Social Media Efficacy on Prevention and Control of Covid-19 Pandemic in Ilorin South Local Government Area, Kwara State

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A B S T R A C T

This study investigated social media efficacy on prevention and control of Covid – 19 pandemic in Ilorin South Local Government Area, Kwara State, Nigeria. This study examines the effectiveness of awareness created by Facebook, NCDC messages, and Twitter on prevention and control of Covid – 19 pandemic in Ilorin South LGA, Kwara State. The study adopted a descriptive research design of survey type. A multi-stage sampling technique of stratified and purposive techniques was employed to select 150 respondents for the study. A structured questionnaire was validated and pilot tested with the use of test re-test reliability method and 0.75r were obtained. The findings revealed that awareness created through Facebook, NCDC, and Twitter has many impacts on the prevention and control of the Covid – 19 pandemic. Based on these findings, the study recommends that health officers should encourage people on the need to use social media tools like Facebook, NCDC messages, Twitter, Youtube and soon to gain insight on prevention and control of Covid – 19 pandemic.

A R T I C L E I N F O

1. INTRODUCTION

The coronavirus diseases of 2019 tagged covid-19 pandemic griped the world with shock by overwhelming the health system of most nations. The World Health Organisation (WHO) declared the novel human coronavirus disease covid-19 outbreak which began in Wuhan, China on December 8, 2019, as public health emergency of international concern on January 30, 2020. The world registered over seven million cases from December 2019 to June 2020. In the United States, over 2 million cases were reported and in Africa, South Africa recorded over 54,000 cases, and Egypt which recorded over 38,000 cases bear the greater brunt following the declaration made by the world health organization. In January the coronavirus preparedness group was constituted on January 31 in Nigeria. A country with 36 states and a federal capital territory (FCT), WHO categorized Nigeria as one of the 13 high-risk African countries concerning the spread of covid-19. Nigeria is also among the vulnerable African nations, given the weak state of the health care system. The coronavirus is a contagious disease of global health importance that disrupts the usual norms of close physical contact since the disease is usually transmitted through contact with individuals who already contracted the disease. Covid-19 deglobalizes the world in terms of human migration with airports shut down and social events such as sports, festivals, and the like works were postponed indefinitely (Ren *et al.,* 2020). The stay-at-home campaign and proscription of large social gatherings mean that social interaction has been limited.

The globalization that signifies compression of time and space aids the transmission of diseases on a global scale that facilitate the spread of covid-19. The world has also witnessed global restriction of movement of people from one country to another which serve as a means of preventing the spread of the covid-19 pandemic and the implication of this restriction of movement is the hunger that poses a threat to the well-being of all the citizens. The government has strengthened disease surveillance at the airport since January 2020 to prevent the covid-19 outbreak, Nigeria recorded its first covid-19 index case that was imported from Italy on February 27. This raised concerns about the effectiveness of airport surveillance and by extension, the country's general preparedness. The first case was an index case of an Italian who visited some states in Nigeria before, it was confirmed through testing that he had brought covid-19 into Nigeria. This grossly exposed our inadequate preparedness to curtailed or stop the spread of covid-19 in the country.

As a result of this, the public health education and risk communication campaigns on coronavirus commenced in earnest with the reported index case of covid-19. Both conventional and social media, which include the use of WhatsApp, Twitter, and Facebook assisted the Nigerian government in disseminating updates and information towards the prevention of the spread of covid-19 (Obioma *et al.,* 2020). The Nigeria Centre for Disease Control provides regular updates on the outbreak with support from major telecommunication operators in the country. In addition to the campaign mounted against the covid-19 outbreak, there are sensitization programs' organized through social media platforms by some Non-Governmental Organizations (NGOs) which is online to educate and create more awareness on the spread of the covid-19 pandemic (Vraga *et al.,* 2020). The NCDC usually published guidelines on the prevention and control of coronaviruses such as observing social distancing, safe hand washing, maintenance of personal and respiratory hygiene on the social medial tools like Twitter and Facebook, WhatsApp, blog and short message services (SMS) on the covid-19 infection were equally translated into local languages to reach out to the general public on how to prevent and control this deadly virus. The NCDC also went further to use a communication campaign with the theme "take responsibility on your safety

by adhering to the covid-19 guidelines protocol. The NCDC uses a communication campaign to take responsibility on social media for all Nigerians. This is to emphasize the role of the individual both in the prevention of covid-19 and the social upkeep of their health while the pandemic lasts.

However, social media is an invaluable means of disseminating information to the citizenry hence it is a powerful tool of creating awareness on causes and prevention of disease outbreaks. It acts as a two-edged sword as it allows citizens to be privy to information without impediments (Tanne *et al.,* 2020). Over the years, social media has become an active technological tool in Nigeria as well as a news and communication channel for the citizenry in Nigeria. Access to mobile telephones especially among the technologically endowed youths has made the dissemination of information easily with a snap of the finger. In recent times, as the pandemic encroaches on, emasculates world activities on social media platforms have been utilized as an information outlet to citizens. Its significance has gained more recognition, especially during lockdown when the government implements the use of social media to curb the spread of the covid-19 virus. Thus, it has become an active tool for the engagement and communication of information on the prevention and control of the covid-19 pandemic when movements of people were restricted by imposing curfew (Vraga & Bode 2010).

Social media is an offshoot of the internet. The internet is refer to the electronic network that links people and information through computers and other digital devices thereby allowing person-to-person communication and information retrieval. The internet is a major tool that emerged for information dissemination, although, the media often act as an information hegemon in terms of determining what information is made available to the people as well as the impression people have on issues like an outbreak of diseases (Cui *et al.,* 2020; Bode & Vraga 2018). Similarly, affirmed that social media is the collection of websites and web-based systems that allow mass interaction, conversation, and sharing of information among people of the network. These diverse media outlets and communication networks such as Facebook, Twitter, WhatsApp, and Instagram played an important role in facilitating and disseminating information for people, especially during the covid-19 lockdown. Furthermore, in the face of the covid-19 pandemic, it is through social media that the government passes across updates on the state of the country's state health as regards the spread of the virus. Vraga and Bode (2021) asserted that messages like graphs, pictures, SMS messages shared through social media like Facebook, Twitter, Whatsapp, and so on would be effective if all the misconceptions and misinformation are adequately addressed.

Accordingly, NCDC platforms on Twitter and Facebook are usually updated from time to time for news and safety guidelines that must be taken by the people to prevent the spread of the covid-19 virus. Also service providers such as MTN, GLO has provided free internet access to the websites of health organizations such as the NCDC, Federal Ministry of Health, World Health Organization and presidential task force. During the time of lockdown till now, the NCDC also sends daily updates to the people through SMS so that people would be properly equipped with whatever information they might need to combat the virus especially among the resident of Ilorin South Local Government Area, Kwara State stressed that social media is a communication tool used to provides huge information outlets to millions of Nigerians during the covid-19 pandemic. The announcement of the first coronavirus case was made through various social media platforms such as Twitter, Facebook, and other various websites. Since a good number of Nigerians have access to these platforms, it was very easy for the NCDC and other health workers to spread this information on how to prevent and control the virus among people. Subsequently, health care agencies such as the NCDC usually update the masses on the number of cases that are positive, fatal, or that have recovered

from contacting covid-19 in Nigeria through these social media platforms. This often gave Nigerian citizens a better chance to be fully prepared for covid-19 as opposed to the period of the influenza pandemic in which there was limited news on the virus when it came to Nigeria.

Social media is a valuable means of disseminating information to people across the globe. In Nigeria, the social media act as a two-edged sword as it allows citizens to be privy to information without impediments. However, this same tool has been used to misinform the general public and to circulate unverifiable and deceptive messages to people. Furthermore, the role of social media in disseminating information to prevent and control the spread of the covid-19 pandemic cannot be overemphasized but yet people still turn down this opportunity due to the fact that they are not financially buoyant enough to buy an android phone for their need. Also, some people have not fully understood the extent to which they are influenced by the news spread by the Nigeria Centre for Diseases and Control and presidential task force on social media such as Facebook, Twitter, YouTube, WhatsApp, and newspapers online on how this virus can be prevented.

We also observed that a lot of people especially in the study area believed that some of this news and pictures on social media can be manipulated to induce fear among people and also this social media platform can be used to spread fake news on how people can contact covid-19 especially during the lockdown. Sending messages through social media can only help to prevent and control covid-19, provided if people log in to the NCDC website. This study, therefore, examined social media efficacy on prevention and control of covid-19 pandemic in Ilorin south local government, Kwara state Nigeria.

The following research questions were raised to guide the study:

(i) the awareness through Facebook has an impact on the prevention and control of the covid-19 pandemic in the Ilorin South Local Government Area, Kwara State.

(ii) the NCDC SMS messages have an impact on the prevention and control of the covid-19 pandemic in the Ilorin South Local Government Area, Kwara State.

(iii) the awareness level on Twitter has an impact on the prevention and control of the covid-19 pandemic in Ilorin South Local Government Area, Kwara State.

The following research hypotheses were formulated to guide the study

(i) The level of awareness through Facebook will not have a significant impact on the prevention and control of the covid-19 pandemic in the Ilorin South Local Government Area, Kwara State.

(ii) NCDC SMS messages will not have a significant impact on the prevention and control of the covid-19 pandemic in Ilorin South Local Government Area, Kwara State.

(iii) Awareness level on Twitter will not have a significant impact on prevention and control of the covid-19 pandemic in Ilorin South Local Government Area, Kwara State.

2. METHOD

A descriptive research design of survey type was adopted for this study. The population for this study comprises all Nurses, Doctors, and Community health workers in health centers within the study area totaling One Hundred and Fifty (150) health care providers working in the covid-19 dot center. A multi-stage sampling procedure of stratified and purposive sampling techniques was employed to draw 150 respondents used for the study. The respondents were stratified into 3 strata namely doctors, nurses and community health workers purposively all the 13 medical doctors and 33 nurses were sampled also all the 105 community health workers were purposively sampled. A structured questionnaire was employed for this study. The instrument was validated by 3 experts in the Department of

Health Promotion and Environmental Health Education and Human Kinetics Education, University of Ilorin, Nigeria. The reliability level of the instrument was established through the test and re-test method, using Pearson Product Moment Correlation (PPMC) in which a correlation coefficient of 0.75 was obtained. The data collected were analyzed using inferential statistics of chi-square to test the formulated hypotheses set for the study at 0.05 alpha level.

The study made use of all health workers providing services on prevention and control of Covid – 19 in Ilorin South Local Government Area Kwara State. The study excluded all other public health workers that are not members of the Covid-19 DOT team within the Local Government Area in the state. In addition, ethical permission was obtained from the Local Government Area Authority.

3. RESULTS AND DISCUSSION

3.1. Hypothesis one: Level of Awareness Through Facebook Will not Have a Significant Impact on The Prevention and Control of Covid-19 Pandemic in the Ilorin South Local Government Area, Kwara State

Table 1 shows the calculated x^2 value of 42.11 against the critical value of 16.92 with 9 degrees of freedom at 0.05 alpha level. Since the calculated x^2 value is greater than the critical value, the null hypothesis stated that the level of awareness through Facebook will not have a significant impact on the prevention and control of the covid-19 pandemic in Ilorin South Local Government Area, Kwara state was hereby rejected. This means that level of awareness through Facebook has much impact on the prevention and control of the covid-19 pandemic in Ilorin South Local Government Area, Kwara State.

3.2. Hypothesis Two: NCDC Messages Will not Have a Significant Impact on the Prevention and Control of Covid-19 Pandemic in the Ilorin South Local Government Area, Kwara state Nigeria.

Table 2 shows the calculated x^2 value of 31.26 and critical value of 16.92 with 9 degrees of freedom at 0.05 alpha level. Since the calculated x^2 value is greater than the critical value, the null hypothesis stated that NCDC messages will not have a significant impact on the prevention and control of the covid-19 pandemic in the Ilorin South Local Government Area, Kwara state Nigeria was hereby rejected. This implies that NCDC messages have a greater impact on the prevention and control of the covid-19 pandemic in the Ilorin South Local Government Area, Kwara State.

3.3. Hypothesis three: Awareness Level on Twitter Will not Have a Significant Impact on the Prevention and Control of Covid-19 Pandemic in the Ilorin South Local Government Area, Kwara State.

Table 3 revealed the calculated x^2 value of 28.60 against the critical value of 16.92 with 9 degrees of freedom at 0.05 alpha level. Since the calculated x^2 value is greater than the critical value hence the null hypothesis stated that the awareness level of Twitter will not have a significant impact on prevention and control of the covid-19 pandemic in Ilorin South Local Government Area, Kwara state Nigeria was hereby rejected. This implies that the awareness level of Twitter has much impact on the prevention and control of the covid-19 pandemic in the Ilorin South Local Government Area, Kwara State.

Table 1. Chi-square (x^2) analysis on the impact of the level of awareness through Facebook on prevention and control of covid-19 pandemic.

S/N	Items	SA	A	D	SD	Raw Total	Cal. x^2 value	Df	Crit. x^2 value	Dec.
1.	Information shared through Facebook can be used as a yardstick to prevent or control the spread of covid-19.	20 (36.50)	30 (30.25)	90 (63.75)	10 (19.50)	150				
2.	The information posted on Facebook as regards the prevention and control of the covid-19 pandemic should enable people to be more conscious of the preventive measures against the disease.	40 (36.50)	15 (30.25)	65 (63.75)	30 (19.50)	150				
3.	Awareness level through the use of Facebook has nothing to do with the prevention and control of the covid-19 pandemic in society.	22 (36.50)	50 (30.25)	45 (63.75)	33 (19.50)	150	42.11	9	16.92	Hypothesis Rejected
4.	Some of the images and photos posted on Facebook as regards the victims of covid-19 are usually to create fear and hope in people towards the prevention of the covid-19 pandemic in the society.	64 (36.50)	26 (30.25)	55 (63.75)	5 (19.50)	150				
	Column Total	**146**	**121**	**255**	**78**	**600**				

Table 2. Chi-square (x^2) analysis of NCDC messages on prevention/control of covid-19 pandemic.

S/N	Items	SA	A	D	SD	Raw Total	Cal. x^2 value	Df	Crit. x^2 value	Dec.
1.	Most of the messages sent by the National Centre for Disease Control on daily basis often help people to be conscious about the prevention and control of the covid-19 pandemic in society.	35 (28.50)	75 (42.50)	10 (36.25)	30 (42.75)	150				
2.	Daily SMS sent by the National Centre for Disease Control improve people's belief that covid-19 is real and this does not serve as a preventive measure against its spread in society.	19 (28.50)	40 (42.50)	60 (36.25)	31 (42.75)	150				Hypothesis Rejected
3.	One of the ways to enhance and promote effective measures to be taken against the spread of the covid-19 pandemic is through daily SMS text sent by National Centre for Disease Control especially during the lockdown.	15 (28.50)	25 (42.50)	20 (36.25)	90 (42.75)	150	31.26	9	16.92	
4.	The messages sent through mobile phones by the NCDC on daily basis impacted on prevention and control of the covid-19 pandemic among people in the society.	45 (28.50)	30 (42.50)	55 (36.25)	20 (42.75)	150				
	Column Total	114	170	145	171	600				

Table 3. Chi-square (x^2) analysis of awareness level of Twitter on prevention and control of covid-19 pandemic.

S/N	Items	SA	A	D	SD	Raw Total	Cal. x^2 value	Df	Crit. x^2 value	Dec.
1.	Some of the Twitter messages sent across to people are not real and this also hindered the efforts of the government in the spread of the covid-19 pandemic in society.	15 (32.25)	55 (36.25)	70 (47.75)	10 (33.75)	150				
2.	Messages sent on Twitter usually get too few people and this does not influence the prevention and control of covid-19 in any way.	30 (32.25)	30 (36.25)	50 (47.75)	40 (33.75)	150				
3.	Information shared on Twitter is not reliable and cannot be used as a yardstick to prevent and control of covid-19 pandemic because not everybody has access to the internet during the lockdown.	54 (32.25)	25 (36.25)	46 (47.75)	25 (33.75)	150	28.60	9	16.92	Hypothesis Rejected
4.	The awareness level through Twitter has nothing to do with the government efforts in curbing the spread of the covid-19 pandemic among people, especially during the lockdown.	30 (32.25)	35 (36.25)	25 (47.75)	60 (33.75)	150				
	Column Total	**129**	**145**	**191**	**135**	**600**				

4. DISCUSSION

The findings from tested hypothesis one show that level of awareness through Facebook will not have a significant impact on the prevention and control of the covid-19 pandemic in the Ilorin South Local Government Area, Kwara state Nigeria. This is due largely to the effectiveness of the information, awareness-created photos, and images of the covid-19 victims shared on Facebook with its users. The quick accessibility of the information posted on Facebook and the coverage rate of the universal network further attest to its unquantifiable efficacy. This result supported the findings of the World Health Organization that social media as a tool of communication provides huge information outlets to Nigerians during the covid-19 pandemic. The announcement of the first coronavirus victim was made through various social media platforms such as Facebook, Twitter, WhatsApp, and various websites. Similarly, affirmed that in a bid to curtail the spread of the virus, other measures which include the prohibition of mass gathering of people at churches, sports arenas, burial ceremonies, and school arenas schools were closed nations wide. The achievement of these feats can be attributed not just to proper health care facilities but also to the impacts of social media such as Facebook, Twitter, WhatsApp, NCDC, SMS, and so on in the country.

The finding from tested hypothesis two shows that NCDC messages have a significant impact on the prevention and control of the covid-19 pandemic in the study area. The finding of tested hypothesis two is evident and resulted from the fact that all the messages sent as bulk SMS by NCDC to mobile users like MTN, GLO, AIRTEL, 9mobile, and so on contained valuable and fundamental preventive measures against the disease. This result is in line with the view of African News that it was easy to spread this information on how to prevent and control the covid-19 pandemic in Nigeria because almost all the health care agencies also relied on NCDC updates on the number of reported cases of infected and recovered those that have recovered victims of the disease through the daily SMS recycled. Also, this finding corroborates WHO earlier finding that, the mission of the NCDC is to protect the health of Nigerians through evidence-based prevention, integrated diseases surveillance, and responses activities which often disseminates information to the citizens through sending of daily bulk SMS tips and updates.

The findings from tested hypothesis three revealed that the awareness level of Twitter will not have a significant impact on the prevention and control of the covid-19 pandemic in the study area. This finding shows that Twitter has one of the highest coverage areas and is widely used in Nigeria. The information sent to users of Twitter was reliable, accurate, and accessible at all times. This result buttressed the finding of NCDC stressed that messages sent through the platforms of Twitter and Facebook to the general public from time to time often help people to take precautions always on how to prevent the spread of covid-19 pandemic during the lockdown. Also, messages informing of images and pictures of the victim served as a guide and proactive measure was taken by the government through social media to prevent and control the spread of the covid-19 pandemic across the country. This finding corrugates the finding of Vraga & Bode (2021) that messages like the graph, pictures, SMS messages shared through social media like Facebook, Twitter, WhatsApp, and so on would be effective if all the misconceptions and misinformation are adequately addressed.

5. CONCLUSION

Based on the findings of this study, the following conclusions were drawn:
(i) The awareness level of facebook messages has much impact on the prevention and control of the covid-19 pandemic in Ilorin South Local Government Area, Kwara State.

(ii)   NCDC messages have a greater impact on the prevention and control of the covid-19 pandemic in the Ilorin South Local Government Area, Kwara State.

(iii) The awareness level of Twitter messages has much impact on the prevention and control of the covid-19 pandemic in Ilorin South Local Government Area, Kwara State.

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

(i)   The messages sent through Facebook should be properly to ensure accuracy as well as prevent fake news that would cause panic among members of the public.

(ii)   The Nigeria Centre for Disease Control (NCDC) should not limit their SMS messages on the control and prevention of the covid-19 pandemic alone but to other deadly diseases hindering healthful living.

(iii) The dissemination of information should be curtailed by the government officials who are health workers and the Federal Ministry of Health to prevent fake news and images in circulation.

6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

7. REFERENCES

Bode, L., and Vraga, E. K. (2018) See something, say something: Correction global health misinformation on social media. *Health Commun*, *33*(1), 1131 – 1140.

Cui, J., LI, F. and Shi, Z. L. (2019). Origin and evaluation of pathogenic corona virus nature. *Reviews Microbiology*, *17*(3), 181-192.

Obioma, A., Reuben, A. A., and Elekwachi, A. B. (2020). Potential impact of COVID-19 pandemic on the socio-economic situations in Nigeria: A huge public health risk of unprecedented concern. *J Qual Healthcare Eco*, *3*, 000175.

Ren, L. L., Wang, Y. M., Wu, Z. Q., Xiang, Z. C., Guo, L., Xu, T., and Wang, J. W. (2020). Identification of a novel coronavirus causing severe pneumonia in human: A descriptive study. *Chinese Medical Journal*, *133*(09), 1015-1024.

Tanne, J H, Hayasaki, E Zastrow, M Rulla, P, and Smith P (2020) Covid-19: How doctors and health care systems are tackling corona virus worldwide. *British Medical Journal*, *368*, 1-5.

Vraga, E. K., and Bode, L. (2021). Addressing COVID-19 misinformation on social media preemptively and responsively. *Emerging Infectious Diseases*, *27*(2), 396.

Vraga, E. K., Bode, L., and Tully, M. (2020). Creating news literacy messages to enhance expert corrections of misinformation on Twitter. *Communication Research*, *47*, 0093650219898094.