



Assessing Administrators' Effectiveness in Combating Dreaded Covid-19 Pandemic Outbreak in Lagos State Public Secondary Schools, Nigeria

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Abstract

The study assessed administrators' effectiveness in combating COVID-19 pandemic in public secondary schools in Lagos State, Nigeria. To achieve this purpose, survey research design was adopted and two null hypotheses were formulated to guide the study. Stratified and proportionate sampling techniques were used to sample 671 respondents comprising 121 male and 550 female principals from all the 671 public secondary schools in the State. Data collection was carried out with the use of researchers' constructed instrument titled Administrators' Effectiveness in Combating COVID-19 Pandemic Survey (AECCOVID-19PS). The instrument was validated and reliability was established through Cronbach alpha which yielded .90 hence indicating high internal consistency in achieving the objectives of this study. Data collected were analyzed using population t-test of one sample mean and independent t-test statistical techniques. Results obtained revealed that administrators' (principals) effectiveness in combating COVID-19 pandemic is significantly low in Lagos State of Nigeria. Findings also revealed that administrators' ineffectiveness in combating COVID-19 pandemic in Lagos State is not significantly influenced by gender. Based on the findings and discussion, conclusions were made. It was therefore recommended among others that administrators' (principals) should support key messages and actions for COVID-19 prevention and control in schools as endorsed by Federal Ministry of Health, UNICEF, NCDC and WHO

Keywords: Administrators, effectiveness, combating, COVID-19 pandemic, secondary school.

Introduction

Humans for ages across various villages, communities, towns, states, countries and continents have witnessed various kinds of dreadful disease outbreak at a time or the other (WHO, 2020). These phenomena did not start just in a day because from 1996 to 2019, there was an impulsive influx of meningococcal meningitis and cholera in Nigeria (Federal Ministry of Health, 2020). As Mozambique experienced cerebrospinal meningitis, Ebola haemorrhagic fever struck Gabon, Lassa fever in Benin Republic, influenza and malaria in



Liberia and Dengue/dengue haemorrhagic fever in Venezuela to mention a few (WHO, 2020). The impulsive influx of an outbreak tends to affect stakeholders educationally, economically, psychologically, socially and even physically (Ukpong & Uzoigwe, 2020). Therefore, administrators' effectiveness in combating the dreaded COVID-19 pandemic outbreak ought to be assessed for sustainable national development owing to the fact that World-meter (2020) has recorded total deaths of 1.1million globally, 1,116 in Nigeria and 204 in Lagos State as at October, the time of writing this paper and still counting.

Before August 17th, 2020, more schools in Nigeria have re-opened for graduating students to enable them prepare for their examinations. This is in response to a briefing by the Presidential Task Force (PTF) on COVID-19 in which the Federal Government of Nigeria hinted on plans to reopen schools only for students in graduating classes (Primary 6, JS3, SS3) to enable them prepare for examinations. According to the Federal Republic of Nigeria (2014) the objectives of secondary education are established by law to effectively prepare students for useful living within the society and for higher education. These lofty objectives cannot be sustainably achieved by massively and unnecessarily exposing teachers and students to health hazard in the school environment during a pandemic era (UNICEF, 2020). This is because children and young people are global citizens, powerful agents of change and the next generation of caregivers, scientists, and doctors among others (Owodiong-Idemeko, Adubi & Udom, 2020) and any crisis presents the opportunity to help them learn, cultivate compassion and increase resilience while building a safer and more caring community. Hence, NCDC (2020) suggested that having adequate information and facts about COVID-19 will help diminish students' fears and anxieties around the disease and support their ability to cope with any secondary impacts in their lives. That is why the Federal Ministry of Health (2020), UNICEF (2020), NCDC (2020) and WHO (2020) aptly endorsed how the spread of COVID-19 can be slowed down or prevented to include: staying home when sick; covering mouth and nose with flexed elbow or tissue when coughing or sneezing; dispose of used tissue immediately; washing hands often with soap and water; and cleaning frequently touched surfaces and objects.

Unfortunately, despite these guidance provided by healthcare providers for engaging school administrators, teachers and staff, parents, caregivers and community members, as well as children in promoting safe and healthy schools, a critical observation in public schools in Lagos State Municipality seems to reveal lack of compliance to the guidelines endorsed by healthcare providers. There appears to be poor health status among individuals orchestrated by what seems to be the dreaded COVID-19 symptoms (NCDC, 2020). The researchers observed that some staff and students appear to be feeling feverish, chilling and sweating. Others seem to be experiencing shortness of breath, cough, sore throat, aching of the body, slight vomit or diarrhea, asthma or lung disease and conditions that make it harder to cough (NCDC, 2020). There appears to be needs of dialysis, cirrhosis of liver and weakened immune system even among the immigrant international students who might have either lived with someone suffering COVID-19 or left an infected COVID-19 environment down to Lagos State, Nigeria. Some of the individuals seem to have been with someone who has COVID-19-someone who is sick, coughs or sneezes (Federal Ministry of Health, 2020).

Some people are symptomatic (those with symptoms) while others are asymptomatic, (they are just carriers but without symptoms) but go to infect others without knowing



(NCDC, 2020). As a need of urgency and public health concern there should be mass testing extensively, rigorous contact tracing and strict isolation for both symptomatic and asymptomatic case to move ahead of this pandemic (NCDC, 2020). People with mild symptoms of the virus who are otherwise healthy are expected to manage their symptoms at home but immediate medical attention is needed for serious symptoms or calls the National Centre for Disease Control (NCDC) for help (NCDC, 2020). Liu, Sun and Colleague in Owodiong-Idemeko, Adubi and Udom (2020) submitted that COVID-19 pandemic has the potential to increase stress and anxiety both because of the fear of infection and because of uncertainty about how the outbreak will affect people socially, economically and educationally. This is known as post-traumatic stress disorder (PTSD) which is a psychiatric disorder that can occur in people who have experience a traumatic event.

Etymology of COVID-19

COVID-19 is an acronym for a disease caused by a new strain of coronavirus: ‘CO’ stands for corona, ‘VI’ for virus, and ‘D’ for disease. Formerly, this kind of disease was referred to as ‘2019 novel coronavirus,’ or ‘2019-nCoV’ because it is a new virus linked to the same family of viruses as Severe Acute Respiratory Syndrome (SARS) and some types of common cold (Ukpong & Uzoigwe, 2020). However, symptoms can include fever, cough and shortness of breath. In more severe cases, infection can cause pneumonia or breathing difficulties. More rarely, the disease can be fatal. These symptoms are similar to the flu (influenza) or the common cold, which are a lot more common than COVID-19 (Uzoigwe, Owashi & Opuwari, 2020). This is why diagnostic testing is required to confirm if someone has COVID-19 (Ukpong & Uzoigwe, 2020). The virus is transmitted through direct contact with respiratory droplets of an infected person (generated through coughing and sneezing). Individuals can also be infected from and touching surfaces contaminated with the virus and touching their face (e.g., eyes, nose and mouth). The COVID-19 virus may survive on surfaces for several hours, but simple disinfectants can kill it (Uzoigwe, Owashi & Opuwari, 2020).

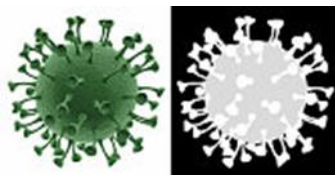


Figure 1: A pictorial representation of COVID-19 virus adapted from World-meter (2020).

In Lagos State Municipality, members of the school community, including teachers, school managers, administrative staff, students, parents, health care providers, older people, and people with chronic medical conditions, such as diabetes and heart disease in the school are at risk of developing severe symptoms of COVID-19 (Owodiong-Idemeko, Adubi & Udom, 2020). The authors submitted that this could be due to their inability to maintain social distancing guidelines, constant disinfection of classrooms/school environments and laboratories, testing, tracing, tracking, isolation of members with symptoms, use of hand sanitizers, hand washing and the use of face masks to prevent infection or being re-infected. As a new virus however, studies are still emerging about how COVID-19 affects children



(WHO, 2020). Current studies are reporting the possibilities for people of any age to be infected with the virus, but so far there are relatively few cases of COVID-19 reported among school-aged children and more about how it affects them. The virus can be fatal in rare cases, so far mainly among older people with pre-existing medical conditions. Global data expects that the COVID –19 pandemic may cause high risk of infection, significant changes to daily living which will have a global and long-term effect across many regions in the world and Nigeria and Lagos State inclusive. Therefore, public health agencies need to be able to address fall–out of the COVID–19 pandemic in educational institutions in Lagos state among staff and students even after the infection is under control.

Literature review

A face mask is protective equipment worn/utilized for preventing the spread of disease. Shin (2014) found that some individuals may not likely want to wear facemasks despite the perceived susceptibility and perceived severity of being afflicted with life-threatening diseases. Although perceived susceptibility appeared to be the most significant factor determining compliance, perceived benefits of mask-wearing was found to have significant effects on mask-wearing compliance as well. Rice (2020) noted that fabric masks can be made from bandana, wooden scarf, scarves and boo. However, during the 1918-1919 influenza pandemic in the United States, Borman, Benson and Overman in Uzoigwe, Owash and Opuwari (2020) submitted that wearing face mask was associated with lower total mortality rates and cities that implemented such interventions earlier had greater delays in reaching peak mortality rates. A study by Mniszewski, Del, Priedhorsky, and Hickman (2014) revealed that wearing face masks with other non-pharmaceutical interventions such as hand washing and social distancing were more effective in mitigating the spread of influenza.

Social distancing seems to be another mode of preventing and controlling COVID-19. In public health, social distancing, also called physical distancing, is a set of non-pharmaceutical interventions or measures intended to prevent the spread of a contagious disease by maintaining a physical distance between people and reducing the number of times people come into close contact with each other (Shin, 2014). A study by Milne and Xie (2020) revealed that the application of all four social distancing interventions: school closure, workplace non-attendance, increased case isolation, and community contact reduction is highly effective in flattening the epidemic curve, reducing the maximum daily case numbers, and lengthening outbreak duration. Similarly, Ahmed and Maurad (2015) found that individuals who practiced social distancing were withdrawn almost three times from infections higher than those who did not practice social distancing. In the same vein, a comparative analysis by Teslya, Pham, Godijk, Kretzschmar, Bootsma and Rozhnova (2020) on the impact of self-imposed prevention measures and short-term government-imposed social distancing on mitigating and delaying a COVID-19 epidemic revealed that self-imposed measures cannot significantly reduce the attack rate, diminish and postpone the peak number of diagnoses even after government-imposed social distancing has been lifted. World Health Organization (2020) submitted that social alteration, self-quarantine and self-isolation are strictly essential during an outbreak in order to prevent further infection and facilitate health authorities to tackle the disease. Social distancing aims, through a variety of means, to



minimize physical contact between individuals and thereby to reduce the possibility for new infections.

WHO (2020) reported that regularly cleaning of environmental surfaces, according to the patient areas with suspected or confirmed COVID-19 patients mitigates the virus, slows the disease and reduces the peak in health care demand. Working on the effectiveness of common healthcare disinfectants against H1N1 influenza virus on reusable elastomeric respirators, Subhash, Cavaiuolo, Radonovich, Eagan, Lee, Campbell and Martinello (2014) found that quaternary ammonium/isopropyl alcohol and bleach detergent wiped/eliminated live virus, whereas 70% isopropyl alcohol alone was ineffective. A study on inactivation of lipid enveloped and non-lipid enveloped model viruses, using suspension (for the liquid disinfectants) and carrier assay designs for their virucidal efficacy on surface by Kindermann, Karbiener, Leydold, Knotzer, Modrof and Kreil (2020) demonstrated that depending on the type of application, that is routine surface disinfection or decontamination of the contaminated bioreactor content, the most effective choice of disinfectant was remarkably different. They equally confirmed that it is important to implement virucidal disinfection for change-over procedures as effective preventive measure in routine bio manufacturing. This implies that knowledge of the virus inactivation capacity of commonly used disinfectants is therefore important.

Cutts, Ijaz, Nims, Rubino and Theriault (2019) found that no infectious virus was detected with this non-quantitative method in samples subjected to DAL for 5 or 10 min, regardless of the dilution evaluated. The rapid and substantial inactivation of EBOV/Mak by DAL suggests that use of this hygiene product could help prevent the spread of Ebola virus disease during outbreaks. Qianyu, Jason, Kun, Pek, Pei and Xian (2020) assessed the availability and utilization of sanitizing agents for virus inactivation and disinfection. They found that myriads of disinfectants/sanitizing agents/biocidal agents were available that can inactivate viruses, but their effectiveness is dependent upon many factors such as concentration of agent, reaction time, temperature, and organic load.

Diagnostic testing is another approach for preventing and controlling COVID-19 pandemic outbreak. A diagnostic test is any approach used to gather clinical information for the purpose of making a clinical decision (i.e., diagnosis). Some examples of diagnostic tests include X-rays, biopsies, pregnancy tests, medical histories, and results from physical examinations. Organisation of Economic Co-operation and Development (2020) submitted that diagnostic testing suppresses the resurgence of local outbreaks. It also helps in identifying people who have developed some form of immunity and can safely return to work; and equally encourages gaining intelligence on the evolution of the epidemic, including on when a threshold for herd immunity has been reached.

The isolation of symptomatic cases and tracing of contacts has also been used as an early COVID-19 containment measure in many countries, with additional physical distancing measures also introduced as outbreaks have grown to reduce transmission. Bezera, Silva, Soares and Silva (2020) found that the perception about social isolation as a pandemic mitigation action varies by income, education, age, and gender. However, most believe that it



is the most appropriate control measure and are willing to wait as long as necessary to contribute to the fight against COVID-19. Kucharski, Klepac, Conlan, Kissler, Tang, Fry, Gog, and Edmunds (2020) found that combined isolation and tracing strategies did reduce transmission more than mass testing or self-isolation alone: mean transmission reduction of 2% for mass random testing of 5% of the population each week, 29% for self-isolation alone of symptomatic cases within the household, 35% for self-isolation alone outside the household, 37% for self-isolation plus household quarantine, 64% for self-isolation and household quarantine with the addition of manual contact tracing of all contacts, 57% with the addition of manual tracing of acquaintances only, and 47% with the addition of app-based tracing only.

Hand hygiene is equally of utmost importance as it may be contaminated easily from direct contact with airborne microorganism droplets from coughs and sneezes. Particularly in situations like pandemic outbreak, it is crucial to interrupt the transmission chain of the virus by the practice of proper hand sanitization. Bloomfield, Allison, Cookson, O'Boyle and Larson (2007) found that hand hygiene is a key component of good hygiene practice in the home and community and can produce significant benefits in terms of reducing the incidence of infection, most particularly gastrointestinal infections but also respiratory tract and skin infections. Therefore, the gap this study sought to fill in literature is that other studies reviewed used at most three variables but this present study employed six variables to assess the effectiveness of administrators in combating the dreaded COVID-19 pandemic outbreak in Lagos State public secondary schools, Nigeria.

Objectives of the Study

This study intended to:

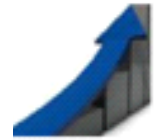
1. Assess administrators' effectiveness in combating COVID-19 pandemic outbreak in Lagos State public secondary schools.
2. Find out whether administrators' effectiveness in combating COVID-19 pandemic outbreak in Lagos State public secondary schools is influenced by gender.

Null Hypotheses:

- (1) Administrators' effectiveness in combating COVID-19 pandemic outbreak in Lagos State public secondary schools is not significantly low.
- (2) Administrators' effectiveness in combating COVID-19 pandemic outbreak in Lagos State public secondary schools is not significantly influenced by gender.

Methodology

This study was empirically conducted in Lagos State between 2nd and 20th October 2020. Lagos is one of the States with the highest geometrically increasing compact settlement located in South-West geopolitical zone of Nigeria. The current metro area population of Lagos in 2020 is 14,368,000, a 3.34% increase from 2019. However, Lagos State was created on May 27, 1967 by virtue of State Creation and Transitional Provisions Decree No. 14 of 1967, which restructured Nigeria's Federation into 12 States. Lagos State is alienated into five Administrative divisions including Badagry, Epe, Ikeja, Ikorodu and Lagos, which are further divided into 37 Local Government Areas. As the State is essentially a Yoruba-



speaking environment, it is a socio-cultural melting pot attracting both Nigerians and foreigners alike. Indigenous inhabitants include the Aworis and Eguns in Ikeja and Badagry Divisions respectively, with the Eguns being found mainly in Badagry. There is also an admixture of other pioneer settlers collectively known as the Ekos. The indigenes of Ikorodu and Epe Divisions are mainly the Ijebus with pockets of Eko-Awori settlers along the coastland and riverine areas.

This study therefore assessed administrators’ effectiveness in combating COVID-19 pandemic outbreak in Lagos State public secondary schools. Survey research design was adopted for the study. This design was used because the incidence of COVID-19 pandemic outbreak is still ravaging Lagos State for which Webometrics (2020) has recorded total deaths of 1.1million globally; 1,116 in Nigeria and 204 in Lagos State as at October during the time of writing this paper and still counting. Therefore, the researchers made use of the variables endorsed by Ministry of Health, NCDC and WHO for preventing and mitigating the dreaded global COVID-19 pandemic outbreak. All the 671 principals made up of 121 males and 550 females in both 349 junior and 322 senior secondary schools were sampled via stratified and proportionate sampling techniques respectively and used for the study. Data collection was carried out with the use of researchers’ constructed instrument titled Administrators’ Effectiveness in Combating COVID-19 Pandemic Survey (AECCOVID-19PS). The instrument was validated by three experts in Education Management and Measurement and Evaluation. The reliability was established through Cronbach alpha which yielded .90 hence indicating high internal consistency in achieving the objectives of this study. It had two sections A and B. Section A, sought demographic information of the respondents. Section B used 30 items to measure each of the six variables used in the study. Data collection was carried out by the researchers via online medium with the research instrument. The data collected were analyzed statistically using population t-test of single mean statistical analysis and independent t-test.

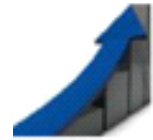
Results

Null hypothesis 1

Administrators’ effectiveness in combating COVID-19 pandemic outbreak in public secondary schools is not significantly low.

Table 1: The summary of population t-test of single mean statistical analysis of administrators’ effectiveness in combating COVID-19 pandemic outbreak in Lagos State public secondary schools, Nigeria. *N=671*

S/NO	Variables	\bar{X}	μ	SD	t-value
	Administrators’ effectiveness in combating dreaded COVID-19 pandemic outbreak				
1	Wearing face mask	14.04	664.00	1.40	-9.484*
2	Social distancing	13.56	664.00	1.24	-8.104*



3	Environmental disinfection	12.24	664.00	2.08	-10.202*
4	Diagnostic testing	13.92	664.00	1.40	-14.820*
5	Symptomatic isolation	14.03	664.00	1.48	-12.814*
6	Using hand sanitizers	12.04	664.00	2.36	-18.324*
	Grand mean value	13.56			

*p<.05; df = 670; critical t = 2.08

Source: Field Work 2020.

The results presented on Table 1 revealed that the calculated t-values were found to be higher than the critical t-value of 2.08 at 0.05 level of significance and 671 degrees of freedom with respect to enforcing the wearing of face mask (t= -9.484, P<.05), social distancing (t= -8.104; P<.05) school environmental disinfection (t= -10.202; P<.05) diagnostic testing (t= -14; P.05) symptomatic isolation (t= -12.814; P<.05) and using hand sanitizers (t= -18.324; P<.05). The t-values were all seen to be significant but negatively signed. The decision rule for this statistical analysis is that if the calculated t-value is greater than the critical t-value, then the null hypothesis is rejected while the alternate is retained and vice versa. In this case, the results obviously indicate that principals' agreement to the response options is significantly low. This showed low effectiveness of public school administrators in supporting key messages and actions for COVID-19 prevention and control in schools as endorsed by Federal Ministry of Health, UNICEF, NCDC and WHO. The observed mean were all seen to be less than the expected mean of 664 which was arrived at by simply multiplying each value of the random variable by its probability and add the products.

With these results, the null hypothesis was rejected. This implies that administrators' effectiveness in combating COVID-19 pandemic outbreak with regards to these endorsed guidelines is significantly low.

Null hypothesis 2: Administrators' effectiveness in combating COVID-19 pandemic outbreak in public secondary schools is not significantly influenced by gender.

Table 2: Independent t-test analysis of administrators' effectiveness in combating COVID-19 pandemic outbreak by gender.

S/NO	Variables	Male N = 121; Female N= 550				t-value
		Male		Female		
		\bar{X}	SD	\bar{X}	SD	
1	Wearing face mask	19.46	1.58	20.46	1.84	0.688
2	Social distancing	20.24	1.86	20.42	1.62	0.646
3	Environmental disinfection	20.48	1.82	19.16	1.46	0.542
4	Diagnostic testing	18.42	1.56	18.42	1.58	0.462
5	Symptomatic isolation	18.66	1.58	19.24	1.62	0.682
6	Using hand sanitizer	19.56	1.84	18.22	1.64	0.564
	Grand mean value	20.24		18.46		

*p<.05; df = 669; critical t = 2.08



Source: Field Work 2020.

The result presented on Table 2 revealed that the calculated t-values were found to be lower than the critical t-value of 2.08 at 0.05 level of significance and 669 degrees of freedom in respect to implementing the wearing of face masks ($t=0.688$; $P>.05$), social distancing ($t=0.646$; $P>.05$), environmental disinfection ($t=0.542$; $P>0.05$), diagnostic testing ($t=0.462$; $P>.05$), symptomatic isolation ($t=0.682$; $P>.05$), using hand sanitizer ($t=0.564$; $P>.05$). With these results, the null hypothesis was retained in these variables. Therefore combating COVID-19 pandemic outbreak for sustainable national development is not influenced by gender. By implication, it means that the gender of school administrators does not influence their effectiveness in combating COVID-19 pandemic for sustainable national development.

Discussion of Findings

The result of null hypothesis one as presented on Table 1 revealed that administrators' effectiveness in combating COVID-19 pandemic outbreak in public secondary schools in the area under study is significantly low. This necessitated the rejection of the null hypothesis and accepting the alternate null hypothesis. The finding revealed that administrators' effectiveness in combating COVID-19 pandemic outbreak with regards to maintaining the wearing of face masks, social distancing, environmental disinfection, diagnostic testing, symptomatic isolation and using hand sanitizer is not significantly high in public secondary schools in Lagos State of Nigeria. This result implies that the administrators' effort in combating COVID-19 pandemic outbreak in public schools is not significantly high. It also infers that these administrators have not been effectively supporting the key messages and actions for COVID-19 prevention and control in schools as endorsed by Federal Ministry of Health, UNICEF, NCDC and World Health Organisation. This finding corroborates Shin (2014) who submitted that some individuals might not likely want to wear facemasks despite the apparent susceptibility and perceived severity of being afflicted with life-threatening diseases. It also agrees with Teslya, Pham, Godijk, Kretzschmar, Bootsma and Rozhnova (2020) whose findings revealed that self-imposed measures could not significantly reduce the pandemic attack rate, diminish and postpone the peak number of diagnoses even after government-imposed social distancing has been lifted.

Results of null hypothesis two indicated that administrators' effectiveness in combating COVID-19 pandemic outbreak in public secondary schools is not influenced by gender. This means that the null hypothesis is retained and that administrators' effectiveness is not based on either male or female principalship. A male or female principal can effectively mitigate the spread of COVID-19 pandemic in schools by enforcing the wearing of face masks, social distancing, disinfecting the school environment, diagnostic testing, symptomatic isolation and use of hand sanitizers. It therefore follows that male and female principals have the same capacity to combat COVID-19 pandemic outbreak in public secondary schools for sustainable national development.

Conclusion

On the strength of the findings, it was concluded that administrators' effectiveness in combating COVID-19 pandemic outbreak is significantly low. It was also concluded that



administrators' effectiveness in combating COVID-19 pandemic outbreak is not significantly influenced by gender.

Recommendations

Based on the findings of this study, the following recommendations were made:

- (1) School administrators should work with healthcare providers to integrate COVID-19 mitigation practices in already existing programmes in the school system.
- (2) Principals should support key messages and actions for COVID-19 prevention and control in schools as endorsed by Federal Ministry of Health, UNICEF, NCDC and WHO

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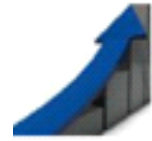
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