

PUBLIC HEALTH AGENCIES AND SECONDARY SCHOOL MANAGEMENT AUTHORITIES IN THE MITIGATION OF COVID- 19 PANDEMIC IN NIGERIA

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Abstract

The study was designed to ascertain how public health can collaborate with school management to curtail the spread of COVID – 19 among Secondary School Students in Nigeria. Good health is one of the fundamental human rights that everybody is entitled to enjoy, and it is expected of the public health experts to provide services to students and also necessary information on how to curtail the spread of COVID – 19 to students. Studies showed that several measures had been instituted by the Federal Government of Nigeria through the PTF – COVID – 19, with the Federal Ministry of Health to curtail the spread of the disease among the Students. These includes an initial lockdown of non-essential activities; closure of schools. Based on the study, it was therefore recommended that government through Public Health experts should ensure that students in Secondary Schools observe the COVID – 19 protocols, by washing their hands regularly and ensuring the proper use of nose mask.

Keywords: COVID – 19, Secondary School Students, Public Health, Federal Ministry of Health

Introduction

Coronavirus disease 2019 (COVID-19) is a highly contagious viral infection, and it has negative effects on public health. The novel Coronavirus (2019-nCoV, officially known as SARS-CoV-2 or COVID- 19) was first reported in December 2019, as a cluster of acute respiratory illness in Wuhan, Hubei Province, China, from where it spread rapidly to over 198 countries. It was declared as a global pandemic by WHO on 12th March 2020 (Eurosurveillance Editorial, 2020). Coronaviruses are a large family of viruses that cause illness ranging from the common cold to more severe diseases. The coronavirus outbreak continues to increasingly wreak havoc on the health systems and economies, the world over. With its impact, albeit largely unaccounted for, there is no denying the significant imbalances in response between governments that have fostered fear amongst the populace. COVID- 19 is characterized by rapid transmission, and can occur by close contact with an infected person.

COVID-19 has spread widely and rapidly, from Wuhan city, to other parts of the world, threatening the lives of many people (Wang *et al.*, 2020). By the end of January 2020, the World Health Organization (WHO) announced a public health emergency of international concern and called for the collaborative effort of all countries, to prevent its rapid spread. Later, the WHO declared COVID- 19 a “global pandemic” (Tang, *et al.*, 2020). As the virus continues its relentless spread, there is an accompanying cascade of unending tragedies in economies and the death of families. Purveyors of world health systems are contending with a pandemic of unprecedented levels. The crises are unassuming, and the world is reeling from a common fear. The interventions at best at these times are to mitigate the spread by flattening the curve, with the hope that the mortality rates can remain at a manageable rate. This is particularly of importance to African countries, whose health systems are significantly subpar in comparison to any other continent in the world, with a disproportionate ratio of hospital beds, Intense Care Units (ICU) and health professional to its population.

While performing his routine checks on patients, a physician reported some disturbing symptoms of patients showing signs of a severe acute respiratory syndrome resembling a SARS-like illness, to a group chat in a large metropolitan area in China’s Hubei province. At first, the Chinese authorities tried to shield the truth away from the public by closely guarding information about the illness. Its symptoms had so much in common with pneumonia, which led researchers to initially identify it as a corona virus due to these traits. The health scarce gradually became public, evoking a sense of urgency in understanding the new respiratory infection ravaging that community, with authorities making efforts to contain its spread. On the other hand, it enhanced the fear that if uncontained, it could morph into an outbreak, resembling that of SARS (a severe acute respiratory syndrome), which originated from China and eventually ended up infecting more than 3,000 people and killing 774 (Wee and McNeil, 2020).

According to Lango, (2020), the genome’s homology of SARS was closely tied to that of a coronavirus, due to the causative agent being common cold, thereby accounting for up to 30% of upper respiratory tract infections in adults. Therefore, it became known in the scientific arena as SARS-COV-1. Since the prevailing infections raising health concerns in that region was considerably similar, but not identical to the SARS-COV- 1, which had caused the SARS epidemic, the virus was renamed SARS-COV- 2 (Lango, 2020). A novel coronavirus is a new strain that has not been previously identified in humans. The virus can spread from an infected person’s mouth or nose in small liquid particles when they cough, sneeze, speak, sing or breathe. These particles range from larger respiratory droplets to smaller aerosols. Current evidence suggests that the virus spreads mainly between people who are in close contact with each other, typically within 1 meter (short-range). A person can be infected when aerosols or droplets containing the virus are inhaled or come directly into contact with the eyes, nose or mouth.

The virus can also spread in poorly ventilated and/or crowded indoor settings, where people tend to spend longer periods of time. This is because aerosols remain suspended in the air or travel farther than 1 meter (long-range). People may also become infected by touching surfaces that have been contaminated by the virus when touching their eyes, nose or mouth without cleaning their hands. In health facilities where people are receiving treatment for COVID-19, there is an increased risk of infection during medical procedures called aerosol generating procedures. These can produce very small droplets that can stay suspended in the air for longer periods of time and spread beyond conversational distances (typically 1 meter). There was an immense burden on the World Health Organization to increase the warning signal of the outbreak to that of a Pandemic level, for several reasons. Such as to improve the preparedness of governments around the world and also, to effectively reflect the prevailing severity of the outbreak. This was immediately met with resistance by the World Health Organization. With Green, (2000) arguing that their reluctance could have stemmed from their beliefs that, if it is declared a pandemic, it may convey a message to the public that the authorities have lost control, thereby generating irrational panic reactions. Accordingly, Annalies Wilder-Smit, (2020) a professor of emerging infectious disease at the London School of Hygiene and Tropical Medicine in Spinney, opined that after WHO was criticized for declaring a pandemic too early during the 2009 swine flu pandemic, it has been careful not to make the same mistake again.

There were palpable fears and apprehensiveness displayed toward the African continent, by various world bodies, as well as developmental commissions, all for valid reasons. Africa was particularly susceptible, because as European Commission for Africa, (2020) argues, 56% of the urban population is concentrated in overcrowded and poorly serviced slum dwellings, with only 34% of the households having access to basic hand washing facilities. Arguably, the health systems of countries in Africa are considerably weaker than elsewhere in the world; with lower ratios of hospital beds, ICU's, and health professionals to its population. Additionally, due to the high volume of air traffic and trade between China and Africa, Africa was considered to be at high risk, for the introduction and spread of the novel coronavirus disease. Subsequently, this cast doubts on the ability of these nations to deal with the preceding events, eventually underscoring the critical importance of synergy and coordination amongst their governments and commissions. However, this fear was allayed by (Gilbert, *et al.*, 2020), who modelled and analyzed the preparedness and vulnerability of African country's response to COVID-19 and echoed confidence in the manner in which they strengthened their surveillance system and preparedness, through the introduction of mitigation strategies.

Perhaps cognizant of the derelict state of the healthcare system, while many countries were still dismissing the emerging outbreak, the African Union acted

swiftly (The Lancet Editorial, 2020). In Nigeria, as with the rest of several countries in the continent, there were a plethora of issues that threatened to work against our response strategy. On the other hand, it is worth commending the actions of the Nigeria Centre for Disease Control amidst obvious limitations in resources. It is noteworthy to highlight some of the strategic interventions it had put in place to help combat the disease, to ensure that the health and economic consequences associated with COVID-19 are limited (Adepoju, 2020). Interventions such as the distribution of information on personal hygiene and cough etiquette to the general populace using various channels, setting up of a network of state and public health emergency network centres within the country, in addition to training of skilled manpower on contact tracing and treatment, amongst others. More so, the establishment of five laboratories with full testing capabilities to reduce response time for the detection of the disease. Adepoju, (2020) underpinned their resolve to achieve their objectives. Undeniably, this was instrumental in the earlier stages, in curbing the further spread and local transmission of the disease amongst the populace.

Symptoms of COVID- 19

Symptoms of COVID- 19 are variable, but often include fever, cough, headache, fatigue, breathing difficulties, and loss of smell and taste. Symptoms may begin one to fourteen days after exposure to the virus. At least a third of people who are infected do not develop noticeable symptoms. Of those people who develop symptoms noticeable enough to be classed as patients, most (81%) develop mild to moderate symptoms (up to mild pneumonia), while 14% develop severe symptoms (dyspnea, hypoxia, or more than 50% lung involvement on imaging), and 5% suffer critical symptoms (respiratory failure, shock, or multi-organ dysfunction). Older people are at a higher risk of developing severe symptoms. Some students continue to experience a range of effects (long coronavirus for months after recovery, and damage to organs has been observed. Multi-year studies are underway to further investigate the long-term effects of the disease (Zimmer, 2021).

COVID- 19 transmits when people breathe in air contaminated by droplets and small airborne particles containing the virus. The risk of breathing these in is highest when people are in close proximity, but they can be inhaled over longer distances, particularly indoors. Transmission can occur if splashed or sprayed with contaminated fluids in the eyes, nose, or mouth, and rarely, via contaminated surfaces. People remain contagious for up to 20 days, and can spread the virus even if they do not develop symptoms. Several testing methods have been developed to diagnose the disease. The standard diagnostic method is by detection of the virus' nucleic acid by real-time reverse transcription polymerase chain reaction (rRT-PCR), transcription-mediated amplification (TMA), or by reverse transcription loop-mediated isothermal amplification (RT-LAMP) from a nasopharyngeal swab.

Economic Impacts of COVID-19 on Nigeria

Governments all over the world face formidable challenges as the pandemic effectively cancels out the economic successes they had recorded so far before the outbreak. No country is spared in the challenges it poses with governments left to reckon with its devastating effects, whilst others are scrambling to save the little that is left of their economies by guarding against their annihilation through proactive measures. It is reported by World Bank, (2020) that the swift and massive shock of the corona virus pandemic and shutdown measures to contain it, will lead to steep recessions in many countries. It predicted that the global economy will shrink by 5.2% this year, representing the deepest recession since the Second World War. Nigeria in particular is on track to face its worst recession in four decades. With a lot of economic uncertainties about the depth and duration of the global recession, there is a renewed effort to formulate an extraordinary policy response to enliven economic activities, provide the financial resources necessary to protect the most vulnerable, and avoid near-collapse of the financial sectors.

As World Bank, (2020) argues, COVID-19 will take an especially heavy humanitarian and economic toll on emerging markets and developing economies with large informal sectors. And with the informal sector in Nigeria employing over 48 million Nigerians, in addition to the constant weak growths experienced in the Nigerian economy, the effect of the pandemic is expected to be staggering (Dauda *et al.*, 2020) debilitating and long-lasting. Nigeria has to contend with a sharp reduction in GDP, which amounts to approximately USD 16 billion in cost, and represents a 34.1 % loss, with two-thirds of the losses coming from the services sector (Andam, *et al.*, 2020). As a country with a weak and almost non-existent social safety net programme, which could have assisted the vulnerable and poor in the country to cope with the economic hardship, it is estimated that there will be a temporary increase in the national poverty rate, with 27 million more people falling into poverty, as a result of COVID-19 (Andam, *et al.*, 2020). Wherein more than one-third of the people forecasted to be pushed into poverty by the COVID-19 crises are expected to be in urban areas (Nigeria Development Update, 2020).

For the average Nigerian, (Dauda *et al.*, 2020) asserts that their income will decline significantly for almost half of the households, with the cost of food and other basic needs increasing significantly. Due to the arguments highlighted above, the economic cost of the pandemic will inflict long term damage to the economy, with a palpable decimation of human capital through unemployment; there exists a significant uncertainty surrounding the pace and timing of the projected recovery which may not be present in the foreseeable future. Nigeria needs an effective policy instrument that can facilitate the conditions for rapid and inclusive growth once the pandemic subsides. If it can be achieved, it could create a post-crisis opportunity that will be vital to the country's socio-economic growth and sustenance.

COVID-19 in Schools

Since its outbreak in late December 2019, COVID-19 has wreaked havoc across the world and like any critical sector, education has been hit hard. Students, schools, colleges and universities have been deeply impacted. According to the United Nations Educational Scientific and Cultural Organization (UNESCO 2019), over 800 million learners from around the world have been affected, 1 in 5 learners cannot attend school, 1 in 4 cannot attend higher education classes, and over 102 countries have ordered nationwide school closures while 11 have implemented localized school closure (CDC, 2020). Globally, over 200,000 cases of the coronavirus have been reported in more than 160 countries, which have resulted in more than 8,000 death and left several states dealing with severe outbreaks. The COVID-19 pandemic will adversely impact the process some governments were making around increasing the education budget. Each day millions of children do not go to school due to emergencies and ongoing humanitarian crises. The outbreak of COVID-19 has compounded the plight of learners in countries affected and or emerging from conflict and disaster.

Measures to Curtail the Spread of COVID- 19 in Schools

Preventive measures to reduce the chances of infection include getting vaccinated, staying at home, wearing a mask in public, avoiding crowded places, keeping distance from others, ventilating indoor spaces, managing potential exposure durations, washing hands with soap and water often and for at least 20 seconds, ensuring good respiratory hygiene, and avoiding touching the eyes, nose, or mouth with unwashed hands and should be ensured by the teachers and parents.

Vaccine – a COVID- 19 vaccine is a vaccine intended to provide acquired immunity against severe acute respiratory syndrome coronavirus 2 (SARS-COV-2), the virus that causes coronavirus disease 2019 (COVID- 19). Prior to the COVID- 19 pandemic, an established body of knowledge existed about the structure and function of coronaviruses causing diseases like severe acute respiratory syndrome (SARS) and Middle East Respiratory Syndrome (MERS).

Face masks and respiratory hygiene – it is recommended for secondary school students to wear non-medical face coverings in public settings where there is an increased risk of transmission and where social distancing measures are difficult to maintain. Students who are diagnosed with COVID- 19 or who believe they may be infected are advised by the CDC to stay home except to get medical care, call ahead before visiting a healthcare provider, wear a face mask before entering the health care provider's office and when in any room or vehicle with another person, cover coughs and sneezes with a tissue, regularly wash hands with soap and water and avoid sharing personal household items. Face coverings limit the volume and travel distance of expiratory droplets dispersed when talking, breathing, and coughing. Masks are strongly recommended for students who may have been infected and those taking care of someone who may have the disease.

When not wearing a mask, the CDC recommends using the inside of the elbow if no tissue is available. Proper hand hygiene after any cough or sneeze is encouraged. Hand-washing and Hygiene – Thorough hand hygiene after any cough or sneeze by the student is required. The WHO also recommends that students wash hands often with soap and water for at least 20 seconds, especially after going to the toilet or when hands are visibly dirty, before eating and after blowing one's nose. When soap and water are not available, the CDC recommends using an alcohol-based hand sanitizer with at least 60% alcohol. For areas where commercial hand sanitizers are not readily available, the WHO provides two formulations for local production. In these formulations, the antimicrobial activity arises from ethanol or isopropanol. Hydrogen peroxide is used to help eliminate bacterial spores in the alcohol.

Social Distancing: Also known as physical distancing, includes infection control actions intended to slow the spread of the disease by minimizing close contact between individuals. Methods include quarantines; travel restrictions; and the closing of schools. Students may apply social distancing methods by staying at home, limiting travel, avoiding crowded areas, using no-contact greetings, and physically distancing themselves from others.

Surface Cleaning – After being expelled from the body, coronaviruses can survive on surfaces for hours to days. If a student touches the dirty surface, they may deposit the virus at the eyes, nose, or mouth where it can enter the body and cause infection.

Self-Isolation – Self-isolation at home has been recommended for those diagnosed with COVID-19 and the students who suspect they have been infected. Health agencies have issued detailed instructions for proper self-isolation. The strongest self-quarantine instructions have been issued to students in high-risk groups.

Healthy Diet and Lifestyle – A healthy diet, being physically active, managing psychological stress, and getting enough sleep are some of the measures that can help secondary school students to protect themselves against COVID-19.

Despite the unprecedented national measures in combating the outbreak, the success or failure of these efforts is largely dependent on public behaviour. Specifically, public adherence to preventive measures established by the government is of prime importance to prevent the spread of the disease. Adherence by students is likely to be influenced by their knowledge and attitude towards the COVID-19. Evidence shows that public/students' knowledge is important in tackling pandemics (Chirwa, 2019). By assessing public awareness and knowledge about the coronavirus, deeper insights into existing public perception and practices can be gained, thereby helping to identify attributes that influence the public in adopting healthy practices and responsive behaviour (Podder *et al.*, 2019).

The Role of Government in Curtailing the Spread of COVID-19

To curtail the spread of COVID- 19 in schools, governments need to prioritize education in the first phase of all emergency responses with immediate effect, and to include education in their COVID- 19 response policies. Also there is a need for government to dedicate appropriate resources, financial and technical, to ensure the right to free, quality public education for all is maintained during the COVID-19 crises. There should be increase in funding to support education in crises to a minimum of 4.2% of emergency assistance in line with its needs, and to minimize the pressure on teachers, schools and school systems should volunteer to offer extra support. The Nigerian government has taken numerous health, social, and economic measures to cushion the impact of COVID- 19. However, some of the policy responses have weaknesses and, taken together, are not commensurate with the magnitude of the problem (Page, Hinshaw and Mckay, 2021).

In addition, it is essential for schools to train teachers in health education, and part of their training should include; physical activities drill and lessons on eating , secondary schools need to implement policies and practices that respect students, teachers and parent's wellbeing; they should acknowledge good efforts and intentions as well as personal achievements; it is essential for schools not to think their responsibilities lie with just the students, instead, they should focus on parents; another good strategy schools can employ is providing seminars for parents on issue of health and parenting. Other ways by which schools can promote health and wellness among students include; integrating nutrition education into lesson plans, practice guided breathing exercises, implementing a weekly wellness challenge.

Conclusion and recommendations

The coronavirus outbreak can be described as a pandemic emergency that involved a sudden outset of contagious disease that directly affects health disrupt social services, academics, businesses and bring economic and social cost that can take years to be recovered (Weston, 2020).a recent example was the Ebola virus disease that affected parts of West Africa in the years 2014-2015. The coronavirus is wider in geographical scope than the Ebola virus as it affects virtually the whole world causing unprecedented disruptions to social, academic and economic systems. Nigeria as a country is not spared by coronavirus pandemic with foreigners working in the country and citizens travelling in other countries of the world. However, the pandemic reached Nigeria that lacks basic health infrastructures, poor health database, lack of trust on leaders, dependency on the government, high rate of poverty, as well as high level of ignorance, fatality and corruption (Adamu, 2020). Many states in the federation are struggling to adopt measures to prevent the spread of the disease and reduce the number of infections to the barest minimum among secondary school students in Nigeria.

The following recommendations are made in order to ensure that effective preventive measures are adopted against the spread of coronavirus among secondary school students in Nigeria:

- i. The state governments should ensure that the premises of schools are disinfected before students are ordered to resume their studies. In line with this, NCDC should issue out guidelines to the State Governments preventive measures that are to be adopted when the studies resumes.
- ii. The state government should expand the membership of the taskforce on public enlightenment and sensitization to the students.
- iii. The rapid response committee constituted by the state government should be re-constituted to comprise medical and health professionals who are knowledgeable and experts on issues of disease outbreaks and how to effectively respond to such outbreaks to students.
- iv. The state governments should make affordable facemasks and hand sanitizers by producing them in large numbers for the use of students while social distancing should be made effective through public enlightenment on the dangers of the virus to human health.
- v. The school should provide facility for washing of hands i.e, water, hygiene facilities.

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