

Nigerian media and the global race towards developing a COVID-19 vaccine: Do media reports promote contributions from African countries?

Olijo Innocent Igwe buike

Department of Mass Communication, University of Nigeria, Nsukka
Correspondence to: Olijo I. Email: leejobibe@gmail.com

Abstract

Background: Discussions on COVID-19 currently tilts toward developing a vaccine that will help in combating the spread of the virus. Despite this, researchers are yet to explore media coverage of the global race towards developing an approved vaccine for the virus.

Objective: To determine how Nigerian media report the global race towards developing a COVID-19 vaccine with particular attention to how African scientists are featured.

Methodology: A quantitative content analysis was used to conduct the study involving two television stations and two newspapers. A total of 883 COVID-19 stories were retrieved on the websites of the selected media outfits. The code sheet was the instrument for data collection while descriptive and inferential statistics were utilized to analyze the results.

Results: There were generally only 34% of stories on COVID-19 that focused on vaccine development. Additionally, a significant main effect was found between the frequency of report on COVID-19 vaccine and the continent of origin of scientists cited in such report with African scientists receiving less attention when compared to their counterparts in other continents. The same thing was applicable for stories encouraging scientists to develop a COVID-19 vaccine, as well as stories that express confidence in the ability of scientists to develop a COVID-19 vaccine.

Unique contribution: The study has shown that even Nigerian media do not have confidence in African scientists and their ability to develop a vaccine that will be useful for combating COVID-19.

Conclusion: Nigerian media do not properly set agenda on stories related to COVID-19 vaccine, especially when viewed from the perspective of African scientists. Rather, the media in Nigeria appear to focus more on vaccine stories related to researchers from developed countries like United States of America, United Kingdom, China, among others.

Key recommendation: Further studies should explore the involvement of African researchers in the global search for a COVID-19 vaccine.

Keywords: Africa; COVID-19; coverage; media; vaccine; Nigeria

Introduction

At the early stage of the outbreak of Coronavirus disease (COVID-19), attention was focused on prevention of the virus. Consequently, preventive health behaviour such as regular hand washing, physical distancing, use of alcohol-based hand sanitizers, avoiding handshake, among other preventive health behaviour were promoted. The World Health Organization {WHO} (2020) notes that these behaviour are needed to control the rate of infections in countries. Additionally, governments of countries locked

down their borders; even within countries, intercity movements were restricted and people were encouraged to work from homes. All these measures were aimed at preventing the spread of COVID-19.

However, such efforts appear not to be sufficient in preventing the spread of the virus as evidenced in the exponential increase in the number of confirmed cases. For example, as at 22 September 2020, there were a total of 31,174,627 confirmed cases of COVID-19 and 962,613 deaths globally. On a comparative note, the World Health Organization (2020) says that as at July 28 2020, a total of 16,341,920 cases of the virus have been confirmed while 650,805 deaths have been recorded. This means that in 86 days, the number of infections has increased by almost twice. In Nigeria, WHO notes that as at 22 September 2020, there were a total of 57, 437 confirmed cases with 1,100 deaths. What this means is that the measures put in place to contain the spread of the virus have not been successful at stopping the virus. This is because there is hardly a day that new cases are not recorded since the outbreak of the virus in China and its eventual spread to other parts of the world.

There is currently no approved cure or vaccine for the virus. Scholars (Gever & Ezeah, 2020; Wu *et al.*, 2020; Sun *et al.*, 2020) corroborate that the lack of cure for the virus is a serious setback towards avoiding its danger. It is also the lack of cure for the virus that has made world leaders to take desperate measures towards combating it. Some of these measures such as lockdown of schools, economic activities, and the ban on international travel have far reaching implications on economic progress. Perhaps, it is for this reason that there is need to search for a vaccine that will provide the required body immunity against the virus. By definition, therefore, a vaccine is a prepared biological agent which makes the body immune to a virus or an infectious disease. The increasing number of cases despite the preventive measures put in place is suggestive of the fact that a definite vaccine is required to combat the invisible enemy. World leaders seem to have come to a painful conclusion that a vaccine for the prevention of the virus is the only solution that can save the world from the grasp of COVID-19 and restore normalcy. This new thinking has resulted to a global anxiety and desperation regarding treatment for COVID-19. The new thinking has also resulted to competition among countries of the world like United States of America, Russia, Republic of China, United Kingdom, among others as to who will first develop an approved vaccine for the virus. Scientists in Africa are also making efforts towards finding a cure for the virus. A good example here is the COVID Organics developed by Madagascar. How the media in Nigeria report this global competition is important because it will provide evidence regarding the contribution of the media in a global search for a solution to a global problem. The manner in which the media highlight contributions from Africa is equally important as it will provide information on the contribution of the Nigerian media in promoting innovation on the African continent.

Objectives and scope

The objective of this study was to determine how the media in Nigeria report the global race towards developing a vaccine for COVID-19. In doing so, the researcher also looked at how the media highlight the contributions from Africa. The researcher examined if media report encourage African scientists to also join the race or not. Also, the researcher paid attention to how the media report contributions from African countries. The scope of

the study is therefore, media coverage of activities related to the search for a COVID-19 vaccine with particular attention to Nigeria media.

Literature review

The media occupy a crucial role in health communication. This is because through media messages, relevant health information are made public and people are educated concerning life-saving measures. Sadaf (2011) holds the view that as the fourth estate of the realm, the media are important agents of communication that provide relevant information to the society. Apuke and Tunca (2019) also note that the media of communication are important agents of information dissemination. The mass media of communication include: radio, television, magazine, and newspaper. In current dispensation, we now have what is called the new media. These media describe Internet-based communication channels such as Facebook, WhatsApp, Twitter, Gmail, among others. Most of the traditional media (radio, TV, newspaper, and magazines) now make use of new media to enhance their information dissemination. In the current study, the researcher was limited to traditional media. Limaye *et al.*, (2020) notes that information is an essential component of health education. Kim and Noriega (2019) opine that the media are essential stakeholders in health education. Flora *et al.*, (1989) many years ago suggested four roles that the media can play in the context of health promotion thus: (1) media as educator, (2) media as supporter, (3) media as programme promoter, and (4) media as supplement. The four roles of the media in the context of health education can be combined to promote health information dissemination. The media as an educator requires that the media provide adequate information that enlightens the general public about health issues. The media as supporter entails that the media should support efforts aimed at combating public health issues. The media as programme promoter means that the media should be at the forefront of promoting public health safety. Finally, the media as supplement means that the media of communication should also augment the efforts of health experts in ensuring public safety. The researchers add that one of the strategies through which the media can achieve this is through a combination of education and entertainment. The media in Nigeria have a responsibility to serve as promoters and supporters of efforts aimed at developing a vaccine that will be used to control the spread of COVID-19. The media in Nigeria are expected to also support local efforts at developing a vaccine or encourage local scientists and pharmaceutical companies to get actively involved in the global race for a search for COVID-19 vaccine.

Media coverage of health issues has received attention in literature with researchers reporting different results. For example, Gever and Ezeah (2020) conducted a study wherein they examined how the media in Nigeria reported the outbreak of COVID-19. Gever and Ezeah divided the coverage into two segments. First, before there was a confirmed case in Nigeria and second, after cases were confirmed. The researchers found that the media in Nigeria did not provide sufficient health warning messages because the reports were directly related to increasing number of cases. Basch *et al.*, (2020) examined media coverage of COVID-19 and reported that death rate dominated media reports. They examined 401 Google videos which they sampled online. They reported further that media reports created more anxiety with little attention paid to prevention and control of the virus. Thomas *et al.*, (2020) carried out a study to determine newspaper framing of COVID-19 and found that economic disruption was the most

relevant theme used. They also found that such framing was based on issues in the society. The result of the study also showed that there was also element of blame game in media framing of the pandemic. Ogboodo *et al.*, (2020) examined global media framing of COVID-19 by using LexisNexis database and two websites that yielded 6145 stories for analysis. Their results showed that the media investigated mostly made use of human interest and promoted fear and anxiety among the general public. The result of Ogboodo *et al.*, is consistent with that of Basch *et al.*, (2020) and Thomas *et al.*, because the three studies showed that the media paid less attention to preventive health behaviour. However, the study of Gever and Ezeah differs from that of Ogboodo *et al.*, (2020), Basch *et al.*, (2020), and Thomas *et al.*, (2020) because the former (Gever & Ezeah) focused on warning health messages. Nonetheless, the three studies did not pay attention to vaccine development. From the literature reviewed so far, it can be said that researchers have so far focused more attention in understanding how the media report COVID-19 with particular attention to causes, frames used, as well as health behaviour. This means that studies are required to also focus on vaccine because the discourse on COVID-19 now tilts towards vaccine development.

Theoretical frame work and study hypotheses

The researcher applied agenda setting theory as a framework to advance argument in this study. Agenda setting theory is traced to a 1922 book written by Walter Lippmann that was entitled *Public Opinion*. In the book, Lippmann began by painting an image of a 1914 situation in which some Englishmen, Frenchmen, and Germans were together on an Island without access to cable connection, but learnt of a British mail steamer that normally reached them once in every sixty days. In the month of September, the mail steamer was yet to visit; nonetheless, the islanders were still engaged in a discussion about the latest newspaper which its content focused on Madame Caillaux's forthcoming trial for the shooting of Gaston Calmette. Lippmann further adds that the people gathered with high expectations on a day in mid-September to know from the captain what the judgment had been. However, they got to know that for more than six weeks, the English people and the French were fighting on behalf of the sanctity of treaties against those of them who were Germans. Lippmann then noted that for six weeks period, they were together and behaved as if they were friends when in actual fact, they were not. The simple explanation was that the media did not set agenda on animosity existing among the English, French, and German people. It is essential to note that though Lippmann did not particularly mention agenda setting theory, he set an important background for the theory that was later suggested in 1972 by McCombs, Maxwell, and Shaw Donald (McCombs, 2004, 2005; McGrawHill & McCombs, 1974; Gever, 2015). McCombs and Shaw suggested agenda setting theory after they investigated 100 voters at Chapel Hills. They wanted to find out if an association exists between media reports and public agenda. The result of their study confirmed their assumption and they noted:

In choosing and displaying news, editors, newsroom staff, and broadcasters play an important part in shaping political reality. Readers learn not only about a given issue, but also how much importance to attach to that issue from the amount of information in a news story and its position.

The implication of the submission of McCombs and Shaw is that the media have the ability to set public agenda regarding the vaccine on COVID-19. The media can as well set agenda by encouraging African scientists and pharmaceutical companies to join in the global search for a COVID-19 vaccine. Conversely, the media in Nigeria can project Africa's efforts as not deserving serious attention or lacking in reliability and validity or just not good enough. The media in Nigeria can in the alternative, set more agenda on efforts from scientists and pharmaceutical companies from Europe and America. Typically, African countries depend on developed countries and have little or no confidence in themselves. Leaders from African countries seek medical treatment outside of Nigeria even for medical conditions that can be handled at home. It is likely that a similar situation will play out in the race for developing an approved COVID-19 vaccine. Therefore, the following hypotheses were suggested:

H1: Nigerian media will report more stories of vaccine development from developed countries than from their African counterparts.

H2: Nigerian media will encourage scientists from developed countries than their counterparts in Africa on the development of a COVID-19 vaccine.

H3: Nigerian media will express more confidence in efforts from developed countries than their African counterparts on the development of a COVID-19 vaccine.

Methodology

The researcher made use of quantitative content analysis to conduct this study. The choice of a research design is determined by the nature of a study. Therefore, the researcher decided that quantitative content analysis was suitable for the study because the objective was to examine documented media contents on COVID-19.

The researcher sampled two TV stations and two newspapers for the study. The TV stations sampled were Channels Television and Nigerian Television Authority (NTA). While the former is privately owned, the latter is a Federal Government owned TV station. The newspapers examined in the study were *Punch* and *Nation* newspapers. Both newspapers are privately owned national daily newspapers. Nigeria does not currently have government owned newspapers that are circulated on a daily basis. By combining both TV and newspapers, the researcher was able to broaden the sample size across media genres. The sampling techniques used in this study were stratify and simple random sampling techniques. This was implemented in stages. At the first stage, the researcher segmented the media into two based on genre. At the second stage, the researcher randomly selected NTA and Channels TV to represent broadcast media station while *Punch* and *Nation* newspapers were sampled to represent print media. The duration for this study was from 28th February to 30th September, 2020. The researcher considered it appropriate because it marked a time when there was a confirmed case of the virus in Nigeria and when discussions on a COVID-19 vaccine intensified.

Story selection strategy

The researcher made use of motif sampling approach to select stories for this study. In the view of Gever (2018), motif sampling strategy is the utilization of key words to retrieve data from the websites of media organizations. Consequently, the researcher utilized

motif approach to retrieve data about COVID-19 from all the websites of the media houses sampled for the study. This was done with the use of key words like ‘vaccine,’ ‘Coronavirus,’ ‘vaccine development,’ among others. After the search results were generated, a purposive sampling technique was used to sample only stories that were related to COVID-19 and vaccine development.

Study measures

The researcher made use of the following measures to achieve its aim:

Frequency of coverage: The goal here was to examine the number of times that stories on vaccine development were linked to both Africa and other developed countries.

Encouragement stories: These are stories that urge scientists and pharmaceutical companies to hasten efforts in finding a vaccine for COVID-19.

Confidence in efforts: These are stories that express confidence in the efforts of scientists and pharmaceutical companies at finding a vaccine for COVID-19.

The unit of analysis for this study was the article for newspapers and newscast for TV. The instrument for data collection for the study was a code sheet. The choice of a code sheet was because it is normally the most appropriate instrument for quantitative content analysis. Through the code sheet, a researcher is able to assign numbers to documented contents for quantitative analysis. A total of three experts at the Department of Mass Communication, University of Nigeria, Nsukka validated the instrument. The experts looked at the clarity of items as well as their appropriateness. Their comments were useful in drafting the final version of the instrument. The researcher also ascertained the inter-coder reliability of the instrument by purposively recruiting three coders who are post graduate students of mass communication, University of Nigeria, Nsukka to code 20% of the contents. As a follow up, the researcher made use of Krippendorff’s Alpha (KALPHA) to evaluate the inter-coder reliability with the application of SPSS 22 version. After the analysis, we arrived at inter-coder reliability of .81 for story frequency, .76 for encouragement, and .79 for confidence. The grand reliability figure was .79. This was considered excellent because any reliability figure of .75 is considered excellent. To analyze data for this study, the researcher made use of descriptive statistics like simple percentages, mean, and standard deviation. We also made use of two-way analysis of variance to test the hypotheses at 0.05 level of significance. All the analyses were done with Statistical Package for Social Sciences version 22. All the results were presented in tables.

Results

The result of our search generated a total of 883 stories from the sampled media outfit. Of these stories, only 304 stories were related to COVID-19 vaccine. The rest of the stories were related to confirmed cases, deaths among other aspects of the virus. This means that only 34% of the total stories were dedicated to vaccine on COVID-19. The researcher then analyzed the stories to determine how scientists and pharmaceutical companies from Africa were featured in the stories. This was presented in accordance with the study hypotheses as shown below:

H1: Nigerian media will report more stories of vaccine development from developed countries than from their African counterparts.

Table 1: A two-way ANOVA analysis of the frequency of media coverage of issues on COVID-19 vaccine

Media	Region		Mean	SD	p-value	Decision
TV	Africa	regions	8.20	.22	.04	Sig
	Other		32.44	.36		
	Total		40.64	.58		
Newspaper	Africa	regions	11.14	.32	.01	Sig
	Other		32.43	.30		
	Total		43.57	.62		

The researcher conducted a two-way between-groups ANOVA to determine the frequency of media coverage of COVID-19 vaccine with particular attention to Africa and other regions as well as media genre. It was found that an interactive effect for media genre and frequency of coverage was not significant, $F(2,131)=1.32, p=.07$. Nonetheless, the result of the study revealed a statistically significant main effect for region involved, $F(2,139)=3.81, p=.01$. Subsequent analysis as shown by the Post-hoc comparisons by utilizing the Turkey HSD test revealed that the mean score for Africa (TV= $M=9.21$, $SD=.21$; newspaper= $M=10.13$, $SD=.33$) was significantly lower than that for other regions (TV= $M=39.56$, $SD=.66$; newspaper= $M=45.54$, $SD=.64$). This means that for both newspapers and TV stations, Africans were less reported on stories related to the development of a vaccine on COVID-19. Based on the result of this study, the first assumption was supported.

H2: Nigerian media will encourage scientists from developed countries than their counterparts in Africa on the development of a COVID-19 vaccine.

Table 2: A two-way ANOVA analysis of media encouragement of scientists to develop COVID-19 vaccine

Media	Region		Mean	SD	p-value	Decision
TV	Africa	regions	9.21	.21	.02	Sig
	Other		30.45	.35		
	Total		39.66	.56		
Newspaper	Africa	regions	10.13	.33	.01	Sig
	Other		35.41	.31		
	Total		45.54	.64		

The result of table two above presents the outcome of a two-way between-groups ANOVA to determine how the media encourage scientists to develop a COVID-19 vaccine with emphasis to Africa as well as other regions and media genre. The outcome of the analysis revealed an interactive effect for media genre, and encouragement was not significant, $F(2,032)=1.31, p=.06$. However, the result of the study showed a statistically significant main effect for region involved, $F(2,439)=3.811, p=.03$. Overall, the result of the study showed that other regions had higher mean scores concerning

encouragement to scientists than Africa. This was applicable for both newspapers and TV. Consequently, the second assumption was equally supported.

H3: Nigerian media will express more confidence in efforts from developed countries than their African counterparts on the development of a COVID-19 vaccine.

Table 2: A two-way ANOVA analysis of media expression of confidence in scientists on the development of a COVID-19 vaccine

Media	Region		Mean	SD	p-value	Decision
TV	Africa		5.19	.21	.01	Sig
	Other regions		39.45	.30		
	Total		44.64	.51		
Newspaper	Africa		6.15	.32	.01	Sig
	Other regions		37.35	.31		
	Total		43.50	.63		

In table three as shown above, a two-way between-groups ANOVA was conducted to assess how the media express confidence in scientists to develop a COVID-19 vaccine with emphasis to Africa as well as other regions and media genre. The analyses showed no significant interactive effect for media genre, and expression of confidence was not significant, $F(2,131)=1.30, p=.08$. On the other hand, the result of the study showed a statistically significant main effect for region involved, $F(2,439)=3.811, p=.03$. The general analysis point to the fact there was lower mean score for Africa regarding expression of confidence in scientists in the region to find a vaccine for COVID-19 than other region. This means that our last hypothesis was equally supported and we concluded with 95% confidence that Nigerian media expressed more confidence in scientists from other regions to develop a COVID-19 vaccine than those from African continent.

Discussion of findings

This study is an attempt to examine how Nigerian media report the global race with respect to developing a vaccine for COVID-19. In doing so, the researcher focused on three areas namely: frequency of reports, reports encouraging scientists to develop COVID-19 vaccine, as well as expression of confidence in the ability of scientists to develop an efficient COVID-19 vaccine. The researcher explored media coverage within the context of the contribution of African scientists in the global competition for a COVID-19 vaccine. The aim was to assess if Nigerian media properly highlight the contribution of researchers from Africa. Three hypotheses were postulated in this direction and the result showed that there were generally only 34% of stories on COVID-19 that focused on vaccine development. Additionally, a significant main effect was found between the frequency of report on COVID-19 vaccine and the continent of origin of scientists cited in such report with African scientists receiving less attention when compared to their counterparts in other continents. The same thing was applicable for

stories encouraging scientists to develop a COVID-19 vaccine as well as stories that express confidence in the ability of scientists to develop a COVID-19 vaccine.

This study has extended previous ones (Basch *et al.*, 2020; Ogbodo *et al.*, 2020; Thomas *et al.*, 2020) that examined media coverage of COVID-19 by looking beyond health behaviour, number of deaths, or even how the media report the pandemic to also looking at how the media report issues related to a vaccine development. More importantly, the study has shown that even Nigerian media do not have confidence in African scientists and their ability to develop a vaccine that will be useful for combating COVID-19. The media in Nigeria also do not set proper agenda on COVID-19 vaccine stories related to African scientists. This is a critical issue in African media debate because the continent will need to make efforts to encourage scientists within the region to reduce the level of dependence on foreign countries.

Conclusion/recommendations

The conclusion of this study is that Nigerian media do not properly set agenda on stories related to developing a COVID-19 vaccine, especially when viewed from the perspective of African scientists. Rather, the media in Nigeria appear to focus more on vaccine stories related to researchers from developed countries like United States of America, United Kingdom, China, among others. There was also evidence of less attention paid to encouraging African scientists to join the race for the development of a COVID-19 vaccine. Such media agenda setting approach have the possibility of discouraging the leaders in Africa from investing in research and innovation. The researcher makes three broad recommendations. First, the media in Nigeria are encouraged to set proper agenda on COVID-19 stories related to vaccine development within the context of African researchers. Second, further studies should examine the level of involvement of African researchers in the global race for a COVID-19 vaccine. Finally, studies should be conducted to understand the predictors of news sharing about COVID-19 vaccine in Africa and Nigeria in particular.

References

- Apuke, D. & Tunca, E. (2019). A comparative content analysis of television and blog coverage of internally displaced persons in Nigeria, *The Social Science Journal*, 36,168-182.
- Basch, C., Hillyer, C., Meleo- Erwin, Z., Mohlma, J., Cosgrove, A., & Quinones, N. (2020). News coverage of the COVID-19 pandemic: Missed opportunities to promote health sustaining behaviors. *Infection, Disease and Health*,<https://doi.org/10.1016/j.idh.2020.05.001>
- Flora, J., Maibach, E., & Maccoby, N. (1989). The role of media across four levels of health promotion intervention. *Annual Review of Public Health* 10:181-201.
- Gever, V. C. (2015). Comparative analysis of public and private broadcast media surveillance of the Boko Haram insurgency in Nigeria. *International Journal of Crisis Management*, 22-32
- Gever, V. C., & Ezeah, G. (2020). The media and health education: Did Nigerian media provide sufficient warning messages on Coronavirus disease? *Health Education Research*.[doi:10.1093/her/cyaa020](https://doi.org/10.1093/her/cyaa020)

- Kim, G., & Noriega, C. (2019). *The value of media Studies approaches for the evaluation of entertainment education: A case study of East Los High. Health Education & Behavior, 109019811986500*. doi:10.1177/1090198119865007
- Limaye, R. J., Malik, F., Frew, P. M., Randall, L. A., Ellingson, M. K., O’Leary, S. T., ... Omer, S. B. (2020). Patient Decision Making Related to Maternal and Childhood Vaccines: Exploring the Role of Trust in Providers Through a Relational Theory of Power Approach. *Health Education & Behavior, 109019812091543*. doi:10.1177/1090198120915432
- McCombs, M. (2004). How agenda-setting works. *Setting the agenda: The mass media and public opinion*, 37-52.
- McCombs, M. (2005). A look at agenda-setting: Past, present, and future. *Journalism Studies, 6*(5), 543-557.
- McCombs, M., & Shaw, D. (1974). A progress report on agenda-setting. Research paper presented to the Association for Education in Journalism, San Diego, CA.
- Ogbodo, J., Onwe, E., Chukwu, J., Nwasum, C., Nwakpu, E., Nwankwo, U., Nwamini, S., Elem, S., & Ogbaeja, O. (2020). Communicating health crisis: A content analysis of global media framing of COVID-19. *Health Promotion Perspectives, 10*(3), 257-269.
- Sadaf, Y. (2011). Public perception of media role. *International Journal of Humanities and Social Science, 1*(5), 228-236.
- Sun, P. Lu, X., Sun, W., Pan, B. (2020). Understanding of COVID-19 based on current evidence. *Journal of Medical Virology*. DOI <https://doi.org/10.1002/jmv.25722>.
- Thomas, T., Wilson, A., Tonkin, E., Miller, E. R., & Ward, P. R. (2020). How the media places responsibility for the COVID-19 pandemic—An Australian media analysis. *Frontiers. Public Health 8*:483. doi: 10.3389/fpubh.2020.00483
- World Health Organization (2020). Coronavirus disease 2019 (COVID-19) situation report – 66. Retrieved from https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200326-sitrep-66-covid-19.pdf?sfvrsn=81b94e61_2
- Wu, Y. C., Chen, C. S., Chan, Y. J. (2020). The outbreak of COVID-19: An overview. *Journal of the Chinese Medical Association, 83*(3) - p 217-220doi: 10.1097/JCMA.0000000000000270