

## Publics Knowledge and Corresponding Reactions to Early COVID-19 Media Messages in Nigeria

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### Abstract

*Media health messages can influence the attitudes and opinions of the public to adopt positive behaviours, especially in the era of misinformation. Previous studies on health media messages in Nigeria largely focused on specific media effects on the public, with little attention paid to how the health media messages influenced the behaviour of the public. This study examined the citizens' knowledge level of COVID-19 media messages and the influence of these messages on their behavior and actions. The social cognition theory framed this study while quantitative data through an online survey was gathered from a snowball and convenience sampling of 850 respondents living in different states in the country. Data was collected from April to June 2020, when Nigeria's infection rate became intense. The findings revealed that the public received the most COVID-19 information and claimed adequate early knowledge of COVID-19 information, mainly through social media platforms. However, the respondents did not convert this knowledge into positive actions as many often did not observe the recommended preventive measures. Even though the majority knew the virus originated in Wuhan, China, only a few understood its transmissibility. The respondents' non-adherence to coronavirus information was also a direct consequence of their initial distrust in the Nigerian government and its handling of the spread of the virus. Therefore, media and health organisations in Nigeria, including the Nigerian government, need to intensify efforts to ensure Nigerians' favourable and desired (re)actions regarding coronavirus and future health-related diseases information.*

**Keywords:** COVID-19 information, knowledge and action, coronavirus in Nigeria, health information

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### Introduction

Within a few months after coronavirus (COVID-19) spread from Wuhan, China, in December 2019, it infected an estimated 84 million people, with over 1.8 million deaths globally as of 3rd January, 2021 (WHO, 2021). These viruses are transmitted through aerosols and with (in)direct contact during medical cases and

laboratory sample handling (Pal, Berhanu, Desalegn and Kandi, 2020). While the world grapples with the infection rate of the viruses, there is still no potent treatment, except for recently developed vaccines. Hence, the World Health Organization (WHO) and other health stakeholders embarked on rigorous sensitization of the public, through the media, on adequate knowledge of the virus and advocated for preventive measures, including observing clean hygiene, social behaviours (distancing, frequent hand washing) and closure of schools, markets, religious centers, among other measures.

Among their numerous functions, the media is to provide accurate and updated news and information to the public. Thus, the media, including television, radio, newspapers, social media, and online news platforms, have become essential tools for information sourcing and dissemination during acute health pandemics, such as the Ebola in 2016 and the recent COVID-19. To date, the media provides information on the global COVID-19 infection rate, regional and global death rates, global policies on lockdown, and the imposition of curfew in different countries. It is, therefore, not surprising that the World Health Organization (WHO) and other relevant agencies in the fight against COVID-19 are actively engaging the media to disseminate information and sensitize the world about the COVID-19 infection.

Besides the media's sensitization roles, studies have revealed its ability to influence the attitudes and opinions of the public (Vreese, 2005; Khan, 2020). The media achieves its influence on the public by framing or reporting the news to inform and reinforce beliefs. Media messages possess the ability to influence the behaviours and attitudes of the public. COVID-19 Media messages are meant to assist the public in making decisions, modify certain behaviours, and provide assistance in coping with the pandemic. Zhong, Luo, Li, Zhang, Liu, and Li (2020) affirm that through these media messages, the public is equipped with knowledge about the disease globally and propelled to take necessary actions against the spread of the disease.

While research on the global coronavirus pandemic is increasing, it becomes necessary to examine the public's media consumption of initial COVID-19 messages by investigating their knowledge of the virus and corresponding actions (behaviours). Exploring the public's reactions to COVID-19 media messages is necessary to determine how well the media disseminates health pandemic information to the public, especially in an era where misinformation is high. Hence, this study ascertained Nigerian's knowledge level about COVID-19 media messages and their corresponding (re)actions towards COVID-19 media messages.

## **Literature Review**

### **Media and Coronavirus Messages**

The novel coronavirus (COVID-19) pandemic became a primary global concern at the beginning of the year 2020. Moreno, Fuentes-Lara and Navarro (2020) believe COVID-19 is the worst health crisis since 1918. The COVID-19 discussions are not unconnected with its infection rates, which have caused a global health crisis and impacted almost all spheres of life. Thus, it may not be out of place to affirm that other aspects of human activities remained crippled during the pandemic's peak. The economic, political, social, educational, and religious sectors were grounded for several months following COVID-19's discovery, as infection rates and resulting deaths increased weekly. Therefore, safety measures to contain the spread were announced and communicated through the media for proper awareness and caution from the public.

Undoubtedly, the media is an influential force in disseminating information, concepts and ideas, shaping public opinion, attitudes, and views about issues of concern to society. Hence, they are a tremendous and potential tool for advancing public health goals. In recent times, the media has greatly assisted in educating, sensitizing, and creating awareness of past health issues. Instances include the severe acute respiratory syndrome (SARS) in 2003 (Zhong, Luo, Li, Zhang, Liu, Li, Li, 2020); H1N1 in 2009; Polio in 2014; and Zika in 2016. Other health issues include the Ebola outbreak in 2019 (first in West Africa and later with a breakout in the Democratic Republic of Congo), while the World Health Organisation declared COVID-19 as the sixth public health emergency of international concern on January 30th, 2020 (WHO, 2020). Since the pandemic

broke out, millions of people have been infected globally, with more than 255 million global infection rate and more than 5 million deaths as of November 19, 2021 (WHO, 2021).

During the global lockdown, citizens turned to the media for truthful and verifiable information about the pandemic. However, as the media became the primary source of information, misinformation also contributed to the public's fears about the pandemic. Misinformation is a deliberate attempt to mislead the public about an issue. In Nigeria, some media peddled false news about preventive measures and cures. For instance, there were broadcast messages about COVID-19 being a fallout of the installation of the 5G network to destroy the world, while others argued that the pandemic resulted from China's greed to become one of the super-power nations. Other misinformation circulated in Nigeria included claims that the consumption of either ginger, alcohol, hot water, or a combination of all, were remedies to preventing the coronavirus. Amidst all this misinformation, some people still believed that coronavirus never existed but was an imagination of a few. While misinformation on the coronavirus pandemic has been a subject of concern to many, studies have revealed the media's usefulness in creating awareness and influencing public attitudes. For instance, in a study on media exposure to COVID-19 information in China, Liu, Zhang, and Huang (2020) observed that people's knowledge about COVID-19 varied according to their levels of media exposure. Liu et al.'s (2020) study further affirmed that the media was instrumental in influencing public responses to COVID-19 and created public awareness on information on observing the necessary precautionary measures. Similarly, Zhong et al. (2020), in their study on knowledge, attitudes, and practices towards COVID-19 among Chinese residents, found that adequate knowledge about the disease positively affected their attitudes and practice of what they learnt from the media. Similarly, media scholars (Tao, 2003; Person, Sy, Holton, Govert, and Liang, 2004; Zhong et al., 2020) reiterated that knowledge about infectious diseases was closely associated with fear expressed among the populace. By implication, learning about health hazards can help prevent the spread of the disease. In another study on Egyptians' perception of coronavirus disease, Abdelhafiz et al. (2020) argued that people believed the disease posed a life-threatening danger. They also observed that most respondents perceived the disease as more dangerous for the elderly and those with chronic illnesses. In a similar study on COVID-19 related knowledge, attitudes, attitude, and practice in Nairobi, Kenya, Austrian et al. (2020) found that respondents perceived that they were at high risk of contacting COVID-19 infection.

## **Theoretical Framework**

### **Social Cognition Theory**

The Social Cognition Theory (SCT) is one of the most often-used theories in health behavior research (Glanz, nd). Developed by Albert Bandura, the SCT is a framework for understanding, predicting and altering human behaviour. The SCT explains human behaviours in a three-way, dynamic, reciprocal model where there is a continuous interaction between personal factors, the environment and human behavior. Stajkovic and Sergent (2019) state that human beings judge the interplay between these three factors. In other words, individual experiences, environmental experiences and the experiences of others affect human health behaviours. People often recall the sequence of events when they see a model do an action and the repercussions of that behaviour, and they utilize that information to guide later behaviors.

The SCT will reveal how Nigerians recalled COVID-19 media messages and the resulting behaviours from the messages. It will also show Nigerians' knowledge about COVID-19 and how much they adhered (in the form of behaviour) to these COVID-19 media messages.

### **Methodology**

Qualitative data was gathered to examine the knowledge and compliance rate of the media messages on the public. Hence, data for the study was gathered through a structured online questionnaire. Since the survey was online-based, links to the survey were circulated among Nigerians living in different states in the country.

The snowball sampling was employed in selecting Nigerians exposed to COVID-19 media messages, while the convenience sampling assisted in selecting respondents who were willing to participate in the survey. At the end of three months (April – June 2020), eight hundred and fifty (850) willing respondents participated in the study. We analysed data using the simple frequency count and chi-square to examine the levels of association between the variables.

**Results**

**Table 1: Summary of Socio-demographic Variables of Respondents**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Gender</b>		
Female	432	50.8
Male	418	49.2
<b>Total</b>	<b>850</b>	<b>100.0</b>
<b>Age Range</b>		
Less than 20 years	100	11.8
21 – 30 years	318	37.4
31 - 40years	226	26.6
41 - 50years	124	14.6
51 - 60years	72	8.5
61 – above	10	1.2
<b>Total</b>	<b>850</b>	<b>100.0</b>
<b>Occupation/Profession</b>		
Professional	176	20.7
civil servant	168	19.8
Student	214	25.2
self-employed	140	16.5
Unemployed	10	1.2
skilled worker	30	3.5
Retired	10	1.2
public servant	46	5.4
Others	56	6.6
<b>Total</b>	<b>850</b>	<b>100.0</b>
<b>Highest Educational Status</b>		
Bachelors/HND	428	50.4
Diploma/OND/NCE	82	9.6
JSSCE	4	.5
Postgraduate	252	29.6
SSCE	84	9.9
<b>Total</b>	<b>850</b>	<b>100.0</b>

Table 1 reveals an almost equal representation of the male and female gender. Of the 850 respondents, there are 432 (50.8%) female to 418 (49.2%) male respondents. These respondents fall within the less than 20 years age range to 60 years and above respondents. Furthermore, 50% of the respondents possess Bachelor’s/HND as their highest educational qualification, and another 30% have postgraduate degrees. The remaining 20% of respondents possess Diploma/OND/NCE degrees, Senior Secondary School Certificate

Exam (SSCE), and Junior Secondary School Certificate Exam (JSSCE) certificates. By implication, the respondents are expected to provide opinions on the media’s influence during the initial lockdown occasioned by the coronavirus pandemic. Finally, the demographic data reveals that the respondents cut across various professions and occupations, such as civil servants, teachers, entrepreneurs, medical doctors, nursing, self-employed, legal practitioners, students, bankers, engineers, clergy, researchers, accountants, farmers, and medical professionals lab technicians. Others include journalists, broadcasters, media personnel, military personnel, retirees, artisans, development and health workers, dieticians, cardiographers, epidemiologists, clerks, estate surveyors, molecular biologists, optometrists, and administrative personnel secretaries.

**Level of Respondents’ Knowledge of COVID-19**

The first objective examined respondents’ knowledge level of the COVID-19 infection. We argue that respondents’ knowledge of the disease could lead to corresponding actions (in the form of preventive measures). Thus, the findings from the survey revealed that all 850 (100%) respondents were aware of the prevalence of COVID-19. Hence, their eligibility to proceed with other items of the study. Next, the study examined respondents’ source(s) of COVID-19 information. The findings are presented in Table 2.

**Table 2: Respondents Sources of Information on COVID-19 Infection**

Variable	Frequency	Percentage
Newspaper`	16	1.9%
Radio	36	4.2%
Social media	564	66.3%
Television	184	21.6%
Friends	28	3.3%
Internet	4	0.5%
All of the above	14	1.5%
Social media, radio & TV	2	0.2%
In the course of duty	2	0.2%
<b>Total</b>	<b>850</b>	<b>100</b>

Table 2 reveals that 66.3% of respondents received COVID-19 information from social media platforms, while 21.6% received COVID-19 information from Television programmes. Other respondents received COVID-19-related information from the radio (4.2%), from friends (3.3%), from the newspaper (1.9%), and the internet (0.5% from news platforms). Data could imply that while most respondents received COVID-19 information from social media, other traditional media, such as TV, radio, newspapers, and friends, were also helpful in disseminating information. The study further tested the respondents’ understanding of the coronavirus. The findings are presented in Table 3:

**Table 3: Possible Modes of COVID-19 Transmission**

Variables	Frequency	Percent
Through contact with droplets from infected persons	748	88%
Through eating in Chinese restaurants	8	0.9%
By eating bats and snakes	48	5.6%
By eating raw animals	80	9.4%
Through sexual intercourse	112	13.2%
Through touching/shaking infected persons	668	78.6%

The results of the multiple option item from Table 3 reveal that 88% of the respondents understood the transmission modes of coronavirus - spread through contact with the droplets from infected persons, while 78.6% opine that coronavirus could be spread by touching/shaking infected persons. While these respondents know the possible modes of transmission, Table 3 further reveals that 9.4% of respondents believe that coronavirus could be spread through eating raw animals, and 5.6% of the respondents believe the infection could be transmitted through eating bats and snakes. In comparison, 0.9% of respondents believe that coronavirus could be spread through eating in Chinese restaurants. The findings, thus, imply that most respondents know about the possible modes of transmitting coronavirus. However, efforts must be geared towards completely re-orientating the ways of transmitting the virus.

To further examine respondents' opinions on coronavirus symptoms as a test of their knowledge of the virus. The findings are presented in Table 4:

**Table 4: Knowledge of Coronavirus Symptoms**

Symptoms	Frequency	Percent
Cold, headache, mouth sore, and loss of hair	2	0.2
Fever, dry cough, sore throat, and shortness of breath	814	95.8
Fever, loss of appetite, wet cough, and sneezing	34	4.0
<b>Total</b>	850	100

The data reveals that 95.8% of the respondents believe that fever, dry cough, sore throat, and shortness of breath are the main signs and symptoms of coronavirus infection. In comparison, 4% of respondents believe

that fever, loss of appetite, wet cough, and sneezing are the symptoms of coronavirus, with a respondent who believes that a cold, headache, mouth sore, and loss of hair are the symptoms of coronavirus infection. The data, thus, implies that a majority of the respondents agree that fever, dry cough, sore throat, and shortness of breath are the main signs and symptoms of the coronavirus.

Lastly, the study examined respondents' knowledge of media messages aimed at preventing the spread of the virus. The findings are presented in Table 5:

**Table 5: Media messages in mitigating against the virus**

Variables	Frequency	Percent
Cleaning and disinfecting surfaces regularly	704	17.4
Drinking alcohol more often	10	0.2
Keeping social and physical distancing	830	20.5
Regular bathing	208	5.1
Regular hand washing for at least 20 seconds	760	18.8
Stay indoors	4	0.1
Using alcohol-based sanitizers often	748	18.5
Wash clothes exposed to air droplets often	2	.0
Wearing face masks regularly	774	19.1

The results from Table 5 reveal that the majority of the respondents believe that maintaining social and physical distancing (20.5%), wearing face masks regularly (19.1%), regular handwashing for at least twenty seconds (18.8%), and using alcohol-based sanitizers (18.5%) and cleaning and disinfecting surfaces regularly (17.4%) were measures of combating coronavirus. Also, (5.1%) respondents agreed that regular bathing could combat coronavirus. In comparison, (0.2%) respondents believed regular alcohol intake could combat coronavirus. The results, thus, imply that the majority of the respondents are knowledgeable and aware of the necessary measures needed to combat coronavirus.

**Corresponding (Re)actions to Media messages on COVID-19**

**Table 6: Understanding of COVID-19 Media Messages**

Variables	Frequency	Percentage
No	106	12.5
Yes	744	87.5
<b>Total</b>	<b>850</b>	<b>100.0</b>

The results from Table 6 reveal that a majority of 744 (87.5%) respondents believed that the media messages on coronavirus were well structured and easily understood, which should lead to some action on their part.



However, 106 (12.5%) respondents believed that the media messages on coronavirus were poorly structured and not easily understood. The results, thus, imply that more respondents believe that the media messages they receive on coronavirus are well-structured and easy to understand.

An open-ended follow-up question further sought to understand why some respondents believed the media messages were poorly structured to aid easy understanding. Findings revealed that many respondents felt that mass education and community sensitization of the citizens were better alternatives to the fear tactics employed by the media. Also, some respondents opined that more of the media messages were in the English language rather than in their various indigenous languages. Hence, it could be complicated for citizens in rural areas, who may have little knowledge about the virus, to understand its impact. Also, other respondents believed that the media messages were part of the gimmicks of the government to score cheap popularity. Thus, they believed that the government’s insincerity in only updating numbers of infected persons without presenting evidence of actual people with the virus was a reason for not understanding the media messages. Other responses focused on providing palliatives and more testing centres as reasons for not believing in the media messages from the government.

Despite the responses from those who did not believe the structure of the media messages, Table 7 presents the corresponding actions respondents took after receiving media messages on coronavirus.

**Table 7: Respondents’ actions following COVID-19 Media Messages**

Variables	Frequency	Percentage
Avoiding close contact with people who have cold or similar symptoms	628	73.9%
Covering hands and nose with flexed elbows when coughing	544	64%
Regularly and thoroughly cleaning surfaces	374	44%
Staying at home	684	80.5%
Staying informed by the media	568	66.8%
Using hand sanitizers	716	84.2%
Washing hands with water and soap for at least 20 seconds	672	79.1%

Data reveals that 716 (84.2%) respondents frequently used hand sanitizers, while 684 (80.5%) respondents obeyed media instructions to stay at home. Furthermore, findings revealed that 672 (79.1%) respondents observed the instructions of washing hands with soap and water for 20 seconds, while 628 (73.9%) respondents avoided close contact with people with symptoms of cold or similar symptoms. Also, 544 (64%) respondents observed covering their hands and nose with flexed elbows while sneezing, and another 374 (44%) respondents regularly and thoroughly cleaned surface areas to prevent contracting the virus. The results imply that while respondents are fully aware of the preventive measures against coronavirus, they further observe preventive actions, as received from the media, against contracting the virus.

In addition, data on respondents’ corresponding actions to media instructions on hygiene, such as touching the eyes, nose, mouth and wearing face masks, revealed that 384 (45.2%) respondents *often* forgot to undertake some hygienic media instructions on coronavirus. In comparison, 320 (37.6%) *rarely* forgot, while 70 (8.2%) respondents *never* forgot. However, 76 (8.9%) forgot to carry out some hygienic media



instructions on coronavirus *every time*. The results, thus, imply that while more respondents often forget, there is a handful of them who also rarely forget.

Furthermore, the results revealed that more respondents (49.6%) sought medical attention based on media messages received, 27.3% believed otherwise, and 23.1% were unsure.

Table 8 presents a T-Test showing the relationship between Respondents' Demography, frequent media messages, and corresponding actions against the virus.

**Table 8: T-Test showing the relationship between Respondents' Demography, frequent media messages, and corresponding actions against the virus**

VARIABLES	CHI-SQUARE VALUE	P-VALUE
Gender	2.291	0.318
Age range	20.544	0.025*
Marital Status	2.252	0.895
Professionalism	10.378	0.846
Highest Education Status	431.386	0.001*
Media users and non-users	51.805	0.001*

Data from Table 8 reveals a significant association (P-value < 0.05) between respondents' demographic characteristics, frequent media messages and corresponding actions. For respondents between 21 – 30 years, 312 participants agreed, no respondent disagreed, and 3 were unsure. For the highest education status (Bachelor/HND), 418 participants agreed, no respondents disagreed, and 5 were unsure. For the media and non-media user categories, 790 participants agreed, no respondent disagreed, and 28 were unsure. Therefore, more respondents across educational status and age ranges believed that coronavirus was real and held adequate knowledge about it because of exposure to the media.

**Discussion**

The coronavirus infection continues unabated worldwide, despite efforts to reduce its spread. In Nigeria, little was known about the influence of coronavirus media messages on Nigerians' knowledge and actions after it became a global pandemic in March 2020. Hence, this study examined Nigerians' knowledge and corresponding actions of coronavirus media messages. The findings from the study revealed that all participants claimed knowledge of the infection, with the majority getting information from social media platforms. The pandemic forced the government to restrict social gatherings, leaving people to spend more time on social media. Even though the majority knew the virus originated in Wuhan, China, only a few understood its transmissibility –a severe knowledge deficit. While most respondents agreed that infection was possible through contact with droplets from infected persons, many still held false beliefs that eating bats and snakes in Chinese restaurants or sexual intercourse were responsible for the viral transmission. Moreso, a few respondents (10.8%) believed they had no idea if contact with a carrier could lead to an infection. Similar confusion was observed by [16] in their cross-sectional study in Malaysia. The public's lack of adequate understanding was a severe clog in infection prevention and control (IPC). Hence, this study recommends that more detailed and repeated communication and education of the public will be required to fight the virus to a standstill.

In addition, a relatively high proportion of the participants (17.2%) tied the infection to world apocalypses. The finding revealed Nigerian's spiritual overtone to world events. However, most respondents (95.8%) knew correctly about the signs and symptoms. This study's findings are similar to those from Kenya [13] and Egypt [12], where the study population displayed good knowledge of the signs and symptoms of the infection. Almost all the participants believed the viral infection was real, but some people believed that the media exaggerated the mortal power of the virus. There was a significant relationship between the acceptance of this reality with media messages and some socio-demographic features such as education, age range, and media usage. The knowledge and acceptance of the reality of the viral infection and its media messages are not surprising in light of the educational status of the participants. At least 80% of our respondents had a Bachelor's degree/Higher National Diploma (HND), of which 87.6% were between 20 and 50 years old. A recent study revealed that more than 90% of the Nigerian population are social media savvy between 20 and 54 years. However, no significant relationship was established between the acceptance of the reality of the viral infection and gender, profession, and marital status. The few who did not believe the infection was real could hold that Nigeria's first sets of people infected with the virus were in the ruling political class; hence, the government took the infection as another political artifice.

However, despite the knowledge of the virus and its modes of infection, more respondents often forgot to observe hygienic instructions advocated by the media. This may have been a direct consequence of vague media messages not properly structured to ensure understanding (delivered in their indigenous language). The respondents' compromising behaviour could also result from their initial distrust of the Nigerian government and its handling of the spread of the virus. Therefore, the media messages and knowledge of the virus did not fully translate into positive action from the people. Hence, it could be stated that the media's agenda centered on creating awareness about the virus and less on adherence. Consequently, there was less behavioural compliance to the preventive measures.

### Conclusion

The Nigerian media, especially social media, helped disseminate COVID-19-related information. This study shows the rising importance of social media in information dissemination and awareness creation. While citizens still lack internet access, traditional media (Radio, TV, and newspapers) must advance their information dissemination roles. However, an assessment of the public's corresponding actions to COVID-19 revealed that despite the media providing coronavirus information, more respondents did not take action(s). Therefore, media and health organisations in Nigeria, including the Nigerian government, must intensify efforts to ensure favourable and desired (re)actions from Nigerians regarding the information on coronavirus and other future health pandemics. This will help reduce the spread of the virus, especially when different virus variants keep mutating.

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