

# ASSESSMENT OF CORONAVIRUS DISEASE 2019 (COVID-19) AS A PUBLIC HEALTH EMERGENCY IN AFRICA

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## ABSTRACT

Several epidemics have posed a serious threat to global public health, notably the 2002 severe acute respiratory syndrome (SARS) epidemic, which claimed the lives of 800 people out of an estimated 8 000 cases. With the emergence and spread of 2019 novel coronavirus (2019-nCoV), also known as the severe acute respiratory syndrome coronavirus 2, a new public health crisis is threatening the world (SARS-CoV-2). COVID-19 has claimed the lives of almost 1.8 million people. The WHO declared the COVID-19 epidemic, which is focused in Wuhan, central China, a global health emergency on January 30, 2020. Individuals, as well as state and local governments, have all responded differently to the pandemic. COVID-19 precautions include keeping a safe distance, washing hands, and wearing masks, among others. Others are less stringent in requiring these safeguards or outright prohibiting high-risk behavior. Some cities, towns, and communities have closed or imposed restrictions on how many people are allowed inside at any given time, while others have remained open as usual. Masks and physical isolation in public settings are advocated or even required by some government and community leaders. Others believe it is a matter of personal taste. Masks and physical separation in public places are advocated or even required by some government and community leaders. Others argue that it is simply a matter of personal preference. COVID is now a global pandemic and an emergency, not just a matter of personal views. The severity of coronavirus disease 2019 complications have been shown to influence age and gender. Comorbidities were found to enhance the risk of infection in cases that were found. To stop coronavirus pandemic it's crucial to have access to safe and effective vaccines, so seeing many vaccines being developed and tested is quite encouraging. The corona virus 19 dilemma is has influence the global economy as well as Africa's. As a result of the pandemic, certain critical areas of the African economy are already slowing. Tourism, aviation travel, and the oil industry are all affected. Over the decade 2000-2010, Africa's growth improved dramatically. Many forms of conspiracies have been underway in numerous nations as a result of the government's exploitation of the COVID-19 as a vehicle for getting funds from other countries. In this class, conspiracy theories include assertions that the virus was manufactured in China to alleviate the overcrowding problem, while the virus was created in Europe to remove the elderly. Individuals, as well as state and local governments, have responded to the pandemic in a variety of ways. Some people take COVID-19 precautions such as staying a safe distance, washing their hands, and wearing masks.

**Keywords:** public health, COVID-19, pandemic, emergency, SARS-CoV-2

## **Introduction**

Health service systems play a key role in enabling society to react and overcome from crises and catastrophes. Local communities bear the brunt of the global health repercussions of catastrophes and crises. During the first reaction, people and communities affected by the tragedy embedded on local community assets. As a result, in the case of a disaster, local, municipal, tribe, and national emergency service authorities should always be ready to collaborate alongside inter-partners and agencies at any and all tiers of government. Emergency management is a fundamental role under public health law. Public health emergencies include contagious, life-threatening disease epidemics, natural catastrophes, chemical contamination of the environment, and radiation emission. During a catastrophe, a significant number of people may require medical assistance, causing health-care systems to become overworked and public order to be imperiled.

While health service organizations are anticipated to take a lead in disasters and emergencies, regulatory public health authorities must also prepared to collaborate with difference stakeholders, federal agencies, in reconfigure global health and its supportive roles, duties, and tasks in the event of another technological, human-caused, or natural catastrophe. Global Health Prevention Strategies was released by the centers for disease control and prevention (CDC): Directly Engage with State and local planning in 2011, a set of 15 strategies aimed at enhancing state and local public health services' emergency management capacity.

In the case of a public health emergency, vaccines, treatments, and emergency response locations may be in great demand. Provisions for storing important medicines and medical supplies, as well as protocols for delivering such commodities to areas most in need following an emergency, should be included in incident plans. To effectively deal with global health crisis, emergency measures may involve the ability to mandate forced health attention, issue orders for isolation and detention. Law restricting people's freedom directly during catastrophe or global health emergency, on the other hand, must follow international health regulation human rights protections, as well as the united nation's Siracusa Principles (UNESCO, 1984) and any locally applicable basic rights sensor information.

In contrast, a public health emergency is the immediate possibility of sickness, or a condition of health imposing significant change in human lives, as well as long-term or permanent disability. A country or state can proclaim state of public health emergency, which permits them in suspending certain restrictions thereby alter government or state agency activity.

## Characteristics of public health emergency

National laws will both empower and constrain a nation response to a public health crisis like the coronavirus outbreak. These regulations must enable the government to respond to a crisis in a decisive, unequivocal, and flexible manner. While each country's laws should be tailored to its specific conditions, the most effective laws share a few traits. In some nations, these qualities are incorporated via single public health emergency statute, whereas in others, there are distributed among a variety of legislation, regulations, and other proactive steps.

Laws dealing with public health emergencies should include the following elements, which should be modified and tailored to the nation's setting and judicial system:

**Represent the entire emergency's life cycle.** A legal framework should be in place before, during, and after an emergency to prevent, diagnose, react to, and rebuild (Kahn *et al.*, 2019). And provide a formal review of lessons learned, in levels or phases of crisis the legislation should allow public health operations to evolve and survive (WHO, 2020).

**Identify the situations that will lead to the occurrence of the triggers.** The law should apply to a wide range of circumstances that could lead to a public health emergency. In addition to infectious diseases, chemical or radiation leaks, foodborne ailments, and malnutrition must all be included in the list of diseases, conditions, or occurrences (WHO, 2020). Any list should include a catchall provision for one-of-a-kind, unknown, or suspicious instances, as well as any Guideline Public Health Event of National Interest (Mastroianni *et al.*, 2019). Not every infectious disease, on the other hand, should be covered; many infectious problems can be managed without generating an emergency.

**Make sure you have a good mix of strong and agile decision-making and relevant accountability.** Because emergency powers can be abused if there are no checks and balances in place, public health emergency authorities must respond quickly and clearly, with little red tape. IHR (2005a) The statute should make decision-making easier without endangering adequate oversight by the legislature, judiciary, or other independent institutions (IHR).

**Appropriate funding:** Budget allocations from the federal government should cover the usual operational costs of the agencies, institutions, and personnel in charge of national and subnational emergency response. For exceptional or unforeseeable circumstances, further financial help sources should be found, as well as hastened delivery methods (Sunshine G, 2017).

**All necessary public health tools should be provided to authorities.** The authorities should be given the required public health tools. During an emergency, state and national public health officials should have broad power to sign and carry out critical instructions such as mandatory isolation or segregation, sanitation, hygiene, and disassociating rules, care coordination and research procedures, screening, treatment, and immunization, disinfection, and community-based monitoring (IHR).

**Comply with the international health regulation requirements.** Each policy must adhere to the International Health Regulations (2005) of a nation (Currustine *et al.*, 2020). Forming and empowering a national focal point, as well as building and maintaining fundamental skills, identifying entry points, providing appropriate services to foreign passengers and modes of transportation, as well as notifying to the world health organization and other nations in accordance with the international health regulation are all part of this.

**Human rights ought to be safeguarded.** People's rights must be respected by the government, especially in an emergency. The methods that are required to achieve the aim are the least invasive. When restrictions are necessary, the government should ensure that basic needs like food, water, shelter, and medical care are satisfied (IHR, 2005). Different rights, such as confidentiality, the right to free expression as well as informed consent to treatment, should be safeguarded. When enforcing legislation, discrimination should be avoided (ODIHR, 2020). Everyone should be able to seek redress for legitimate grievances through an effective appeals mechanism (OSCE).

**Integrate effective health-care strategies.** Any law should be used in conjunction with existing public health initiatives and structures. A strategy for ensuring the continuation of vital health services during an emergency should be required by law; The law should foster cross-sectoral and cross-agency collaboration in areas such as universal healthcare and unified surveillance systems and management, as well as fair consumption of resources. (WHO 2020) efforts are in existence.

**Ensure that health data flows freely at all levels of government.** For real-time, operational decision-making, public health authorities require timely and reliable data. Any law should govern patient, laboratory, and provider access to health data and information, Access to health and other government organization at all levels of authorities, foreign organizations, as well as general public is also a requirement. In the legislation, privacy, privacy, and data protection precautions must be balanced against transparency principles (WHO, 2019).

**Health-care workers must be protected.** Imposing law to health care agency should be allow for effective emergency, all-encompassing protection for health care services and other key person should be provided. Workplace protections include hazmat pay and benefits, increased liability coverage security, guarantee personal security equipment and safety precautions for workplace, specific instructions on emergency standards of care, to name a few (OSCE). Officials must protect community staff from attacks fueled by discrimination, fear, and disinformation.

**Ensure that the regulations are followed without inflicting harsh punishments.** Socially responsive tactics should be used to encourage adherence to the precautionary measures. Emphasize helpful strategies, such as state education, service provision, and increased monitoring. In some cases, preventive measures such as suspension of license or fines may be required to prevent individual injury (Mastroianni *et al.*, 2019). The health agency should be in charge of managing the coordination and training of all types of law enforcement officers.

**Encourage openness.** Authorities should make risk communication a priority for broadcasting accurate information to the public (WHO, 2020). Any law should demand the public to be adequately informed about the dangers, responses, and responsibilities during an emergency. Individuals and non - governmental organizations that voice out together at recognized government channels should be protected as a result of this commitment to accountability (ODIHR), 2020).

### **Covid-19 as Africa's likely worst killer after malaria**

The most significant factor is human behavior. Individuals, as well as state and local governments, have responded to the pandemic in a variety of ways. Some people take COVID-19 precautions such as staying a safe distance, washing their hands, and wearing masks. Others are less restrictive in requiring these protections or banning high-risk behavior. Certain cities, towns, and communities have closed or have restrictions such as how many people are permitted inside at one time; others stay open as usual. Some government and community leaders advocate or even require the use of masks and physical separation in public spaces. Others think that it is a matter of personal preference. Some government and community leaders advocate or even require the use of masks and physical separation in public places. Others contend that it is purely a matter of personal taste.

The connection between those procedures and COVID-19 cases is evident: cases are growing in areas where fewer people wear masks and more people congregate indoors to eat, drink, conduct religious rites, celebrate, and interact, even with family. The coronavirus has also been found to

spread more readily in circumstances where individuals live or work in close quarters. Covid-19 outbreaks in nursing homes and "superspreader" events, in which one or more infected people spread the virus to a large group of people, continue to be reported. Following recovery from COVID-19, researchers are aiming to determine whether and for how long people are immune to the coronavirus. If immunity only lasts a short time, people may get COVID-19 again, resulting in increased death and morbidity.

### **How public health emergency affect countries**

Global changes today suggest that a more general concept of national security is required, one that includes environmental resources, and demographic concerns."(ODIHR), 2020).

In terms of environmental threats, researchers believe that diseases causing infectious with natural aetiology are prone to compromise public health emergency for the following causes: Because the activity of organisms and viruses that cause the outbreak of disease is unrestricted by country's borders, each epidemic has the ability to spread globally; second, in decay, the preceding disease outbreaks, and the prevailing human immunodeficiency virus (HIV) / acquired immunodeficiency syndrome (AIDS), strongly indicate effect in causing damaging to humans. Public health crisis can endanger a country's security in a variety of ways: A public health emergency can strain a country's economy on both the micro and macro levels; it can produce social unrest; it can topple a government; and it can have a severe influence on national defense systems.

### **Public health emergency imposed in economics**

A public health emergency could have a negative influence on a nation's economy at both the micro and macro levels (OSCE).

### **Impact on microeconomic**

The consequences of public health emergencies on worker supply and productivity, consumer purchasing power, company costs, and government domestic spending are all tightly linked micro-economically. Workplace absenteeism is likely to soar in the event of a medical emergency. When workers need to isolate themselves from others, their overall availability decreases; healthy workers may avoid going to work to fear contracting sickness from contagious coworkers and clients. Meanwhile it is recommended that employees who show symptoms of illness should be distance from other, during a pandemic, a large number of employees may either imagine or mimic illness and hence will not work. Public health emergencies can have a significant impact on spending habit of consumers. Other clients will be

ill and hence not purchase; others may avoid going to places of business to prevent getting disease. Furthermore, in such circumstances, personal spending is typically shifted again from consumption of supplies, commodities, and resources to the payment of health care and drugs. Public health emergencies most likely to have a direct impact on businesses due to the absence or loss of qualified staff, as well as a longer-term impact as insurance premiums rise. Companies would have to spend money to train new employees to take their place if trained people left; in the case of workers with unique abilities, training costs would be significant. Many developing countries are suffering as a result of AIDS; this can increase the rates of sickness and mortality with workers in their prime working periods. Individuals in this company's middle and higher service are most affected (Jessica Tuchman, 1989)

Domestic's government health care spending increase during public health crisis. The expense make by governments typically limits from two percent of gross domestic product in developed nation to fourteen percent of gross domestic product in developing ones (Robert and Ostergard, 2002) these figures surge in areas when there is a public health emergency. Provinces in Sub-Saharan Africa, for example, spend billions of dollars and more on healthcare than they had budgeted because of the HIV/AIDS epidemic (NIE, 2000). Severe acute respiratory syndrome outbreak of 2003, government activities for infant vaccination, AIDS management, tuberculosis, and other diseases suffered or were constrained as resources were moved to handle unforeseen expenditures caused by occurring disease. Generally, government's unanticipated need to spend vast sums of money to cope with a public health emergency may force it to redirect funds from previously planned health care and social programs.

### **Impact on macroeconomics**

Emergencies in public health can have a significant impact on macroeconomic well-being and GDP. Reduced foreign investment and lower GDP levels are possible macroeconomic consequences. A country suffering from an infectious disease pandemic is likely to lose its appeal to foreign investor (David Heymann, 2003). In terms of negative GDP implications, Human Immunodeficiency Virus/Acquires Immunodeficiency Syndrome in Sub-Saharan Africa demonstrates the macroeconomic consequences of a prevalent infectious disease. World Bank research shown that gross domestic product of nations substantially touched by AIDS is roughly 1% lower than that of comparable countries that have not experienced such a major pandemic. AIDS is predicted to have cost Namibia almost 8% of its gross domestic product in 1996, while Kenya is likely to lose up to 14.5 percent of Gross Domestic Product in 2005 due to pandemic.



## **The impact on social unrest**

Sickness that goes unchecked can have a devastating effect on a population's psychological well-being, resulting in societal instability. Stress creates an insecure atmosphere, which can lead to the dissolution of established social institutions such as home policing and traditional family and job duties. In recent years, communication has developed, which may worsen the societal costs of a health crisis. Domestic anxiety can be caused by any of these factors.

The HIV/AIDS outbreak demonstrate how global health disaster influence security. The high death rate associated with AIDS is leaving Africa with generations of orphans who have little educational and employment possibilities, potentially leading to, unemployed youths involving in criminality and uneducated. Deteriorating civilization is more likely to foster an environment in which youth are exploited and alienated (NIC 2000). A thread maybe posed to the society if youth are isolated. If medical emergency does not create the underlying societal degradation, it is likely to trigger existing issues.

## **Destabilization of the government**

Emergencies in public health may affect the operations of both established and freshly constituted governments. According to the United States' National Intelligence Council, High rates of infectious disease are linked to political instability in an indirect but genuine way, especially in developing countries. If a public health emergency occurs, foreigners may take advantage of a feeble government's weakness, although a current administration may lose credibility among its own population for any event, governance will be harmed, probably as a result of failure. If a disease outbreak develops in a country bordered or surrounded by hostile neighbors, such neighbors may likely exploit the government's vulnerability by waging war on it.

Indeed, public health emergencies may have both positive and negative national defense repercussions. Counterinsurgency experts claim that gaining the "hearts and minds" of inhabitants in a besieged country is vital to republic, which would be impossible if those citizens were not provided with competent public health services (Gary and Melinda, 2006). The opposite link between public health and security in nation building is exhibited when people's ability to seek medical care is limited by poor management conditions, coupled with the cause of health delivery organizations to operate adequately in unsafe regions. Nation building thus becomes a cyclical challenge: supplying a people with a decent level of public health is difficult without security, while establishing sufficient security for nation-building is impossible without adequate public health.

During a public health emergency, an established government may lose its legitimacy. This could happen if a government is unable to contain or handle the implications of an emergency. A government's inability to provide adequate protection as well as medical personnel who will be relied upon to cope with a growing health problem crises are one of the key causes for such a situation to materialize. If this occurs, the public's perception of the government's loss of control over the situation will worsen, as would the natural urge to flee an unwinnable situation. (Seth *et al.*, 2006) An uncontrolled exodus of people from region or city who affect with epidemic could have enormous repercussions.

### **Effects on Defense Forces' Health**

A military community in the midst of a health crisis is nothing new. In the past, illness was the cause of more battlefield hospitalizations than fighting injuries. Soldiers succumbing to disease can have a direct impact on military operations ranging from peacekeeping to homeland security in the short term by compromising combat readiness fundamentally. A population struggling to recover from global health crisis might be able to produce fewer qualified recruits for the military in long run, decreasing the quality of military leadership. When disease spreads among the army and population of civilians in territory, assaults by other countries become more possible. Finally, military soldiers whose immune systems have been weakened as a result of fighting an infectious disease are more vulnerable to chemical or biological weapons attacks.

### **Public health emergency that have be presented in Africa**

Pandemics, natural disasters, and public health emergencies are recognized worldwide as threats to public health and people's livelihoods, in addition to the impact they have on human health services. Forty seven countries in the World Health Organization's (WHO) in African Region suffer health security threats. Infectious diseases that have the ability to spread globally continue to be a concern both to developing nations' health systems, and to developed countries' economy, resulting in enormous economic and human consequences. Each year, the African Region registers additional disease outbreak, emergencies, as well as potential public health crises than other world health organization regions. According to a recent research, the likelihood of occurrence and reemerging infectious illness outbreaks has increased (Wang *et al.*, 2019). The recent destruction in southern Africa caused by Cyclone, the previous Ebola virus disease that occurred in Democratic Republic of Congo, Ebola virus disease epidemic in West Africa that occurred in 2013 to 2016, Northern Nigeria cholera outbreak, and South Sudan, the Democratic Republic of the Congo, Central African Republic, and Mali serve as stark recalls of the national and international threats epidemics and other contagious diseases. Several national and worldwide weaknesses were blamed for the exceptional development of West African Ebola

Virus Disease epidemic and its disastrous effects, prompting a global wake-up call (Bassetti *et al.*, 2019; Wan *et al.*, 2020).

Cumulative effects of gradual population expansion, which results in increased population size, and demographic change, which creates conditions conducive to disease spread and leads to larger epidemics, are likely to be blame for the rising prevalence epidemics and other public health crisis. Although causal relationships are complicated, climate change is likely to be a factor in some modifications in infectious disease pressure type (Moon *et al.*, 2015). Following the West African Ebola epidemics (2013 -2016), WHO health emergency reforms are starting to yield fruit. The time it takes to fight disease outbreak in African Region, for example, has fallen to 418 days in 2016 to 51 days fewer than two months in 2018. In addition, diseases have been studied and dealt with more promptly (Sands *et al.*, 2016). However, African countries have been praised for their commitment to evaluate and enhance their international health regulation capacities in order to plan for and respond to public health emergencies (WHO 2019). The global health regulation capacities of 46 countries in WHO African area were examined using a joint external assessment (WHO 2018, Talisuna *et al.*, 2005).

A number of worrying phenomena have emerged. For example, there is data that hitherto uncommon Viral Haemorrhagic Disease infections have lately erupted in the region, causing catastrophic epidemics (Changula *et al.*, 2014). Guinea, Sierra Leone and Liberia(2013–2016) (Mbonye *et al.*, 2012; Breman *et al.*, 2016; undurraga *et al.*, 2017; Spengler *et al.*, 2016), Uganda (2017 and 2018) (Sneller *et al.*, 2019; Nyakarahuka *et al.*, 2017), Democratic Republic of Congo (2018 to 2019), for example, hitherto rare Ebola and Marburg Virus Diseases caused catastrophic epidemics (Nyakarahuka *et al.*, 2019).According to a detailed regional risk assessment and mapping conducted in 2016 for all epidemics reported in Africa between 1970 to 2016, the epicentres of Ebola virus disease and the Marburg virus epidemic diseases were largely in Central Africa, with the exception of West Africa Ebola virus illness outbreak (WHO 2018). meningococcal meningitis epidemic lately occurred outside the meningitis belt, indicating that the danger zones are likely to spread (WHO 2018). Cholera is becoming an endemic illness rather than an epidemic. In 2017, over 150,000 Cholera cases were reported in 17 African countries, with over 3000 deaths (WHO, 2018). Cholera outbreaks were recorded in countries including Chad and Zambia, where they were uncommon before 2016.

### **Corona virus as a public health emergency**

On January 31, 2020, the World Health Organization declared a novel coronavirus pandemic in Wuhan, China, a "Public Health Incident of Global Concern", on February 13, 2020, the 2019-

nCoV was formally designated as Corona Virus Disease-2019 in Geneva, Switzerland. The virus soon spread throughout China's major cities.

Coronavirus disease 2019 (covid-19) was declared a pandemic by World Health organization (WHO) on march 11<sup>th</sup> 2020 due to disease's rapid and extensive spread (WHO, 2020). Originally, it started as a mainland Chinese outbreak, with the first case recorded February 26<sup>th</sup> in Wuhan, Hubei province (WHO, 2020; Zhu *et al.*, 2020; Zhan *et al.*, 2020). At the time, the etiology agent of covid-19 was isolated and identified as a coronavirus novel, dubbed 2019-nCoV. The viral dna was sequenced (Gralinski and Menachery, 2020). Due to genetically identical to the coronavirus pandemic which caused the SARS outbreak in 2003 the international committee for virus taxonomy term it severe acute respiratory syndrome coronavirus -2 (SARS-CoV-2) (Zhou *et al.*, 2020, WHO 2020). A probable was proposed when DNA sequence identity was discovered between SARS-CoV-2 and Bat-CoV-RaTG13 acquired from bat species inhabit around Wuhan. Coronavirus also considered as natural pangolins presenter (Liu *et al.*, 2020). Whereas, after a visit to Wuhan by WHO committee on 22<sup>nd</sup> of January, 2020, observation of human to human transmission became substantially established (Zhang *et al.*, 2020).

The virus spread rapidly throughout China's metropolises. The Chinese government officially announced on February 13, 2020, about 59,901 patients had been detected with the new coronavirus-infected pneumonia, caused about 1368 total death; the Chinese authorities officially announced 76,003 patients had been detected with the newly infected coronavirus pneumonia caused 2,239 death and bring hundreds and thousands of occupants under detention on February 22, 2020. In recent years, it was discovered that the severe acute respiratory syndrome and the Middle East respiratory syndrome caused virus are related to the 2019-nCoV. 2019-nCoV is thought to be of animal origin. Although it can be spread through direct contact, respiratory tract, patient's excreta that contain active virus. As a result, Chinese medical institutions have faced considerable challenges as a result of 2019-nCoV (WHO, 2020).

### **COVID-19 SYMPTOMS, COMPLICATION AND COMORBIDITY**

COVID-19 has been related to a variety of symptoms, ranging from simple aches and pains to life-threatening illness. Symptoms might appear anywhere between 2 and 14 days after being infected by virus. Covid-19 is a virus that causes the following signs and symptoms in humans:

1. The presence of a fever or chills
2. Fatigue
3. Shortness of breath or trouble breathing

4. Aches and pains in the muscles or throughout the body
5. Migraine
6. New olfactory or gustatory loss
7. Congestion or a runny nose
8. Sore throat
9. Vomiting or nausea
10. Diarrhea is number eleven
11. Coughing.

This isn't a comprehensive list of all possible symptoms. As new information regarding COVID-19 becomes available, the CDC will continue to update this list. Covid-19 illness appears to elevate the risk of serious consequences among the elderly and patients with acute medical record including lung disease, heart problem and diabetes.

### **Covid-19 complications**

The severity of coronavirus disease 2019 complications have been shown to influence age and gender. Adolescent mortality rates are less than 0.1 percent, while they can reach 10% or more in older patients. SARS-CoV-2 infection is more having major issues in men than in women (WHO, 2020). Cancer patients and organ transplant recipients patients are vulnerable to high risk of significant covid-19 effects.

The following are the most common complications observed in SARSCoV-2 patients:

1. Coagulopathy, characterized by circulate intravascular coagulation, prolonged prothrombin time,, an increased D-dimer and venous thromboembolism.
2. COVID-19-induced laryngitis and laryngeal oedema in severely unwell person.
3. Necrotizing pneumonia induced by a Staphylococcus aureus infection that secretes Panton-Valentine leukocidin. This type of super infection is almost always lethal (Duployez *et al.*, 2020).
4. Cardiovascular problems, including as left ventricular dysfunction, acute pericarditis and acute myocardial damage (linked to elevated serum troponin) new or severe heart failure

5. Acute respiratory failure is the initial sign. (Kluge *et al.*, 2020)
6. Sepsis manifests itself in a variety of ways, including, organ failure and septic shock.
7. Male patients are at greater risk of death due to severe sickness, cardiac issue, hyperglycemia, as well as corticosteroid users on large dosages (Li *et al.*, 2020).
8. Ventilation-associated pneumonia.
9. Acute right-sided cardiac failure is more complicated by major pulmonary embolism (Ullah *et al.*, 2020).

### **Comorbidity**

Comorbidities were found to enhance the risk of infection in cases that were found (CDC 2020). The old people, particularly patients with major medical issues are at high risk of contracting Corona virus 2019 according to current information and clinical expertise. A state in which two or more diseases are present at the same time is known as comorbidity. A vulnerable population with serious health issues or chronic health disorders including lung disease, cardiovascular disease and diabetes are vulnerable of higher risk of getting serious sickness, and also of dying if they become ill (BCCDC, 2020). Covid-19 infection is more likely in people with uncontrolled medical disorders like hypertension, lung disease and kidney illness, and those with long-term steroids.

Because the virus affects the respiratory tracts, patients who manifest severe to moderate asthma are at consequence follow with pneumonia and respiratory distress. Report by centers for disease control shown that weekly morbidity and death report, 34.6% of patients age 18 to 49 had a serious lung condition such as asthma (Garget *et al.*, 2020).

### **MANAGEMENT OF COVID-19**

To stop coronavirus pandemic it's crucial to have access to safe and effective vaccines, so seeing many vaccines being developed and tested is quite encouraging. To discover manufacture and distribute safe and effective vaccination, world health organization is working relentlessly. However, safe and efficient vaccines are way to combat this infection, but the rule must still remain, the continue wearing of masks, regular washing of hands, proper ventilation indoor, and physical distance ourselves from crowds must be encouraging.

## **Vaccine**

21 covid-19 vaccines were awarded emergency use authorization by national regulatory bodies. However, six has approved for emergency or full use by world health organization. This includes:

1. Orford-AstraZeneca
2. Pfizer-BioNTech
3. Sinopharm-BBIBP
4. Moderna
5. Sinovac
6. Janssen (95)

## **WHO various ways of managing covid-19**

Patients who show moderate symptoms may present to emergency unite, primary care unite, or through home visits and telemedicine.

To prevent virus transmission, patients with moderate corona virus 19 who are suspected or confirmed should be isolated.

Patient with symptomatic mild covid-19 should be treated with antipyretics for fever and discomfort, enough nourishment, and with proper rehydration.

The signs and symptoms of complications that require immediate attention should be informed to patients with mild corona virus 19.

## **Moderate stress management Pneumonia therapy with COVID-19**

To prevent virus transmission, isolation should be made compulsory among confirmed or suspected case patients with moderate covid-19 infection. Patient with mild illnesses may not necessary require emergency treatment, but all suspected or confirmed cases must be isolated.

## **Severe case management COVID-19 is a therapy for severe pneumonia.**

The following should be installed; pulse oximeters, working oxygen system, single-use oxygen-delivery in all regions where severe confirm case may be cared for venturimask and reservoir bag mask and nasal cannula.

Patients whose show sign and symptom of coronavirus, such as quickly progressing respiratory failure, and intervene as soon as possible with supportive care.

## **Management of critical information**

In anyway, patient with respiratory distress fails to respond to normal oxygen therapy, we advocate rapid detection of developing acute hypoxaemic and proper planning in deliver ventilation support.

A qualified and experienced clinician who takes airborne precautions should handle endotracheal intubation. Adult should aim for MAP > 65 mmHg and improvements in perfusion indicators as their first blood pressure goal. Vasopressors to children should be providing if signs of fluid exceeded are visible (Hsiang *et al.*, 2020).

## **Socio-economic impact of COVID-19**

### **Impact on Africa's Economic Development**

The corona virus 19 dilemma is has influence the global economy as well as Africa's. As a result of the pandemic, certain critical areas of the African economy are already slowing. Tourism, aviation travel, and the oil industry are all affected. Over the decade 2000-2010, Africa's growth improved dramatically. After a decade of renewed optimism, concerns have grown about Africa's ability to maintain strong growth rates indefinitely. One of the main reasons for this skepticism was Africa's leading nation continued reliance on global commodities prices. The coronavirus pandemic has spread to practically to every African country which seem to be on the verge of becoming much worse. The primary causes of negative growth in many African nation is due to enforcement of travel and social restrictions and further cause declines in commodity prices and fiscal revenues thereby disrupting global economy via global value chains. In 2019 the African countries import and export fall by at least 35%. As a result, a value loss of around 270 billion US dollars is expected. Africa would need to increase state spending by at least 130 billion dollars to combat the virus's spread and provide medical care.

### **In the African tourism and travel industry, there has been a loss of activity and jobs.**

COVID-19 will have a significant impact on tourism, which is an important source of revenue for many African countries, due to ban among travellers, border closures, and social alienation. African air transport industry is worth about \$55.8 billion creating 6.2 million jobs accounting for 2.6% gross domestic product. International airline are affect by these restriction such as Ethiopian airlines, Egyptair, Kenya airways, South African airways, and others. Layoff of some airline staff and equipment will be the first implication. Approximately 70 million jobs are created by airline transportation and tourism value chain which is 35% of global trade (IATA, 2020). In March and April approximately 20 percent of international reservations in African

plummet while 15 percent in March and 25 percent in April record decreases in domestic booking.

Ticket fund increased by 75% in comparison with 2019 between February 1 and March 11 2020. As a result of covid-19 african airline already lost \$4.4 billion between March 11, 2020. In previous years, Ethiopian Airlines has recorded a \$190 million constant proportion deficit. Their population is expected to be 70 million in 2019 and about 75 million in 2020 (UNWTO). Tourism and travel is one of the primary sources of growth for African economy which account for 8.5 percent in gross domestic product in 2019 (WTTC).

### **Exports from Africa**

According to UNTACD, total African commerce averaged US\$ 760 billion each year between 2015 and 2019, accounting for 29 % of gross domestic product in the country's. Intra-African commerce accounts for about 16.6 % of total trade in comparison with other regions of the world. As a result of decreased in infrastructural development, financial and monetary integration and industrial transformation as well as tariff and non-tariff barriers, all contribute to this predicament. As a result, the African economy is one that is prone to shocks and foreign decisions. Because of the worldwide trade halt which began in January in response to the covid-19 pandemic, as well as a confrontation between Saudi Arabia and Russia, crude petroleum currently undergoing greatest shock in history, with prices decreasing below \$30 per barrel. Commodity-sensitive sectors will be severely hit by the recent oil price drops, among Nigeria, Algeria, Cameroon, Angola, Equatorial Guinea, Gabon, and the Republic of Congo, Chad, Ghana among the worst affected. (Somani *et al.*, 2020)

### **On the environment**

As a result of corona virus 19, the authorities of the majority of the afflicted nations began restricting people's movement in attempt to prevent the virus's spread and reduce the number of fatalities. As a precautionary measure involving covid-19 that began on 24 March, 2020, India restricted the movement of around 1.3 million customers. Except for emergency services examples, medical, fire, police, food supply, and so on, to encourage individuals stay at home precautionary measure, all other groups, including educational ones, are closed. With exception of the delivery of essential supplies and emergency services, all public transportation services (e.g., buses, trucks, trains, airplanes, etc.) were halted (Tripathi, 2020). Italy implemented the most travel restriction following world war II (Cellini *et al.*, 2020). Regular bustling pubs, restaurants and theaters closed in London's and citizens have been order to stay home. According to the committee of World Economic Forum, about 3 billion people are under

lockdown as of April 7, 2020, and individual governments are restricting movement in order to combat the covid-19 disease (WEF, 2020).

Epidemic has wrecked havoc on the world economy, with environmental effects such as enhanced water quality as well as air, noise pollution, and ecological restoration (Chakraborty and Maity, 2020, Chen, 2020). Furthermore, disposable personal protective equipment examples face masks, hand gloves, shields etc. can lead to environmental contaminant. The global disturbance caused by covid-19 has multitude of effects for the biosphere and climate. Air quality, significant slowdown in social and economic activity as result of movement limitation has improved in many cities, water pollution has decreased in many countries (Saadat *et al.*, 2020; Fadare and Okoffo, 2020; Nghiemet *al.*, 2020).

### **Environmentally beneficial effects**

**There is a reduction in air pollution and greenhouse gas emissions.** Emission of greenhouse gas has decreased considerably as factories, vehicles, and enterprises have closed. In New York air pollution has decreased nearly to 50% compared to this period last year as a result of viral management measures (Singhet *al.*, 2020). Suspension of heavy industries in China was expected to result in a nearly 50% reduction in NO<sub>2</sub> and emissions carbon dioxide (Henriques, 2020). Emissions of NO<sub>2</sub> are a crucial indicator of economic activities happening globally, and several nations including the United States of America, Canada, China, India, Italy, and Brazil are seeing a decrease as a result of the recent shutdown due to pandemic (Caine 2020, Biswal *et al.*, 2020).

Greenhouse gas emissions in the transportation sector result to 75 % and 11% automobiles and airplanes are estimated to be big emitters (Ghosh, 2020). Coronavirus disease is having a profound impact on the aviation industry. In several countries international travellers are subject to entry and exist restrictions. Due to a decrease in passengers and rules, commercial aviation companies are suspending worldwide flights. For instance, as a result of the virus, China reduces its departing aircraft capacity by 50–90percent and local flight capacity by 70%, compared to January 20, 2020, resulting in an approximately 17 percent reduction in national CO<sub>2</sub> emissions (Zogopoulos, 2020). Covid-19 pandemic is believed to have cut global air pollution by 96 % in comparison to the same time previous year (Wallace, 2020), with lengthy environmental repercussions.

**Water pollution reduction:** During the lockout, large industrial pollution sources shrank or stopped entirely, reducing pollutant loads. As a result of coronavirus disease 2019 lockdown, the Italy Grand Canal has apparently been clean, with the reappearing of diverse aquatic species

(Clifford, 2020). It was demonstrated that during the pandemic lockdown, the pH concentrations, electric conductivity, dissolved oxygen, biochemical oxygen demand (BOD), and chemical oxygen demand in various monitoring stations reduced by approximately 1–10%, 33–66%, 45–90%, and 33–82%, respectively, compared to the pre-lockdown time (Arif *et al.*, 2020). Furthermore, the enforcement of public gathering prohibition, amount of visitors and water activities were restricted among various locations.

According to sources, covid-19 lockdown, Tunisia's food waste has decreased, resulting in less land and water contamination. Industrial water use, on the other hand, has dropped, particularly in the textile industry surrounding the globe. A significant amount of solid waste was typically created throughout the manufacturing and construction operations, resulting in water contamination that must be reduced. Furthermore, decreasing export-import activity reduces worldwide movement of commercial vessels and other vessels, cutting emissions and water habitats.

**Noise pollution reduction:** Noise pollution can be characterized by high amounts of sound created by numerous human activities for example, machines, automobiles, and construction that cause harm to humans and other living creatures. Noises have a negative impact in human physiological health, causing problems such as cardiovascular disease, sleep deprivation and hypertension (Kerns *et al.*, 2018). Approximately millions of people in Europe are subjected to noise pollution levels that exceed permissible limits (WHO, 2012). Quarantine and lockdown procedures, on the other hand, drove individuals to stay at home, lowering economic activities with communication globally, and resulting in lower noise levels in most regions. Overall, noise pollution reduced as a result of reduction in economic activities due to covid-19 lockdown.

**Restoration of the environment and integration of tourist sites:** The tourism industry has grown dramatically in recent years as a result of advancements in technological and improved transportation networks, adding significantly to gross domestic product globally (Lenzen *et al.*, 2018). Natural beauty tourist destinations such as, islands, beaches, national parks, mountains, deserts, attract a great number of people. Puig *et al.* (2017)(Puig *et al.*, 2017), for example, assessed the coastland hotel services and carbon footprint of Spain's discovered that electricity and fuel usage have a major impact, with 2-star hotels releasing the most carbon. In addition, visitors leave a variety of rubbish, which detracts from the natural beauty of the place and causes an ecological imbalance. As a result of covid-19 outbreak, the number of tourists visiting tourist center around the world decreased. At Cox's Bazar sea beach, the authority has prohibited public gathering and visitor arrival. As a result of restriction the color of sea water changes, as a result of swimming and other activities it is generally unclean (Rahman, 2020).

## Negative effects on the environment

**Increased production of biomedical waste:** The production of medical waste has increased substantially since covid-19 outbreak, imposing a serious threat to public health and the environment. Many infectious and biological wastes are generated in hospitals for the goals of collecting samples from suspected covid-19 patients, diagnosing, treating large number of patients. More than 240 metric tons of medical waste were generated every day in Wuhan, China during covid-19 outbreak, which is more than 190 metric tons more than the national average (Zambrano-Monserrate *et al.*, 2020). Unanticipated surge in hazardous rubbish and its proper management, municipal waste management authorities have been confronted with massive problem. According to newly published material, the SARS-CoV-2 virus may persist for days on cardboard and three days on plastics and stainless steel (Van-Doremalen *et al.*, 2020). As a result, medical waste such as needles, syringes, bandages, masks, gloves, used tissue, and discarded drugs must be managed properly to minimize further infection and environmental contamination, which is now a global concern.

## TREATMENT INTERVENTION

### Africa intervention toward managing covid-19

As covid-19 news spread from Wuhan, China, in December 2019, Africa began to prepare for events of first cases resulting from its close ties to China, a key trading partner and host to more than 80,000 African. According to data models based on Chinese air-travel, Egypt, Algeria, and South Africa are country's most at vulnerable to covid-19 of first introductions and spread in Africa. African authorities were acutely aware that failing to control covid-19 would imperil health, and security, given on their experience with the Ebola virus disease outbreak in 2014 in West Africa (Parpia *et al.*, 2016). Member states of the African Union focused rapidly on limiting covid-19 imports and controlling onward transmission inside their boundaries. On January 2, 2020, Ivory Coast (ACAPS 2020) and other African countries began employing increased airport monitoring; all travellers with recent history of travel to China were screened.

As a result, African carriers have restricted direct flights from China. At first, the tactic looked to be working, Egypt recorded the first COVID-19 incidence on the continent on February 14, 2020, and it was a contact with a person who had previously traveled to China. African nations such as Algeria, Cameroon, Egypt, Morocco, Nigeria, Senegal, South Africa, Togo, and Tunisia have confirmed over 40 cases by the end of the first week of March. The majority of index cases originated in Europe, where the epicenter had moved by 13 March, and the cases contributed to the pandemic's early spread into Africa.

**The CDC's response in Africa:** in early January 2020 Africa center for disease control (CDC), Africa's union technical entity in charge of continental public health began monitoring reports of pneumonia from Wuhan. On January 27, 2020, the Africa center for disease control (CDC) activated its covid-19 emergency operations center after at least four Asian countries confirmed infections. Added to that press briefings and weekly meetings were regulated, virtual coordination meetings with Africa CDC regional collaborating centers also commended, minister's health, couple with national public-health organizations was held to ensure periodic dissemination of information about the rapidly spreading pandemic.

The Regional Collaborating Centers, which allowed countries' alarms and reports to be verified throughout the five African regions, facilitated communication. Data shared by governments and monitored by the Africa center for disease control (CDC's) event-based surveillance team is incorporated into a real-time "dashboard" that displays how the pandemic is moving throughout African Union Member States (AFCDC 2020). Due to the virus's late discovery in Africa, the nation was given more time to prepare. Africa Center for disease control took advantage of this brief window of opportunity to hastily prepare a nation response. On February 22, an emergency meeting of African ministers' health adopted the Africa joint continental strategy for covid-19 (AFCDC 2020). Approach was adopted by the Bureau Assembly of Africa union, Heads of State and Government, providing African leaders and ownership of the pandemic response initiative. Collaborating with health services in sub-regional economic blocs increased coordination with synergy. African Task Force for covid-19 was in charge of carrying out the national strategy. Africa center for disease control (CDC), Africa union Member States, and partners, including the World Health Organization (WHO) have harnessed and leveraged existing national expertise through technical working members aligned with priority areas. Technical working groups investigate the most recent evidence and best practices before merging them into policy and technical recommendations in driving public-health action against covid-19 and to build coordinate readiness and response across the continent. African countries, international health institutes, and partners have joined forces to support the Collaborative Continental Policy's implementation. The Bill and Melinda Gates Foundation pledged \$20 million in early February 2020 to help strengthen emergency operations centers, efficient monitoring, and isolation across the region, while Ethiopian officials and the Jack Ma Foundation provided medical supplies, such as diagnostics, to each of Africa's 55 countries (Bill & Melinda Gates Foundation 2020). (AFCDC).

**Continental strengths:** Response to numerous epidemics on the continent, Africa has made major investments in preparedness and response operations including Ebola virus disease, human immunodeficiency virus, Lassa fever, measles, polio. This technical expertise was rapidly

adapted by COVID-19. COVID-19 diagnostics training and information have been developed for continental exchange platforms with a big audience. Prioritizing domestic requirements over exports has resulted in inequitable distribution and shortages of key medical goods, generating motivation to increase local production capacity: to boost the continent's development, African entrepreneurs and investors have increased "home-grown" manufacturing of vital medical commodities ranging from masks and hand sanitizers to ventilators and mobile applications (Nebe and Jalloh 2020).

### **Fallacies about COVID-19**

Since the advent of the global lockdown triggered by COVID-19, there has been a controversy regarding the global health issue, led by groups of people who question the facts as stated by governing organizations and health practitioners. There has always been a discussion among scientists, medics, and people regarding who understands more about this global pandemic. It's as though we're divided into two halves of the same building. Many people still doubt the reality of the COVID-19; for some, it's merely a political game. Conspiracy theories range from wholly fabricated content to the use of preliminary or speculative results to which absolute certainty is given in a game of Chinese whispers.

Many forms of conspiracies have been underway in numerous nations as a result of the government's exploitation of the COVID-19 as a vehicle for getting funds from other countries. As a result, speculations have circulated that number of confirmed cases has been exaggerated. In Nigeria, for example, some hospitalized patients indicated that a normal malaria infection was wrongly recorded as a COVID-19 case. Nigerians are still concerned about how the Nigeria center for disease control (NCDC) treats covid-19 patients since the WHO banned the use of hydroxychloroquine.

Many Nigerians continue to have reservations about the NCDC's testing capabilities. A lady was seen dancing continually to the song "Do you know anybody who knows somebody, who has corona" in a viral video shared on social media, thus calling the corona virus a hoax, especially in Nigeria. The majority of Nigerians are outraged, noting that despite the large number of COVID-19 cases, none of them have ever seen a sickness victim; the only ones they've seen on camera are a bunch of NCDC officers engaged in fatal battle with their suspected victims.

In this class, conspiracy theories include assertions that the virus was manufactured in China to alleviate the overcrowding problem, while the virus was created in Europe to remove the elderly. The conspiracy belief in Nigeria is that the virus has arrived to destroy the country's corrupt political leaders. It's also possible that the pandemic will be used as an excuse to impose

meddling mass vaccinations, with the true goal of implementing Orwellian social control mechanisms. Other conspiracy theories claim that the lockdown is being used as an excuse to keep people confined to their homes while totalitarian measures are enacted. A common goal is to demonstrate political and economic powers' collaboration for nefarious purposes.

Other Pharisees includes: The prophetic genesis of SARS-CoV-2 predicted by Nostradamus, Bill Gates, or the Simpsons. A resurgence of anti-sanitism, with Jewish groups accused of speeding up the virus in order to poison gentiles and sacrifice them as part of religious rituals. Finally, the 5G conspiracy has spawned its own narrative in Europe and beyond. According to popular belief, SARS-CoV-2 is communicated via 5G antennae, and that 5G technology has a detrimental health impact, making people exposed to the illness.

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