

## EVALUATION OF THE KNOWLEDGE, PERCEPTION AND ADHERENCE TO COVID-19 PROTOCOLS AFTER THE PANDEMIC BY RESIDENTS OF LAGOS STATE

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### Abstract

This study investigated the Knowledge, Perception and Adherence to COVID-19 Protocols after the Pandemic by Residents of Lagos State. The study specifically sought to: determine the knowledge and perception of Lagosians of COVID-19 safety protocols; ascertain the level of adherence to COVID-19 preventive measures by Lagosians and to identify the challenges Lagos State residents face in their compliance with the COVID-19 safety protocols. To attain the goals, the study adopted survey method. Data was collected with structured questionnaire administered on four hundred (400) randomly selected residents of Lagos. The instrument for data analysis is simple statistical tools – frequency, percentage and tables. The results of the study revealed that the respondents' knowledge of the COVID-19 pandemic was very high; they were observing almost all the COVID-19 protocols by avoiding crowded places, washing their hands very often and using face masks. The study advocated that the claimed high level of knowledge of the COVID-19 protocols among Lagosians could still be further increased through media campaigns to enlighten, sensitise and re-orientate the people on the need to continue to observe COVID-19 safety protocols, while residents of Lagos should be persistently educated and enlightened on the need to maximise their adherence to COVID-19 preventive measures by applying both mainstream and social media as well as traditional mode to effectively achieve the goal.

**Keywords:** Awareness, COVID-19 protocols, Knowledge, Pandemic, Perception

### Background to the Study

Beyond the frantic and concerted efforts geared towards containing the dreaded COVID-19, following its outbreak five years, every nation has taken steps to create sufficient awareness and the knowledge people need to protect themselves and prevent further spread of the disease. The World Health Organization (WHO) working with other relevant stakeholders at national and other levels ensured people' adequate awareness through risk communication messages required for its proactive containment. Messages were shared through different media platforms and other sources of information around the world to create awareness and reduce the spread of the virus.

Expectedly, it was found in countries like Ethiopia and USA that people who had access to multiple informal and formal sources of information such as radio, television and Internet as well as health workers and peer groups had better understanding of the virus, had trust on the information and more willing to comply with the safety protocols (Maykrantz, Gong, Petrolino, Nobiling & Houghton, 2020). Similarly, Ali & Bhatti, 2020) observe that in Asia, media and

other sources of information played fundamental roles in informing and triggering willingness among the general public and health workers to believe and comply with the safety issues of COVID-19. Consequently, the positive connection between media, information sources and motivation to comply with measures for addressing the pandemic had been established in many countries and communities around the world such as Portugal, Germany and Sweden (Arriaga, Esteves, Pavlova & Piçarra, 2021). These scholars established that the media could be used as tools for effective health communication during pandemics like COVID-19; the diffusion of fake information about COVID-19, especially through social media platforms and curtail people's willingness to accept, believe or act based on fake information; engender information as one key factor that contributes to compliance with the safety measures, and enhance the role of the media in getting people involved in tackling the pandemic (Abubakar & Asemah, 2023).

Lagos, the densely populated south-western Nigerian capital of Lagos State and the

economic nerve-centre of the country keyed into the intense global campaigns mounted by WHO and the National Centre for Disease Control (NCDC) to riot the scourge. As it was brought under some relate control, additional strategic efforts and measures were put in place for sustainable control of the pandemic. This involved the provision of essential guides and roadmap materials crucial for safeguarding, preventing and controlling further spread of the disease. As obtainable in other parts of the globe, stakeholders such as health workers, media practitioners, community and religious leaders were trained and availed these instruments to assist in boosting awareness, consciousness and knowledge about the pandemic in Lagos. At the peak of the health crisis, Lagos State confirmed its highest COVID-19 index case on 27 February, 2020 and has ever since continued to record cases as testing continues. Indeed, Lagos State was the epicentre of the COVID-19 in Nigeria with the highest number of cases, recoveries, deaths and total active cases, (Isa & Asemah, 2023 and *Nairametrics*, 2020).

Lagos State was proactive in putting measures in place to contain the pandemic even before it recorded its index case and this effort assisted in minimizing the spread or increase. Like in other 36 states of the federation, Lagos State Task Force on COVID-19 Response enforced both intra and interstate restrictions of movement (lockdown) and encouraged residents to maintain social distancing, use of local hand sanitizers and face masks as part of non-pharmaceutical preventive measures. These efforts yielded positive dividends as the residents of the state had high-level compliance with the safety and preventive measures, especially maintaining social distancing, use of local hand sanitizers and face masks (*Nairametrics*, 2020). For example, residents observed social distancing in their use of transport system - trains, vehicles, tricycles, motorcycles, in worship places, shopping centres and public gathering, shaking of hands was minimised, face masks were visibly seen in gathering and shopping centres, while water and liquid soaps/hand sanitizers were used in private, public and commercial buildings, according to Asemah, Cole & Enyindah (2023) and Isa & Asemah (2023).

Yet, despite some successes recorded on the compliance with the preventive measures

among the high and middle classes in the state, the same could not be said to be the case among the people considered as lower class who resided in more congested settlements on their level of compliance to COVID-19 safety protocols. Among the lower, high and middle classes, it was also observed that there was decline in adhering to social distancing, use of face masks, washing of hands with soap and use of hand sanitizer lately and people are apparently reverting to their usual handshake. Already, there is no empirical evidence that would show the appropriate level of knowledge of COVID-19 protocols in the State or what might have contributed to the perceived sudden decline in compliance with COVID-19 safety and preventive behaviours as noticed in Lagos State, especially considering that there are daily reported new cases in the state as is the case in other parts of the world (Asemah, Cole, Enyindah, 2023).

Consequently, considering the centrality of the observance of COVID-19 safety measures to its prevention and control, this study examined the rate of the compliance with its safety protocols by residents of Lagos State. Thus, this study is intended to evaluate understanding of the connection between knowledge and behaviour change on COVID-19 issues on the basis of conformity with its safety protocols in Lagos State in the last five years.

### **Statement of the Problem**

Although the various national lock-downs occasioned by the outbreak of COVID-19 pandemic have eased and restrictions on public gathering lifted for some years now, which suggest a flattening of the COVID-19 curve in the country, the battle against COVID-19 is still ongoing in Nigeria. To guarantee the final success, people's adherence to the specified COVID-19 safety protocols is essential. Attaining this goal, undoubtedly, hinges on the level of knowledge and practices of the COVID-19 protocols. To what extend is this known and done by Lagosians?

To facilitate the effective management mechanism of COVID-19 pandemic outbreak and reoccurrence in Lagos State, there is the need to examine the knowledge, perception and adherence to the tenets of the protocols by Lagosians, that is an assessment of the level of compliance and observance of the COVID-19

safety protocols. Also, little or no studies have examined the perception of Lagos state residents about the covid19 safety protocols after the pandemic. It, therefore, attempts to fill these gaps by not only providing new literature on the subject, but also contributing to knowledge on the level of observance of the COVID-19 safety protocols in Lagos State is the task before this study.

### **Objectives of the Study**

The specific objectives of the study were:

1. To determine the knowledge of COVID 19 safety protocols by Lagosians after the pandemic.
2. To ascertain the level of adherence to COVID-19 preventive measures by Lagosians after the pandemic.
3. To find out the perception of Lagos State residents about the COVID-19 safety protocols after the pandemic.

### **Literature Review**

#### **COVID-19 Pandemic in Nigeria**

Olapoju (2020) in his study gave a brief but comprehensive overview of coronavirus pandemic in Nigeria. According to him, by February 27, 2020, Nigeria's first case was recorded when a 44 year old Italian resident was diagnosed of COVID-19 in Lagos. The infected man showed up at the Murtala Muhammed International Airport, Lagos at 10pm on 24th February, 2020 on board Turkish carrier from Milan, Italy. He went on to his organization's site in Ogun State on 25th February. On 8th March, 2020, one of the asymptomatic contacts to the record case in Ogun was affirmed to have tested positive to the virus. On 17th March, 2020, a 30 year old Nigerian female was diagnosed of COVID-19 in Lagos. She got back from the United Kingdom on the 13th of March. Five days later, five new affirmed instances of COVID-19 was recorded in Nigeria, making it 8 cases. All the new five cases had a movement history to the UK or USA; four were recognized in Lagos while one identified in Ekiti had contact with an explorer from the USA.

On the 19th of March, 2020, four new affirmed instances of COVID-19 were recorded in Nigeria increasing cases to twelve affirmed cases. All the four new cases were from Lagos. One had a travel history to the UK; one to France,

3rd case was a contact to one of the previously confirmed cases; 4th case had no history of travel but lived with foreigners/expatriates. On the 21st of March, 2020, three new confirmed cases of COVID-19 were recorded in Nigeria. Two of the three new cases had travel history to the United Kingdom and United States of America. One case had contact with recent travellers. On the 22nd of March 2020, five new confirmed cases of COVID-19 were recorded in Nigeria. Four of the five new cases had travel history to high risk countries. The fifth case was a contact of a confirmed case. On the 23rd of March 2020, ten new confirmed cases of COVID-19 were recorded in Nigeria with the first death.

The typical symptoms of COVID-19 are fever, dry cough, fatigue and in severe cases dyspnea. Many infections, particularly in children and young adults are asymptomatic, whereas older people and/or people with co-morbidities are at higher risk of severe disease, respiratory failure and death. The incubation period is about 5 days, severe disease usually develops at about 8 days after symptom onset and critical disease and death occur at about 16 days (Hu, Guo & Shi, 2021). The prevalence of coronavirus has caused people to drastically change their lifestyles. Expectedly, further changes will occur in the areas of transportation, recreation, sports, marketing, merchandising, shopping and commerce, with a view to adjusting and adopting measures aimed at preventing further spread of the virus and other infectious diseases (Mirian, Danjuma & Amaonyeze, 2021).

On the other hand, in an effort to investigate the nature of the coronavirus pathogen in Nigeria (Ubi, Ekpo, Eyopor, Ebigwai, Ofem, Essien & Ettah, 2020) retrieved the RdRp region gene sequences of COVID-19 coronaviruses sequenced from the first confirmed index case in Nigeria by the National Centre for Disease Control (NCDC) and deposited it in the database/gene bank for human genome hoisted by the National Centre for Biotechnology Information (NCBI) with Accession number MT159778.1 in March, 2020. The researchers also retrieved the RdRp region gene sequences of COVID-19 from the epicentre of the COVID-19 corona viruses from Wuhan China, with Accession number MT042777.1. This was to enable them compare the protein structure, phylogeny, mutation rate, bad angles, bad bonds,

C-Beta deviations, Ramachandran outliers, clash score, residue quality, physical, chemical and biological nature of the virus pathogen called COVID-19 to be able to scientifically reveal the nature and attributes of the coronavirus in Nigeria. This has become necessary because a good background knowledge and understanding of the complete nature and attributes of the corona viruses will help the scientific community in Nigeria and elsewhere to develop and design appropriate and relevant potential prophylactic and therapeutic measures towards finding a lasting solution to the global pandemic.

### **Need for Measuring the Observance of COVID-19 Disease Safety Protocols**

Though studies are not conclusive on the effectiveness of high adherence to COVID-19 protocols messages, there is a consensus on the close association between likelihood of early containment and higher levels of adherence to COVID-19 safety protocols (Block, Berg, Lennon, Miller & Nunez-Smith 2020; Okten, Gollwitzer, & Oettingen, 2020). Studies have also observed that there is far higher consensus on the efficacy and necessity of protection guidelines than there is on general adherence to them, and that the situation is a result of variations in exposure to information sources (Igielnik, 2020; Saey, 2020). The level of trust in information source (media, medical experts, government officials, and interpersonal communication) was an important predictor of health risk perception, self-efficacy, and attitudes to hygiene during infectious disease outbreaks such as H1N1, SARS, and COVID-19 (Williams, Armitage, Tampe, & Dienes, 2020). Some studies have reported lower levels of citizen trust in government information than in the media as well as reported self-adherence and belief that others were not adhering (Czeisler, Tynan, Howard, Honeycutt, Fulmer, Kidder, Robbins, Barger, Facer-Childs, Baldwin, Rajaratnam & Czeisler, 2020; Williams *et al.*, 2020).

Apart from being veritable means to containing the spread of infectious diseases, social measures also help to relieve the struggling health system in many countries (Nussbaumer-Streit, Mayr, Dobrescu, Chapman, Persad, Klerings, Wagner, Siebert, Christof, Zachariah, & Gartlehner, 2020). Assessment of adherence to containment measures is even more critical as

many countries (e.g., Nigeria) have since reopened their economies and are facing the risk of resurgence (Block *et al.*, 2020). Similarly, while some nations have relaxed some preventive measures, the resurgence of COVID-19 in some areas means that countries may re-impose the restrictions. As of July 2021, a more contagious Delta variant was spreading fast, forcing many countries to reintroduce social control measures such as movement restrictions and compulsory wearing of face masks in public. Following the detection of the Delta variant in Nigeria on July 8, 2021, there were 1,866 cases in just 2 weeks, and a 154% increase from the 735 cases recorded in 2 weeks before the announcement (Asadu, 2021). Consequently, inadequate understanding of the predictors of adherence to preventive messages may negatively impact future enforcement (Nivette, Ribeaud, Murray, Steinhoff, Bechtiger, Hepp, Shanahan & Eisner, 2021).

Brooks, Webster, Smith, Woodland, Wessely, Greenberg & Rubin (2020) found that residents who experienced quarantine were subject to fears of infection, irritation and tedium, insufficient supplies, insufficient information, economic pressures, and stigma. Williams *et al.* (2020) found that after experiencing initial COVID-19 lockdown, participants in a UK study expressed fears about social reintegration and the future. Researchers, therefore, suggest that the long term need to sustain the COVID-19 safety protocols makes it necessary to find and implement long-term strategies to help people. This would depend on knowledge of the factors affecting adherence to messages about the safety protocols (Al-Hasan, Yim & Khuntia, 2020; Williams *et al.*, 2020).

Besides, studies in 27 countries including Italy, the Democratic Republic of Congo, the UK, Canada, and the US have established that being female is associated with higher obedience to messages than men during COVID-19 (Daoust, 2020; Galasso, Pons, Profeta, Becher, Brouard & Foucault, 2020; Okten *et al.*, 2020). There were also strong gender differences in the perception of COVID-19 as a health risk, and this was connected to the gender differences in mortality and vulnerability levels of the disease across countries (Galasso, *et al.*, 2020). Gender, literacy, age, occupation, and area of residence were associated with high levels of adherence to quarantine guidelines in Italy (Okten *et al.*, 2020).



As well, studies have also pointed out the social and credibility factors affecting responses to containment communications. In Nigeria, low citizen trust in government guidelines, difficulties imposed by the health system, social media, and inadequacy of social amenities negatively impact COVID-19 containment efforts (Obi-Ani, Anikwenze, & Isiani, 2020; Reuben, Danladi, Saleh & Ejembi, 2021). Jaja, Anyanwu & Jaja (2020) report that in South Africa COVID-19 infections spiralled in many communities due to gross violations of social distancing rules during burials, religious, and cultural events. Studies also found that measures that were easy for individuals to observe and those emphasizing protection of others received higher, though not perfect levels of adherence (Coroiu, Moran, Campbell, & Geller, 2020; Zhou, *et al*, 2020).

### **Access to Information and Challenges in Complying With COVID-19 Safety Protocols**

Complying or otherwise with safety protocols on pandemic is associated with access to information, knowledge, exposure, social status, income and belief system. But information sources, such as media, are more central to the compliance dynamics in the COVID-19 context. According to Maykrantz, Gong, Petrolino, Nobiling & Houghton (2020), people who have access to information on COVID-19 through formal sources, such as the radio, television and social media, were more prompt in complying with preventive measure. The information provided through unofficial sources of information is hard to believe and people act accordingly. The mass media as watchdogs of the society set the public agenda on health matters, inform, educate, persuade, mobilise, motivates people on public health emergencies and serve as a forum for discourses related to public health (Oyama & Okpara, 2017). This demonstrates that the mass media provide leadership to the community; they empower society about potential health risks, and health literacy and persistently advocate for adequate measures that can improve public health through curative and preventive measures as being canvassed in this COVID-19 safety protocols, (Aliede & Ogbodo, 2022).

Olubunmi, Ofurum, & Tob (2016) stated that information sources, particularly media, were effective in reaching a larger audience but less

effective in enforcing behavioural changes. Television has been found to be instrumental in reaching teenagers and adolescents and radio seems to be the most operational broadcast option in reaching out to rural communities besides other interpersonal communication channels (Olubunmi, Ofurum, & Tob, 2016). Many sources of information, especially conventional media, try to stop the spread of fake information that may affect compliance with preventive protocols because they care about credibility and reputation and adherence to professionalism as a universal convention. The bulk of fake information on the pandemic that may affect compliance is disseminated on social media and is based on it. Cinelli, *et al* (2020) argued that questionable information about COVID-19 was spread on social media platforms like Twitter, Instagram, WhatsApp and Facebook. This will likely affect the adherence to messages received on social media.

On the other hand, studies have shown there are different positions on the impact of income and health. Some have argued that it is difficult to isolate the impact of income on health because of the linkage between income and other social risk factors. Moreover, it has been shown that people with higher incomes tend to live in healthier conditions (Chokshi, 2018). Similarly, people with low income are likely to be unable to have knowledge on how to afford care and end up using fewer preventive care services (Cunningham, 2018). Although a limited view, others argue that societies that have high level of income inequality could have poor average health for reasons other than income distribution (Marmot, 2002). Although income is a factor, the COVID-19 pandemic has a number of alternative preventive measures that are cheap, affordable and effective irrespective of income level or class. For example, social distancing, hand washing, stay-at-home and use of face mask are affordable practices (Yamey, 2020). Padidar, Liao, Magagula, Mahlaba, Nhlabats & Lukas (2020) state that people with higher level of education and income were more aware of the pandemic but there were challenges related to compliance to the safety measures.

### **Theoretical Framework**

To further illuminate the paper, it is anchored on the arguments of knowledge, attitude and practice

theory. This theory, which is also referred to as knowledge, attitude and behaviour, is attributed to studies in health and other development interventions. The theory, which is associated to Schwartz (1976), states that level of knowledge on health issues like COVID-19 pandemic and the resultant set safety protocols that are shared and disseminated on the media or other information platforms could impact on how people perceive the issue and possibly behave towards it or against it. The behaviour encompasses compliance or otherwise to an idea sourced from media or any information source. Thus, people can conform to safety and prevention protocols on COVID-19 because of the knowledge they accumulate through media or other sources of information. On the other hand, people could refuse to comply with guidelines despite the high level of knowledge due to pre-existing cultural, traditional and religious beliefs and inclinations (Al-Hanawi, 2020). Therefore, the knowledge, attitude and behaviour theory is deemed suitable, relevant and applicable to the study.

**Methodology**

The study adopted survey design which is used by researchers to gain a greater understanding about the perspectives of a population relative to a particular concept or topic of interest or enquiry. The population of the study was the entire residents of Lagos State, currently projected by the National Bureau of Statistics to be 15,946,000. The entire population of the study is large and there might not be a dependable result if the population is not restricted to a sample size. Thus, the population was drawn from four local governments out of the twenty local governments in the state. They were: Ikeja, Lagos Island, Apapa

**Table 1: Respondents' Knowledge of COVID-19 Protocols**

Variables	Frequency	Percentage
Yes	387	100%
No	0	0
Undecided	0	0
<b>Total</b>	<b>387</b>	<b>100%</b>

All the 387 respondents accepted to have knowledge of the pandemic and the COVID-19 safety protocols. Equally, an overwhelming majority of the respondents affirmed that they had positive attitude and perception towards the COVID-19 protocols, as indicated by 295 or 76.2%.

and Ikorodu. The combined population of these four local government areas which represent urban, semi-urban and rural areas of Lagos, according to the United Nation Development programme, in 2020 stood at 1,162,995, currently 1,276,370, according to the National Bureau of Statistics (NBS). A sample size of 400, therefore, was arrived at using Taro Yamane formula.

Multi-sampling techniques were used in getting the sample size of 400 respondents from the population. Random sampling technique was used to select four local government areas where the questionnaire was distributed, collected and analysed.

The instrument for data collection of the study was structured questionnaire designed in close-ended format to elicit the respondents' views on the subject of enquiry. The instrument was randomly administered directly on the respondents within the selected local government areas with the aid of trained research assistants. At the meeting points, copies of the questionnaire were distributed to the respondents, who filled and returned them on the spot. These methods were considered suitable because they ensured high return rate of the instrument. The data were analysed with the use of simple statistical tools – frequency, percentage and tables.

**Data Presentation**

Out of the four hundred copies of the questionnaire administered, 387, which represents 96.75% of the sample was successfully filled and returned, while 13 which stands for 3.25% was lost in transit and represents the mortality rate. Therefore, all decisions were based on the 387 copies returned, as presented below:

**Table 2: Respondents' Attitude and Perception towards the COVID-19 Protocols**

Variables	Frequency	Percentage
Positive	295	76.2%
Negative	61	15.8%
Undecided	31	8%
<b>Total</b>	<b>387</b>	<b>100%</b>

The table indicates that an overwhelming majority of the respondents affirmed they had positive attitude and perception towards the COVID-19 protocols and this is very good for the study.

**Table 3: Necessary Precautionary Practices against COVID-19 Infection**

Variable	Frequency	Percentage
Regular washing of hands with soap and running water	0	0
Avoiding crowded places	0	0
Wearing of face masks in public	0	0
Social distancing	0	0
Regular use of alcohol based hand sanitizer	0	0
Covering ones mouth and nose when coughing or sneezing	0	0
Health workers use of personal protective equipment (PPE) by	0	0
All of the above	387	100%
<b>Total</b>	<b>387</b>	<b>100%</b>

Table 3 lists the variety of precautionary measures and practices for the observance of COVID-19 protocols. Data on the table show that all the practices listed above were deemed as necessary and observed for protection against coronavirus disease by the respondents. This actually amounts to adequate protection against the disease. The above responses were reaffirmed by a majority of 279 or 72.1% who agreed the very often and often observed the necessary protocols.

**Table 4: Respondents Perception of the COVID-19 Safety Protocols**

Variable	Frequency	Percentage
Very good	115	29.7%
Good	209	54
Undecided	41	10.6
Fair	22	5.7
Poor	0	0
<b>Total</b>	<b>387</b>	<b>100%</b>

This indicates that majority of the respondents have a good perception of the COVID-19 safety protocols and implies that they would be positively inclined to observing the safety protocols.

**Table 5: Effectiveness of COVID-19 Protocols in Preventing the Disease**

Variables	Frequency	Percentage
Very effective	193	49.9%
Effective	170	43.9%
Undecided	24	6.2%
Not effective	0	0
<b>Total</b>	<b>387</b>	<b>100%</b>

Table 7 above shows that a large majority of the respondents affirm that COVID-19 protocols are effective in preventing an outbreak of the disease, a convincing 363 or 93.8% of the respondents .

**Discussion of Findings**

The study evaluated knowledge, perception and adherence to COVID-19 Protocols after the pandemic by residents of Lagos State. The findings showed that all the entire respondents have heard of the coronavirus. This is evident as all the respondents answered positively. This implies that virtually all the residents of Lagos have knowledge of COVID-19 safety protocols and aligns with Udejinta's (2021) view that governments in Nigeria (federal, state and local governments) had deployed massive public health communication and awareness efforts, the largest ever in the history of the country, to mobilise the citizenry on the war against COVID-19.

The study also found that respondents have high knowledge of the COVID-19 protocols: to wear face mask, maintain social or physical distance, use hand sanitizer and report cases to the NCDC or the nearest health facility. The findings also showed high adherence to covid19 preventive measures aimed at containing the spread of the virus. This is in line with the submission of Udejinta (2021) that evidence from research indicated education and mobilisation of the citizenry on behavioural change were essential for halting the spreading of the COVID-19. They also indicate that more than half of the respondents always observe COVID-19 protocols.

The respondents' perception of the covid19 safety protocols after pandemic was found to be significantly positive. Studies in Nigeria and South Africa have also shown the contributions of the uncontrolled exit structure in residential areas, inadequacy of social amenities,

burials, and religious-cultural events in the violation of social distancing rules, which caused spikes in COVID-19 cases (Jaja, *et al.*, 2020; Obi-Ani, *et al.*, 2020; Reuben, *et al.*, 2021). Other studies have found that measures that were easy for individuals to adhere to received higher, though not perfect levels of adherence to COVID-19 safety protocols (Coroiu, *et al.*, 2020)

These results equally align with the knowledge, attitude and behaviour theory which is used as the theoretical framework of the study which according to Schwartz (1976) notes that level of knowledge on health issues like COVID-19 pandemic and the resultant set safety protocols that are shared and disseminated on media or other information platforms could impact on how people perceive the issue and possibly behave towards it or against it. The behaviour encompasses compliance or otherwise to an idea sourced from media or any information source such as the sensitization messages about COVID-19 safety protocols.

### **Conclusion and Recommendations**

COVID-19, a typical case of unintended consequences of globalization, disrupted global socio-economic and other activities. Free flow of people aided the spreading of infectious diseases. The findings show that controlling the spread of the disease in a metropolis like Lagos, the epicentre of the pandemic in Nigeria, must involve the strict adherence to the preventive measures, safety protocols, through continuous sensitization of the masses targeted at both urban and rural communities. It is comprehensive observance of the safety protocols that would engender an effective control and elimination of the COVID-19 disease in Lagos State.

The study also found that adequate knowledge of the COVID-19 protocols was necessary to transform into people's compliance in order to have a healthy society as people were expected to wear face mask, maintain social or physical distance, use hand sanitizer and report cases to the NCDC or the nearest health facility. The findings additionally showed that the measures aimed at containing the spread were adhered to by many Lagosians on a daily basis. This is in line with the submission of Udejinta (2021) that evidence from research indicated education and mobilisation of the citizenry on behavioural change were essential for halting the

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The outcome of the study further revealed that there is decline in the use of face masks, observance of social distancing and regular hand-washing, implying poor treatment of the protocols. It means that though the respondents are still aware of the need to protect themselves against COVID-19, some factors still necessitate their negative attitudes to some aspects of the protocols. Some of the challenges inhibiting effective compliance include inadequate application of the protocols, negative and erroneous beliefs about COVID-19, access and affordability of some of the protocols like face masks and hand sanitizers. As well, the harsh economic reality which hardly allows Lagos residents to stay at home as they have to fend for their survival and this exposes them to crowds of people. Obi-Ani *et al.* (2020), in their study also pointed out the social and credibility factors affecting responses to containment communications. In Nigeria, low citizen trust in government guidelines, difficulties imposed by the health system, social media, and inadequacy of social amenities negatively impact the observance of COVID-19 protocols.

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and rural communities. It is comprehensive observance of the safety protocols that would engender an effective control and elimination of the COVID-19 disease in Lagos State.

In furtherance of the findings of the study, the following recommendations are made:

1. Although the level of knowledge of the COVID-19 protocols among Lagosians is high, it could still be further increased through media campaigns to enlighten, sensitise and re-orientate the people on the need to continue to observe COVID-19 safety protocols.

2. Similarly, residents of Lagos should be persistently educated and enlightened on the need to maximise their adherence to COVID-19 preventive measures by applying both mainstream and social media as well as traditional mode to effectively achieve the goal.

3. The existing high percentage of positive perception of Lagosians towards the preventive measures should be sustained through the application of multi-media strategies to engender continued higher observance of the safety protocols.

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