those who stay on a ventilator for an extended period of time are prone to muscle atrophy and weakness [25, 26].

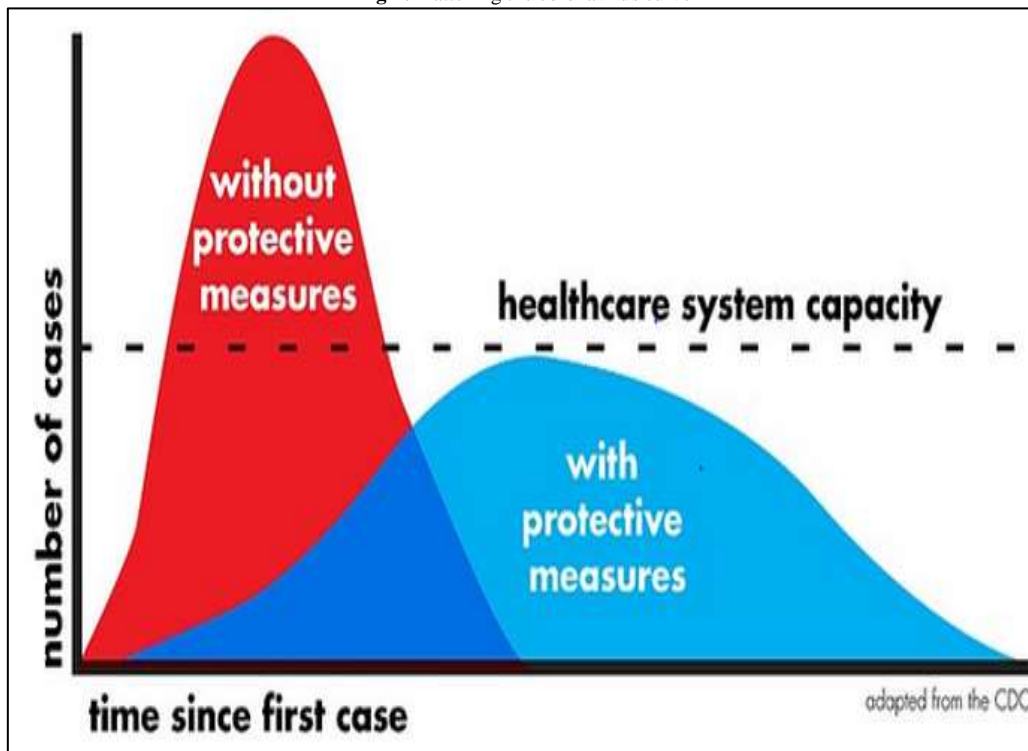
Furthermore, as the number of confirmed cases continues to escalate across the globe, hospitals seem to be running out of medical supplies including face masks, protective suits, ventilators, hospital spaces and medics. Health workers have continued to lament the lack of personal protective equipment (PPE) to safe guard their lives as they contend with the pandemic headlong. Many are forced to improvise. Sadly because of scarcity in medical supplies, medical disposables are now being reclaimed and reused without recourse to safety. Many fear that this may largely be responsible for the sustained outbreak in some settings [27].

American experts projected that 40-70% of the 331 million American citizens will be infected by the COVID-19 virus. Now, assuming that only 45% of the American population will get the virus, we shall be talking about 150 million Americans here [28]. Experts also expect that only 80% (120 million) of this 150 million will have mild infection, while 20% (30 million) of the cases will require hospitalization. They also projected that 5-10% of the estimated 150 million COVID-19 American patients will need ventilator (\$16,000 each). Assume it is just only 5% of the 150 million COVID-19 American patients will require ventilator to stay alive, then nothing less than 7.5 million ventilators (worth \$120 billion) will be needed in the US. This is worrisome in the midst of scarce resources. Currently, experts estimated that there are 72,000 – 120,000 (max. 150,000) ventilators across United States of America [29].

The above statistical projection suggests that only 0.02% of the critically ill COVID-19 American patients will have access to a ventilator (which will be needed for an average of 16 days or more, depending on the severity of the patient's condition). What this mean in reality is that only 1 in 50 patients will get ventilator, while the remaining 49 will have to wait for a ventilator to be made available. These category of COVID-19 patients stand the risk of dying

in the face of delay or absence of ventilator. This is scary. 1 in 50 are bad chances. Doctors will have to choose who gets the ventilator and who does not. They have to come up with morally correct criteria to determine who lives and who dies [29]. This happened in China and is already happening in Italy, Spain, Iran and other worst hit countries. The situation is much scarier for resource-limited countries like Nigeria (with a population of 200 million) having far less ventilators across the entire spectrum of the country's health sector, compared to those of advanced countries like USA, UK, Italy etc. Hence, experts are calling for scaling up of production of medical supplies including the Personal Protective Equipment (PPE) and disposable ventilators in order to flatten the curve of the disease; otherwise, the healthcare system capacity will be overwhelmed and may result in a total collapse [30].

Fig-4. Flattening the coronavirus curve



Besides the challenge of depleted medical supplies amidst the ongoing pandemic, another very pressing challenge is the shortage of health professionals to cater for the upsurge in hospital visit and hospitalization. In 2013, the World Health Organization warned of an imminent shortage of 12.9 million health-care workers by 2035; today, that figure stands at 7.2 million. The additional annual cost of employing new health workers once training has been fully scaled up is just over US\$ 311 million per country [31].

Currently, the United States of America with a population of about 331 million [28], has recorded close to 1.6 million confirmed cases and about 94,000 deaths [2]. The country has approximately 1.2 million doctors, 2.89 million nurses and 310,000 laboratory professionals. At the onset of the pandemic, the US performed 335,000 COVID-19/SARS test in a 6-days period. At the time, there were 62 laboratories capable of performing the test. Each test takes approximately 15 minutes of hands-on time, and these 62 laboratories employ approximately 1600 laboratory scientists. This means 83,750 hours of testing occurred across 1600 people. To accomplish this, each scientist would require 52 hours to accomplish this volume of work in addition to all other laboratory testing that is required on a normal basis, assuming the laboratory personnel do not get infected and hospitalized themselves [32]. The above analysis shows that the laboratory personnel, like their counterparts in the health sector are more than overwhelmed by the need to take charge of laboratory testing and monitoring of COVID-19 even in the US and the situation is even more critical in resource-limited countries [33]. To this end, reports has it that President Donald Trump is urging retired health workers to return as US coronavirus cases escalates [34]. For sure, US like other worse hit countries, needs more foreign doctors and nurses to fight coronavirus, unfortunately, her immigration policy is an impediment at the moment [35].

Across the globe, many health professionals testified that, they have never seen it in this format before. In China alone, reports have it that at least 20 health professionals contract the virus daily and about 3,000 health professionals were said to have been infected with the coronavirus at the onset of the pandemic. Many health workers are currently either in quarantine or isolation; while others have lost their lives since the fight against COVID-19 started [36, 37].

Still, in the midst of the pandemic, came another challenge, *i.e.*, increased medical and hazardous wastes. Increase hospitalization associated with the pandemic has heightened the generation of medical and hazardous wastes in hospitals across the globe [38]. Management of huge medical and hazardous wastes is currently a daunting task for most hospitals in the worst hit countries, both in terms of cost and manpower. Public health experts are concern about the adverse effect that may result from Improper waste disposal, both at the hospital and community levels as this poses serious threat, both to the health workers and the community at large The safe handling, and final

disposal of this waste is therefore a vital element in an effective emergency response [40]. Effective management of medical and hazardous waste requires proper identification, collection, separation, storage, transportation, treatment and disposal, as well as important accompanying aspects such as disinfection, personnel protection and training [39].

Furthermore; the alleged use of some faulty testing kits distributed by CDC has been associated with missed cases and wrongly diagnosed cases in the United States of America and elsewhere [40], while lack of facility and expertise for disease detection has further compounded the COVID-19 outbreak especially in resource-limited settings like Africa. The supply chain logistics of some hospitals has been badly affected by the partial or total lockdown measures taken by some countries.

Laboratory confirmed cases of coronavirus have continued to rise. Experts opined that human-to-human transmission is responsible for the sustainability and persistence of the virus [41, 42]. International travel by asymptomatic patients from high risk countries is grossly responsible for the exportation of the virus to other countries of the world. Slow or prolong incubation of the virus in some individuals may be responsible for the missed diagnosis recorded. Sadly, reports have it that infected patients not properly treated and tested for total viral clearance, have turned positive again after they were discharged from the hospitals [43, 44]. The science surrounding these apparent reinfections is further complicated by the way China handled the outbreak, which since January has been marred by faulty testing procedures and questionable case counting methods with shifting definitions. In addition, the overburdened healthcare system has put pressure on doctors to discharge people who may not have fully recovered to free up beds for newly infected patient [45].

A COVID-19 patient who went through the full course of the clinical disease, definitely must have been exposed to all available antigens of the virus. Literally, such a person should have been exposed to all available potential vaccine antigens and as such should be immune to re-infection. However, this is not the case. Experts opined that there may be many circulating serotypes of the virus in circulation, a similar phenomenon with the Rhinoviruses (>100 serotypes). This makes it impossible for an infected person to develop lasting immunity to the disease. This is worrisome and experts hope it's not the case with the COVID-19 virus.

Meanwhile, hospitals worldwide have continued to review isolation protocols to prevent the virus from spreading to healthcare workers, other patients and visitors. Worst still, dozens of countries are in need of the same medicines and equipment at the same time, and that increase in demand may quickly outpace the available supply if no drastic step is taken. This places a serious demand on the WHO [21].

Although more than half of those infected so far have recovered, it's certainly possible that the virus could become more dangerous. The major concern of many health experts is the possibility of spontaneous mutation occurring in the virus which may result in a more dangerous virus to contend with [46]. Antigenic drift and shift are common occurrences among viruses like the coronavirus and emergence of a deadlier virus than the current COVID-19 virus, should therefore be expected in the future.

3.2. Economy Impacts

Secondly, the current pandemic has been reported to have significant impact on the global economy [47]. International travel and trade have been adversely affected by the COVID-19 pandemic. Even against WHO's advice, individual countries are continuously placing travel ban on foreign nationals. Just recently, the USA placed a travel ban on travelers from Europe except United Kingdom. Many factory production lines in countries worst hit by the virus have been halted. Many small and medium-sized firms have been badly affected. Many countries of the world, including the US is already dealing with shortages and major economic fallout coming from prolonged city lockdown, travel ban and trade interruptions. Many airlines have been grounded and some are now requesting for financial bail-out to avoid laying off their employees.

The impact of China's shutdown, no doubt, affected the Africa continent, even before the first case of the coronavirus reached its shores. The outbreak disrupted supply chains and affected infrastructure investments, African commodity exports, and African imports that provided stock for small businesses. The decline in the Chinese tourist trade and the loss of income for African airlines is also been hit hard [48]. Economic experts projected that the global GDP growth could fall by one-half of a percentage point or could even contract for the year under some scenarios. In fact, foreign direct investment has already diverted from emerging markets to perceived safer harbors in bond markets at the expense of African development opportunities [49].

As a matter of fact, Economists at the Federal Reserve say about 47 million Americans may be out of job due to the pandemic as they projected 32% unemployment explosion in the US. Also, there have been serious crises in the stock market, with gross fall in the price of crude oil. This is the lowest level in 18 years, analysts say. Fall in oil prices have plunged some of the world oil producers like Saudi Arabia and Russia into duel in the global marketplace, with an adverse effect on African oil producers like Nigeria. The Organization of Petroleum Exporting Countries (OPEC) has already warned of a potential 85% drop in oil revenue and this spells serious economic doom for countries whose economy is solely driven by oil revenue [50, 51]. Some countries have already implemented a 30% cut in employee's salary in the struggle to survive the economic hardship.

Amidst the fear of an obvious global recession that may be far worse than that of 2008-2009, the World Bank and International Monetary Fund (IMF) has urged debt relief for poor countries (especially in Asia and Africa) struggling with the COVID-19 pandemic. On March 25, 2020, the two bodies issued a joint statement to the G20 [52, 53] requesting for official suspension of all debt payments by world's poorest countries by their bilateral creditors to give room for immediate liquidity, as this will help to ameliorate the economic hardship posed by the coronavirus outbreak. To this effect, the global apex bank has also made available an initial package of \$12 Billion as an emergency bail-out funds and loans to help member countries take effective action to respond to and, where

possible, lessen the tragic impacts posed by the COVID-19 [54]. Government of various countries are also rolling out different supports package to cushion the negative economic impact the COVID-19 pandemic has on their citizens [55].

Fig-5. Graph showing Brent crude oil price amidst COVID-19 pandemic



Worst still, some countries are currently considering the option of devaluing their currencies to offset the recession brought upon their people as a result of the pandemic. The current crisis has also made small scale entrepreneurs who are hiking prices for opportunistic reasons crazy. Unfortunately, the emerging poverty and the associated hunger among the people may last longer than Corona Virus. The world is certainly in a tight corner as experts warn that global food crisis is inevitable, if the current ravaging pandemic fails to abate.

According to the WHO, testing is key and central to containing the pandemic. But, unfortunately; most people cannot afford the cost of testing for COVID-19 on their own. In the US for instance, the average out-of-pocket cost for testing somebody without a health insurance package is \$1,331 (*i.e.*, minus isolation cost). This include cost for Complete Blood Count (\$36), Metabolic profile (\$58), Flu A test (\$43), Flu B test (\$43) and Emergency visit for high severity or threat (\$1,151). The cost of isolation can add up for one family to \$4,000. No doubt, the fear of the outrageous cost in the midst of the current economic crisis induced by the pandemic, will keep many people away from getting the care they need and from keeping their committee safe [56].

Experts opined that 40% of Americans cannot afford a \$400 unexpected expense and about 33% of Americans put off medical treatment last year (2019) due to cost. Here, we are looking at a \$1,331 expense conservatively, just for testing for the coronavirus [56]. The question is, do leaders of each affected country really want to know who have the virus and who doesn't and not just only the affluent citizens who can afford the cost, but everyone who might have the virus? The reality on ground in many developing countries and elsewhere in the world, is that not everyone is getting tested (only a selected few are getting tested) or testing is done too late. These no doubt has worsened the existing crisis.

3.3. Social Impacts

While the development of a vaccine is still months away and huge resources are invested on contact tracing, testing and treatment, experts are of the opinion that concerted effort should focus on flattening the curve, by slowing down the virus' spread through isolation of confirmed cases, quarantine of suspected cases and social distancing measures for the high risk individuals [57]. These measures will definitely flatten the coronavirus curve, but not without the danger of "social recession", a collapse in social contact that is particularly hard on the populations most vulnerable to isolation and loneliness — older adults and people with disabilities or preexisting health conditions [47, 57].

By nature, humans are social beings and all of a sudden, we are being told that we cannot touch, hug, kiss or do all the things we ordinarily do. Many people's lives have been disrupted by social distancing measures. Husbands cannot relate freely with their wives for fear of contracting the coronavirus. The same goes for grandparents and grandchildren, clergy men and their congregations etc. The need to keep safe distance from others has resulted in emotional and mental distancing for many. Worst still, the deaths of loved ones due to the COVID-19 pandemic have left many emotionally traumatized. Many have been render motherless, fatherless, widow and widower owing to the ongoing crisis.

The psychological impact of COVID-19 on the people, with adverse effect on the mental health of the global health is worrisome. People are responding to the Corona virus pandemic in very unusual manners that may have more consequences than the pandemic itself, such that long after the outbreak may have abated, we could have a large population of people with damaged personalities, who may be struggling with the after-effects. Uncertainties related to restricted movement and total lockdown induce a considerable stress on the people and unfortunately, people respond to stress in different manners depending on their coping mechanisms.

Another concern is the sudden increase in substance abuse during the lockdown period. Across Europe and Africa, people abuse illicit drugs to deal with loneliness and boredom. The prolonged coronavirus lockdown has resulted in shortage of illicit drugs in some quarters and there are growing concerns on how smokers, alcoholics or people addicted to drugs would cope with the new regimen. Experts warned, "*If people can't secure their drug of choice, they look for alternatives*". People experiencing severe withdrawal symptoms are already substituting some novel psychoactive substances (spices) with prescription drugs like diazepam due to shortage. The consequences could be deadly, experts warned [58, 59]. Some people under the disguise of fortifying their immunity against the onslaught of coronavirus, now abuse alcohol more than ever. They claimed that the corona virus cannot survive in an alcoholic environment, hence their reason for abusing alcohol without recourse to the apparent damage on their liver.

Many are already suffering from obsessive-compulsive disorder (OCD), or better still, anxiety disorder. COVID-19 has turned so many persons into mental health cases [60]. Fear has driven many into all kinds of strange behavior. The fear of dying is perhaps worse than death itself. Psychotherapists have expressed concerns over heightened suicide tendencies among the people amidst the pandemic [61]. The truth is that life may never remain the same for many, long after the coronavirus pandemic is over. At the moment, people need to realize that social distancing does not mean social isolation and social boredom [62] and therefore they should learn how to deal with suicidal thoughts during this difficult time [63].

The current pandemic is also taking toll on prisoners held in detention facilities. Social distancing is almost impossible in already overcrowded prison and correctional facilities [64]. Hygiene measures are difficult to enforce, making such places a "*culture medium*" for the virus to thrive. This fear has compelled some US states to release '*low-risk*' inmates over the coronavirus outbreak as Jails can serve as incubators for the disease [65]. In Italy, six inmates have been reported dead, as they revolted over new measures taken to contain the coronavirus outbreak [65].

3.4. Political Impacts

Furthermore, the COVID-19 is also having a negative impact on the global political landscape, particularly, on the security institutions and political processes worldwide. Many top government officials in multiple countries have been infected and some dead due to the virus. In Africa, as other regions, many senior leaders fall into high risk groups for the virus on the basis of age. For countries like the USA, with elections scheduled in the coming months, COVID-19 may disrupt registration, campaigns, and other activities and may prompt electoral commissions or incumbents seeking to extend their tenures to postpone elections. Security forces, like the civilians are themselves vulnerable to COVID-19. The close conditions under which members of the security forces live and work do not permit social distancing. The Governments of many Countries are turning to military forces to assist in the crisis, particularly to enforce curfews, quarantines, and lockdowns. Enforcing lockdowns, in turn, is increasing social antipathy, unrest and violence. Clashes between police and the masses have been reported in different parts of the world with different levels of casualties. The United Nations has asked a number of European and Asian countries to delay rotations of their forces due to the outbreaks at home. There is almost no contributing country who is not affected by the pandemic. Further spread of the virus is constraining peace keeping operations in insurgence-ridden regions of the world. More worrisome is those of the displaced populations (highly vulnerable themselves) to which the peace keepers are sent to protect [48, 49].

4. The Nigeria Responsiveness to the COVID-19 Pandemic

Nigeria like any other African nations had about 50 days or more to prepare for the pandemic since the outbreak started in China. The country announced its first COVID-19 case on 27th February, 2020 [66]. It was a 44 years old Italian who came into the country on February 24 and displayed symptoms of the disease, while visiting Lafarge Cement Company in Ewekoro, Ogun State. He has since been treated and discharged on 21 March, 2020. However, since the first incidence, the country has continued to record a steady rise in the number of confirmed cases. As at 12 midnight of 19 May, 2020 [67], the total confirmed cases in Nigeria had risen to six thousands four hundred and one (6401) across 35 states of the country, including the Federal Capital City (Figure 6): Lagos (2755), Kano (842), Abuja FCT (427), Borno (227), Bauchi (224), Jigawa (205), Ogun (178), Kaduna (152), Oyo (143), Gombe (136), Edo (119), Sokoto (113), Zamfara (84), Kwara (65), Rivers (53), Plateau (50), Osun (42), Nasarawa (34), Kebbi (32), Yobe (32), Delta (27), Adamawa (26), Niger (22), Ondo (20), Ekiti (19), Akwa Ibom (18), Taraba (17), Ebonyi (13), Bayelsa (7), Imo (7), Abia (5), Anambra (5) and Benue (5) with a total of two hundred and twenty-six (226) fatalities. 69% (4419) are males, while, 31% (1982) are females.

Most of those affected (24%) belong to the 31-40years age group (Figure 7). So far, one thousand seven hundred and thirty-four (1734) out of the 6401 confirmed cases have recovered and have been discharged. The first fatality the country recorded was a former director (Suleiman Achimugu) of the Petroleum Products Marketing Company (PPMC) who died on 23rd March 2020 [68]. This has led to concerned and patriotic Nigerians asking pertinent questions such as: "How did we get here, from 1 to 6401 confirmed cases?", "What went wrong with our surveillance system?", "Where did we miss it, both as a Government and a people?", and many other unanswered

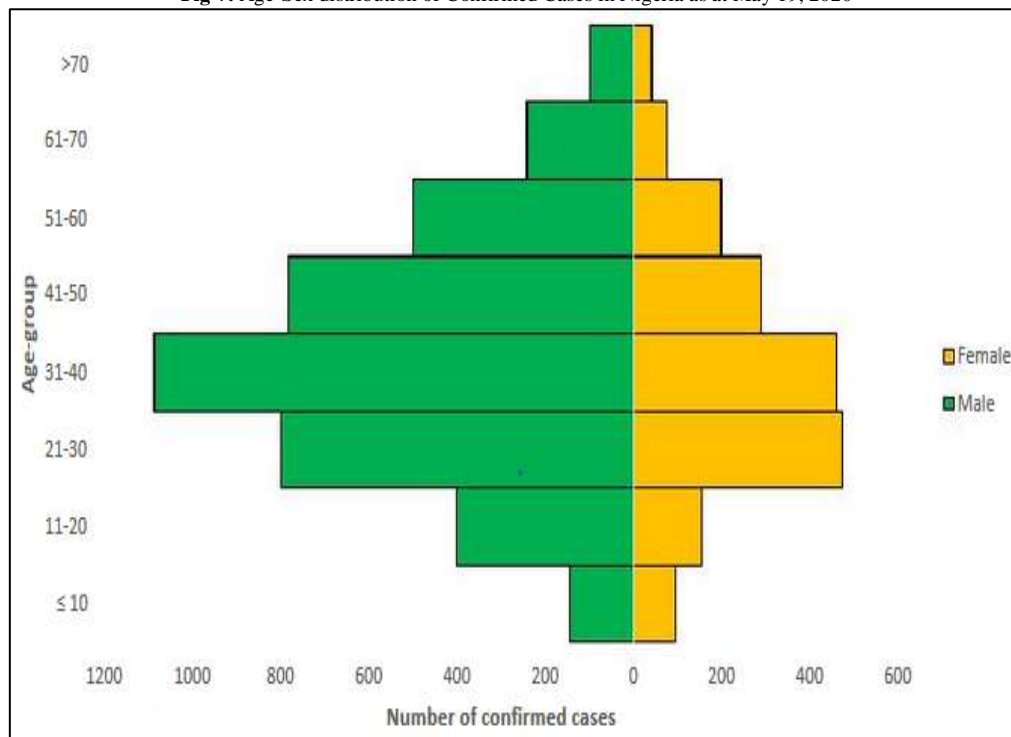
questions. Many analysts believe that the country is about to experience very difficult times in history, unless drastic measures are implemented to contain the virus.

Fig-6. Map of Nigeria showing COVID-19 affected States as at May 19, 2020



Many have criticized the National Centre for Disease Control (NCDC) for not being vigilant enough to detect the Italian man at the Lagos airport. However, in a swift reaction by the minister of Health, Dr. Osagie said the virus was still in its incubation stage, hence the man escaped detection at the airport [69]. Meanwhile, Virologists have urged the federal government to identify and quarantine all the passengers on plane with the Italian national, as well as all his contacts in Lagos and Ogun state [70]. To this note, the Lagos and Ogun state Governments have since commenced manhunt for all contacts of the index case [71], however, efforts to minimize the spread through contact tracing is being frustrated by travelers giving false contact information and not abiding by the stay at home order for the purpose of self-isolation. As at the time of writing this review, there are over 9000 people of interest that the NCDC is tracing [67] and Nigerians are being urged to support the authorities in identifying these people as the country is currently experiencing community spread of the virus.

Fig-7. Age-Sex distribution of Confirmed Cases in Nigeria as at May 19, 2020



Meanwhile, the President in his address on March 29, 2020, reiterate that the Nigerian Government is battle ready (in terms of planning, preventive, containment and curative measures) for the evil to come, even before the World Health Organization officially declared the outbreak a pandemic, as all government's apparatuses have been mobilized to confront the COVID-19 pandemic and its attending backlash. The NCDC and Federal ministry of Health (FMOH) were said to be in touch with international agencies and partners as concerted efforts are being made to find a cure and possible a vaccine to the COVID-19 menace [72].

The Director General (Dr. Ihekweazu) of the Nigeria Centre for Disease Control (NCDC) was one of the 25 global health leader-delegates sent by the World Health Organization (WHO) to visit China for the purpose of getting first-hand information on the nature of the virus and to understudy the response approach of China to the pandemic [73]. Following his return to Nigeria, he was on self-isolation for 14 days according to the requirement for anyone with travel to China or any other high risk country [74]. Since his return, the NCDC has been implementing numerous containment strategies and programs to ensure that the adverse impact of this virus on the nation's health and economy is reduced to the barest minimum [72].

The Presidential Task Force on the fight against the COVID-19 Pandemic was inaugurated on 12 March 2020, with the sole aim of developing a workable National Response Strategy [75]. The Task Force is being led by the Secretary to the Government of the Federation (SGF), Boss Mustapha. The Task Force has trained 7,000 healthcare workers on infection prevention and control, while deploying twenty-two (22) Rapid Response Team (RRT) to support response in all states with confirmed cases [67]. Lagos and Abuja now have the capacity to admit about 1,000 patients each across several treatment centres. The quarantine order has been signed by the President and shall be released in coming days.

Meanwhile, the Nigeria Government is currently undertaking a two-step approach in the combat against the COVID-19 pandemic. First, is to secure the lives of the Nigerian citizens and foreign nationals resident in the country, and second, to preserve the livelihoods of workers and business owners, as well as to ensure that families get through this very difficult time in dignity, hope and peace of mind. To this end, the Nigerian Government have ordered the closure of all borders and international airports, markets, schools (primary, secondary and tertiary) at all levels, prohibit large congregations in churches and mosques, closed some motor parks and inter-state rail stations, prohibit inter-state/inter-town travels in some parts of the countries, except for essential services, mobilize fire-fighting vehicles and personnel to fumigate cities and towns, in addition to social distancing, contact tracing, testing, and Isolation of suspected cases [72].

The Government have also introduced fiscal and monetary measures in their response against the COVID-19 pandemic. International bodies such as WHO, UNICEF, UNDP, CDC, World Bank, Bill and Melinda Gates Foundation, as well as the private sector and civil society groups, are partnering with the Taskforce to provide technical and financial supports. The leadership of the Central Bank of Nigeria (CBN) have met and agreed with the Captains of industry in the private sector to raise a sum of N120 billion to fight the coronavirus [76]. Since then, Corporate bodies, as well as individuals have continued to make energetic financial contribution towards the fight against the COVID-19 pandemic [77].

The Nigeria/United Nations (UN) COVID-19 Basket Fund was officially launched in Abuja (FCT), barely two weeks after the national COVID-19 leadership of Nigeria met with the UN leadership. The initiative is intended to serve as the only "*Financing and Investment Platform*" through which different stakeholders can channel their financial supports to the multi-sectoral efforts of the Presidential Task Force on COVID-19 Response. The fund intervention is expected to enhance coordination, technical and financial synergy for the Presidential Task Force on COVID-19 Response saddled with the responsibility of preventing, preparing and responding to the COVID-19 pandemic in Nigeria. While donating the sum of \$2 million to assist in the procurement of essential medical supplies and treatment of confirmed cases, the UN Resident and Humanitarian Representative in Nigeria (Mr. Edward Kallon) has expressed concerns about the extent of spread and the potential effect of the virus on the Nigeria's health and economy. He however; reiterated that with proper response through testing, isolation and contact tracing, Nigeria will bring the virus to submission [78].

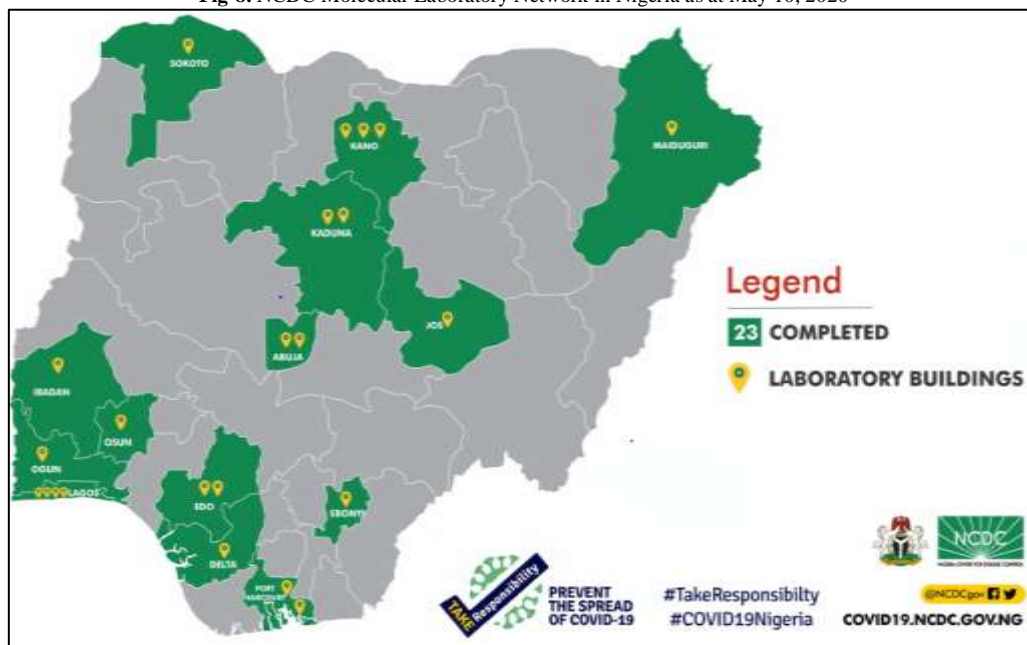
In midst of the Government facing criticism on how it is handling the coronavirus outbreak in the country, the Government's efforts have been commended by the UN Secretary General, Antonio Guterres, for its notable capacity to respond to the Coronavirus pandemic compared to other nations of the world [79]. While financial donations have continued to emerged from both private sector and individuals in response to the fight against the pandemic, some critics are worried about lack of accountability and transparency in government spending. To this end, the government has assured the masses that all contributions and donations will be well coordinated and centralized to ensure efficient and impactful spending in the fight against COVID-19 [72].

It is interesting to note here that, before the outbreak of COVID-19, the NCDC had established Public Health Emergency Operation Centres in 23 of Nigeria's 36 states to monitor and respond to infectious disease outbreaks. On February 28th 2020 to be precise, a multi-sectoral Emergency Operations Centre (EOC) was activated at Level 3 – the highest emergency response level in Nigeria, led by the NCDC in partnership with the State EOCs for effective coordination. However, some Public health experts have expressed concerns over the number of molecular laboratories in Nigeria having the capacity to handle COVID-19 testing. As at May 10, 2020, there are twenty-three (23) fully activated molecular laboratories across the 6 geopolitical zones of the country (Figure 8) having capacity for COVID-19 testing (1,500 tests per day). They include: the NCDC National Reference Laboratory (Abuja), Lagos University Teaching Hospital (Lagos), Nigeria Institute for Medical Research (Lagos), University College Hospital Ibadan (Ibadan), African Central of Excellence for Genomics of Infectious Diseases (Osun) and Irrua Specialist Teaching Hospital (Edo) amongst others [80]. As at May 19, 2020, the total number of sample tested were 38,231.

Public health experts say this does not speak well for the country as the giant of Africa with about 200 million populations. They are of the opinion that there should be a molecular laboratory testing for COVID-19 in each state of the federation. To this end, there is a strong need to therefore fast track the completion of the ongoing projects and even build more new ones as funds become available.

Furthermore, the federal Government of Nigeria in consultation with the Federal Ministry of Health and the NCDC, has ordered the interruption of all movements in Lagos, Ogun and the FCT for an initial period of 14 days with effect from 30th March 2020. All citizens in the affected area have been asked to stay in door. Movements of all passenger aircraft, both commercial and private jets, have been suspended. All businesses and offices within these locations are partly closed during this period. Heads of security and intelligence agencies have also been briefed to enforce the order [72].

Fig-8. NCDC Molecular Laboratory Network in Nigeria as at May 10, 2020



The government hope that the containment period will be used to identify, trace and isolate all individuals that have come into contact with confirmed cases, and to also ensure that confirmed cases receive proper treatment, while restricting further spread to other States. However, this order does not apply to hospitals and all related medical establishments as well as organizations in health care related manufacturing and distribution.

Furthermore, all Federal Government Stadia, Pilgrims camps and other facilities are being converted to isolation centers and makeshift hospitals. Although schools are closed, the president have directed the Ministry of Humanitarian Affairs, Disaster Management and Social Development to work with State Governments in developing a strategy on how to sustain the school feeding program during this period without compromising the social distancing policies. The President has also directed the Minister of Agriculture and Rural Development, the National Security Adviser, the Vice Chairman, National Food Security Council and the Chairman, Presidential Fertilizer initiative to work with the Presidential Task Force on COVID-19 to ensure the impact of the pandemic on the 2020 farming season is minimized.

In addition to the above measures, the President of Nigeria has pardoned 2,600 prisoners across different correctional facilities in the country. This was a follow up to the advice of the United Nation (UN) to Member States to promote social distancing policy aimed at containing the spread of Coronavirus among inmates. This pardon however, does not apply to inmates sentenced for violent and extreme offences such as terrorism, armed banditry, kidnapping, human trafficking, culpable homicide, rape etc [81].

It is worth mentioning here, that the Nigerian Government through its apex bank (CBN) has committed the sum of N100 billion naira as intervention loan to assist Healthcare practitioners, Scientists, Researchers and Innovators to develop capacity in the area of vaccine development, drug discovery, production of indigenous test kits, pathogenicity, immunogenicity and epidemiological studies of infectious diseases, including COVID-19, Lassa fever and other dreaded viral diseases in the country [82].

While the Government appreciate the selfless and tired-less efforts of the health workforce, critics are of the opinion that, this is the best time for the government to look into the well-fare package of the health professionals in order to boost their morale as they contend against the pandemic. Critics further adjudged Government's efforts in containing the virus as "*Medicine after death*" [83]. Critics decried that the travel restrictions, as well as closure of the land borders and international airports should have been enforced earlier following the occurrence of the index case. One-on-one interviews on the streets of Nigeria show that some of these measures being taken by the Government is already creating some level of inconveniences and hardship for the general populace.

It is important to mention here that, Nigerians react to circumstances differently; while some Nigerians considered measures being taken as an overreaction, others saw it as an under reaction. Critics are of the opinion that

strategies and programs should be tailored to reflect local realities, as what works for well developed countries, may not work exactly the same way for developing countries like Nigeria. On one hand, while quarantine and isolation worked for the people of Republic of China, on the other hand, social distancing in addition to other measures works better for the Europeans because of the peculiarity of their society. They have access to water and electricity. Thus, self-Isolation and social-distancing became easy for them [84]. Unlike the Nigerian society, where majority do not have access to safe water and electricity. As a matter of fact, open defecation is a menace in Nigeria, owing to the fact many Nigerians do not have access to a toilet system. How then do they self-isolate? The poverty level in Nigeria is a major factor limiting the practice of self-isolation and compliance to the stay at home order, as many Nigerians must be on the streets to earn their daily living. Critics opined that forcing Nigerians to self-isolate without a corresponding financial support to cushion the economic distress associated with the total lockdown order is only asking the Nigerian populace to choose between death by COVID-19 or death by hunger. This type of response from the Government, critics considered it very inappropriate for our kind of society. And therefore it is very imperative for the Nigerian leaders to be innovative and strategic in their approach of dealing with the pandemic [85].

Interestingly, some Nigerians on the other hand, are currently calling for a more stringent measures as seen in other worst hit countries like China, Italy, Spain, US and UK to contain the virus. Meanwhile, there are still those who claimed that the Nigerian Government is not doing just enough and request for the resignation of the President. However, the Government has pleaded for cooperation, sacrifices and endurances on the parts of the citizens in the war against the pandemic. According to the Nigerian President, *"It is all about the right reaction by the right agencies and trained experts"*. The Nigerian Government has promised to do its best to navigate through the perilous time. Lagos, followed by Abuja are the worst hit Cities in Nigeria and to therefore de-escalate the spread of the virus, the Federal Government of Nigeria has ordered the immediate lockdown of the two megacities [86], but this is not without an initial intervention of fifteen billion Naira (N15b) to support the national response.

The Federal government is also determined to ensure that all the States have the right support and manpower to respond immediately to any suspected case of COVID-19. Hundreds of adhoc staff are being recruited and mobilized to take charge of the call centers and support the national tracing and testing efforts. Health Professionals including doctors and nurses are being nominated and trained by the NCDC on tactical and operational response to the virus in case it spreads to other states [72].

While the President has reiterated that the Nigerian national response to the pandemic will be guided, systematic and professional [72]; most Nigerians do not even seem to understand the magnitude of what we are dealing with as a country. It is either they are over-reacting, under-reacting or are indifferent. Some do not even know the difference between social distancing, quarantine and isolation. Social distancing refers to a set of measures to prevent people from congregating in large crowds, in order to slow the spread of a virus; Quarantine is restricting the movement of people who might have been exposed to an infection, but are yet to show any symptom; while Isolation is separating those with confirmed cases from other people, so that they can be treated without infecting anyone else [87].

Long before President Buhari announced a two-week lockdown of Lagos, Ogun and the FCT, Nigerians had also already begun to stockpile all kinds of items. It was worse a day after the Presidential address. Panic buying disrupted the food market. Every shop on the streets had long queues of persons, buying one consumable or the other. Similarly, there have been panic buying immediately after the National Centre for Disease Control (NCDC) and the Federal Ministry of Health announced that sanitizers, face masks and gloves can be used to protect oneself against COVID-19 [88]. These items are currently being abused and misused mainly due to sheer ignorance. The same scenario played out after the announcement made by the President of America (Donald Trump) that Hydroxy-chloroquine can be used to treat COVID-19. Many Nigerians started stockpiling chloroquine. It is so obvious that some don't even know the difference between Hydroxy-Chloroquine and Chloroquine. Currently, we now have people in intensive care unit (ICU) in Lagos suffering from Chloroquine poisoning [89, 90].

There are those who don't even believe in the reality of the COVID-19 pandemic. When the index case was first mentioned by the NCDC, many Nigerians alleged that the coronavirus stuff is a scam, fiddle or hoax by the Minister of Health to rip off the Federal Government of funds and therefore should be disregarded [91]. Many made jest of the whole scenario and a lot of comedies that downplay the important of the containment measures put in place to prevent the spread of the coronavirus are currently on the social media [92]. Worst still, a lot of fake news and misleading information are being peddled on the social media. Instances of such fake news include that there are only two ventilators in FCT (Abuja), out of which one has been commandeered for a top government official, that a British Airways Flight was due to land in Nigeria on 25 March, 2020 despite the closure of all international airports, the President (Muhammadu Buhari) has been coughing and is now on ventilator, among many others.

Sheer ignorance and religious fanaticism is responsible for the indifference in the attitude of many Nigerians. Many fail to observe measures such as social distancing and the need for regular hand hygiene. People hug and shake each other as if the COVID-19 is a fairy tale. Many alleged that COVID-19 is a disease only for the affluent and therefore, they cannot be infected [93].

Some people have little or no regard for Science. Their confidence to keep safe from COVID-19 rests in some religious rituals or unproven local concoctions. Some fanatical clergy men are even making matter worst by defiling government order on not having more than 20 people congregate at a time either in the church or mosque. Some even discourage their members from going for testing or receiving vaccine when available. A negative reaction has been reported in Katsina state, where members of a particular group stormed a police station and burnt down the vehicles in the compound because the State Task Force on COVID-19 dispersed the crowd for contravening Government order on social distancing [94, 95]. Worst still, some human right activists and lawyers have also been quoting the law and insisting that government does not have the right to shut down borders or states or ask people to

stay at home [85]. All these negative responses mitigate our fight against the pandemic and explain the reason for the gradual rise in COVID-19 cases in the country.

It is high time people knew that the coronavirus pandemic is real, without regard for color, race, social class, political affiliation, gender, age, religion or creed. The virus has spread and still spreading without any geographical restriction. The earlier we realize we are dealing with a pandemic, the better for all of us and the world at large. The scenario will be more devastating if the outbreak spread from Nigeria's cities to the hinterland and rural areas with limited resources and manpower to respond.

5. Search for Cure

At the moment, there is no specific treatment for COVID-19 [96]. Doctors on the front lines have just been testing several orthodox drugs including: Hydroxy-Chloroquine, Remdesivir, Galidesivir, Protease inhibitor GC813, Helicase inhibitor SSYA 10-001 and the Nucleoside analogue pyrazofurin. These are drugs used for diseases such as malaria, SARS, MERS, Influenza, Ebola and HIV [91, 97]. Researchers are tracking the effectiveness and safety of these drugs and sharing their successes and failures in meetings, conference calls and preliminary reports in medical journals. The current pandemic calls for renewed efforts to develop broad-spectrum antiviral agents to combat deadly viruses including the COVID-19 virus.

In our own opinion, the most effective line of treatment and management should focus on: hit the virus directly by inhibit viral growth and replication, prevent secondary infection, restore fluid dynamics (through hydration, plasmapheresis or blood transfusion), secure/restore the integrity of the immune system (using potent immune booster), prevent inflammation, enough bed rest, wear face mask, isolate to prevent spread of infection, life style adjustment (like cessation of tobacco and alcohols). Ventilator is needed to assist breathing in severe case. For treatment of COVID-19 patients, we suggest the use of Mefloquine or Hydroxyl-Chloroquine), Azythromyzin, Zinc sulphate, Acetaminophen, as well as tried and tested immune boosters like Manna and Immunovit. If manna is used, then Zinc sulphate should not be added. After 3 days, if no remarkable improvement, treatment can be reviewed [23].

Commercially sold immune boosters like Manna in particular, boost the immune system, provides energy, as well as essential trace elements. It is therefore suitable for the seriously debilitated patients. In one of our studies, Manna improved response of HIV patients to highly active anti-retrovirals (Lamivudine, Zidovudine and Nevirapine) [98]. Different countries may develop or adapt varied intervention tools, the valid considerations being the efficiency/effectiveness of the tools, cost, sustainability and cultural values.

With regards to the use of African traditional medicine (ATM), there are numerous natural remedies of plant origin that have been reported to have anti-viral, antitussive and anti-inflammatory activities including lemon (pH 9.9), orange (pH 9.2), lime (pH 8.2), avocado (pH 15.6), garlic (pH13.2), dandelion (pH 22.7), mango (pH8.7), pineapple (pH12.7) amongst others. Generally, alkaline drinks and foods have proved helpful to ameliorate the conditions of COVID-19 patients [92, 99, 100].

In the light of the above, the Federal Ministry of Health (FMOH) is poised to ensure the promotion and integration of herbal medicine into the health care delivery system of Nigeria, as the country is blessed with medicinal plants which could be exploited for their anti-COVID-19 potential. The FMOH has resolved to meet with indigenous scientists and traditional medicine specialists who have indicated that they have remedies for COVID-19. These homegrown herbal remedies shall be subjected to different laboratory and clinical testing to assess their safety and efficacy before endorsing such for the treatment of COVID-19 in the country [101]. Early in March this year (2020), a Nigerian scholar and researcher, Maurice Iwu, a Professor of Pharmacognosy of the University of Nigeria, Nsukka (UNN) announced to the nation that him and his research group has identified a potential cure for Coronavirus, patented back in 2015, following the 2014 Ebola outbreak [102]. According to him, the sample showed a promising result when sent to India for testing and now the China, US and United Nations are inviting him to test the discovered compound against the COVID-19 virus. The renown Pharmacist assured that he has plans underway with the Anti-viral programme of the United Nations National Institute of Health to subject compounds from Nigerian plants against the virus [103, 104].

Like Professor Maurice Iwu and Colleagues, we would love to have our indigenous products too, tested in COVID-19 patients for their potentials as intervention tools in COVID-19 pandemic and any other disease outbreak, if provided the enabling environment. It is high time we joined the international community in finding indigenous cure for the COVID-19 pandemic.

6. Suggestions

Complete elimination of COVID-19 in Nigeria is possible (like we did to Ebola in 2014) because we have all it takes in this country to control the disease with assistance from the international community - but only if, we are intentional as a country and adopts some stringent measures including:

- Give up our complacent attitudes towards the pandemic.
- Adhere to the stay in door and social distancing measures.
- Practice hand and respiratory hygiene.
- Disregard fake news (Get information from authentic and veritable sources).
- Intensify public awareness campaigns on COVID-19 especially at the grass root.
- Embark on national mass community (door-to-door) COVID-19 screening at the grass root.

- Ensure the completion, commissioning and operations of the disease control, isolation, testing and treatment centres.
- Establish more static and mobile diagnostic laboratories for rapid response.
- Ensure continuous validation of emerging COVID-19 rapid diagnostic test kits in the market.
- Strengthen indigenous surveillance and case management capacity through the establishment of well-equipped dedicated treatment/referral centers and the training of clinical care teams.
- Ensure more of Public and Private sector collaboration.
- Promote industrial harmony and collaboration among the health professionals.
- Enhance technical input and logistic support, home and abroad.
- Develop a COVID-19 control roadmap for the engagement of stakeholders and partners in the area of vaccine research and development.
- Optimize the national COVID-19 electronic data management system for better performance.
- Training and re-training of health professional who are at the fore-front in the fight against the pandemic.
- Ensure that our laboratory protocols for COVID-19 diagnosis, treatment, monitoring, contact tracing and isolation and quarantine are consistent with global best practices.
- Be transparent and accountable in spending the donated funds received to fight the pandemic.
- Alleviate the suffering already associated with the lockdown through injection of funds and creation of access to credit facilities at zero (0) percentage interest rate.
- The last, but not the least, championing good governance at all levels.

We therefore urge the various arms of government and relevant agencies to operationalize these suggested recommendations.

7. Call for Partnership and Collaboration

Fighting a pandemic requires a multinational approach tailored towards local realities and the key to effective containment is partnership and collaboration. We will like to mention here that Nigeria is already enjoying the benefits of partnership and collaboration. At the moment we have received medical supplies donation from the Jack Ma Foundation in China. The donation include: 1,000 Personal Protective Equipment (PPE), 20,000 test kits and 100,000 Face Masks. The PPE and face masks are being distributed to the front-line health workers, while the test kits are being shared among the nine molecular laboratories in the country [105]. The Federal Government (FG) of Nigeria through the minister of Health, Dr. Osagie Ehanire has also invited the Chinese medical experts to help in the fight coronavirus. This development was made known in Abuja, FCT at the 5th Joint National briefing of the Presidential Taskforce (PTF) on COVID-19 [106]. The 18-man team of Chinese medical experts would be visiting Nigeria to share experiences with the NCDC and to make delivery of some medical supplies, including ventilators and PPE. This is so important at this time, because China has technically brought the virus to submission and Nigeria needs to tap from their expertise. Information made available to NCDC will be filtered and applied to address the local realities and peculiarities in handling the COVID-19 scourge. According to the Director-General (DG) of the National Orientation Agency-NOA (Dr. Garba Abari), Nigeria will open its door to any international partner willing to help, just as the US (despite its strong health system) is opening its doors to any form of assistance coming from its partners, as long as it will add value to the fight against COVID-19 because they themselves are also getting overwhelmed by the pandemic [107]. The Nigeria Medical Association (NMA), however; on the other hand, have rejected this plan of FG [108]. They considered it as a disservice to the morale of the longsuffering frontline health force for the government to have gone ahead to bring in the Chinese medical experts without their consents. The Association of Medical Laboratory Scientists of Nigeria (AMLSN) has also expressed deep concerns over the alleged exclusion of some of their members with expertise in molecular diagnosis in the ongoing COVID-19 testing across the country. Lack of personal Protective Equipment (PPE), insufficient diagnostic test kits and test centres across the country and absolute lack of life assurance for the health workers are primordial issues calling for the attention of the government at this time and they expect the government to responding accordingly. In the light of the above concerns, we therefore call for a peaceful dialogue between the Government and the health professional bodies including the NMA, AMLSN and others. Instead of castigating each other and the Government, let us harness our strengths and collectively confront our common enemy, the monster called COVID-19 virus.

8. Conclusion

COVID-19 is here with us and the virus is quickly reshaping our lives, economies and health care systems, and new questions keep arising with little or no answers. Nigeria is unique with her peculiar challenges. The truth is that time is running out as we have beginning to experience community spread of the disease. We need to stop the exportation of the disease to other states that do not have it at the moment or face an explosion across the country. If we continue with business as usual, the disease will blow up really quickly beyond our capacity to handle and our health system will be overwhelmed to the point of collapse. We cannot therefore afford to be complacent. Complacency has been associated with the great fatalities recorded elsewhere in the world. While the government is doing its best to fight the virus, the citizens are also expected to cooperate with the government and join in the fight. We have now passed the stage of persuasion. It's time for strong enforcement by relevant authorities. A lot has been said about what Nigeria is lacking in combating the pandemic. It is high time we consider what we have in our arsenal. First, our country is blessed with committed, resilient and inventive health care workers considering the condition under which they work. The way they have tried to manage the current crisis mirrors their value and worth

to the Nigeria society. To this end, the Nigeria Government at different levels must therefore see to their well fare, this will discourage them from going overseas in search of greener pasture. We must appreciate what we have, if we don't want to lose a significant portion of our health workforce to developed countries like Canada, UK, US, just to mention a few. Second, our strength lies in our big economy, reckoned as the fast growing economy in Africa. It is high time we drew on the strengths of our private sector to combat this pandemic. Apart from financial contribution, the private sector can also drive community engagement, communication, procurement, and even the manufacturing of drugs and equipment. The last, but not the least, as a people, Nigerians are tough and resilient people. This is who we are. We must not forget this. We have gone through harder times in the past and we came out stronger. We must therefore awake from our slumber, fight off our fears and depressions and put the virus where it belongs. If China can bring the pandemic to submission, we can do the same as well by using both pharmaceutical and non-pharmaceutical measures peculiar to our settings. We also stand a chance, like China, to be applauded by the World Health Organization if we succeed in the fight. Finally, the ongoing pandemic shows how vulnerable we are as a people and how connected we should be in a time like this, in terms of information sharing, search for cure and vaccine. The short and long term solution to this plague lies in our collective strength, co-operation and good leadership at all levels. Let us, therefore put aside our differences (tribe, religion, culture and political affiliation) and together in solidarity, we shall overcome this ordeal.

Consent

It is not applicable.

Ethical Approval

It is not applicable.

Competing Interests Disclaimer

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

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