The media and health education: Did Nigerian media provide sufficient warning messages on coronavirus disease?

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Abstract

Previous studies on media coverage of health issues hardly recognize the role of time in moderating media contents. Instead, scholars most often examine how news media report health issues. In this study, we recognized the role of time by taking into account how media report differs based on when a global outbreak is confirmed in a country and when it is not. We focused on coronavirus disease 2019 (COVID-19) and examined six media—two TV stations, two newspapers and two radio stations. We content-analysed 537 stories and found that there were few stories about the virus before it was confirmed in Nigeria. But as soon as Nigeria recorded a confirmed case, the number of stories tripled. We also noticed that story format and recommendation on health behaviour were also closely linked to the COVID-19 status of Nigeria. However, we did not find an association between Nigeria’s COVID-19 status and policy recommendation among the media studied. Therefore, this study concludes that Nigerian media did not provide sufficient health warning messages on COVID-19 before its spread to the country.

Introduction

Health education is very important for the general public to internalize appropriate health information that will serve as guides to their health behaviour. This is because people are likely to exhibit health behaviour based on available information to them. The point to make here is that health behaviour of people is largely dependent on information available to them. He et al. [1] after their study using a Chinese population concluded that health information and health behaviour are key to public health education. Within the context of public health, information possession is vital because poor knowledge about public health issues could have corresponding negative implications on health behaviour. Conner [2] corroborates that information is one of the fundamental cognitive determinants that influences health behaviour. Limaye et al. [3] also acknowledged the important role of information in health education.

The media as the fourth estate of the realm occupy a cardinal role in health education. Many decades ago, Flora et al. [4] had outlined the four roles that the media can play in health intervention to include: first is what they called media as educator, the second is media as supporter, the third is media as programme promoter, and the fourth is media as supplement. The four elements look different but can typically be implemented in combination or individually. For example, media as an educator entails that the media have to educate the masses about public health issues. The objective of educating the public about public health issues is to ensure that they are mentally armed with information that will serve as a checklist regarding their behaviour. Kim and Noriega [5] note that the media are critical players in health education. The researchers add that one of the strategies through which the media can
achieve this is through a combination of education and entertainment. Okim-Alobi and Okpara [6] hold the view that media provide a formidable platform through which health information can be made available to the general public. In their view, the media are critical players in educating the general public about health issues.

The fundamental way through which the media can educate the general public on public health issues is through coverage. This can take place through strategies like frequently reporting public health issues, recommending appropriate health behaviour and suggesting policies that will assist in combating the public health issues reported. Educating the general public about health issues is like preparing them for war. Therefore, where possible, this has to be done ahead of time, not when the health issue become a pandemic. This is important so that it will prepare them to take proactive steps. What this means is that where possible, it is better for the media to educate the general public about health pandemics well ahead of time before there is a confirmed case within their locality. Within the context of coronavirus disease 2019 (COVID-19), local media did not need to wait until there is a confirm case of the virus in their country before educating the general public but its symptoms, prevention and recommend action for the government to take. Unfortunately, previous studies [7, 8] that have examined media coverage did not take this aspect into account. Therefore, in this study, the broad objective was to determine how the media in Nigeria provide warning messages concerning COVID-19 when it was first reported in China. This objective was pursued by comparing media stories about the pandemic when it was first reported in China and when it eventually spread into the country. The specific objectives were as follows:

i. To determine the frequency of media stories on COVID-19 when it was first reported in China and when it finally spread into Nigeria.

ii. To determine the format of stories on COVID-19 when it was first reported in China and after it spread to Nigeria.

iii. To determine if media stories on COVID-19 recommended appropriate health behaviour when it was first reported in China and when it broke out in Nigeria.

iv. To ascertain if media stories made suggestions to the government when COVID-19 broked out in China and when it spread to Nigeria.

Literature review

Health education and the surveillance role of the mass media

To educate the general public about health issues, the media need to first monitor the environment and identify potential life-threatening health issues and provide adequate information that will enlighten the masses on the issues. Sharma and Gupta [9] say that health education is an essential aspect of public health and health promotion. They add that the goal of health education is to have positive influence on health behaviour of people through information and instruction. That is to say that media coverage is an essential strategy of health education. This is because, through media coverage, the general public will be informed and instructed on issues related to public health issues. The means also that the surveillance role of the mass media is essential in the study of media coverage of health issues.

The surveillance role of the mass media requires that they monitor the society and provide information to members of the society on pending dangers. This function is an expression of the ‘watchdog role’ of the media. This is because when a dog watches over an area, it makes efforts to let people know each time there is a perceived danger. The dog barks and this typically attracts the attention of the public with a corresponding possibility for eliciting actions to avert the danger. Therefore, the surveillance role of the mass media means that they constantly scan the society, evaluate events and highlight areas that pose potential danger to the general wellness of the society. In this sense, the media have a duty to make sure that people are adequately warned of dangers. Donohue et al. [10] must have been referring to the surveillance function of the
mass media when they submitted that knowledge is an essential condiment that people need to take informed decisions. This assertion makes a strong case for media workers to constantly monitor the society and provide relevant and sufficient information to members of the general public.

The idea behind the surveillance function of the mass media is attributed to Lasswell [11]. In the views of Lasswell, the mass media typically plays three roles to the society. These are as follows: the surveillance of the environment, the correlation of the different components of society in responding to the environment and the passing societal heritage from generation to generation. When this assertion is explained within the perspective of COVID-19, it can be said that the mass media in Nigeria have a responsibility to examine the spread of COVID-19 and coordinate both government and the citizenry on how best to respond to the global health crisis. Based on the surveillance perspective, when the virus broke out in China and was fast spreading to other countries, Nigerian media needed to draw the attention of both the government and Nigerian people on the need to act proactively. For the government, the emphasis could have been on taking policy decisions that will avoid the spread of the virus into the country while also making adequate provision to contain it in case of an outbreak. For the citizenry, the focal point could have been educating them about the virus in areas like symptoms while also encouraging them to imbibe preventive health behaviour.

Media performance of its surveillance role has been examined in literature. Gever and Coleman [12] did a study to determine how the media perform their surveillance function within the context of conflict. Their results showed that the conflict between farmers and herdsmen only appear in the media when it is happening. As soon as the conflict reduces, no media reports are made available, no warning sign and news about the conflict disappears in the media. Udeze and Chukwuma [13] carried out a study with the objective to determine public perception of how the broadcast media in Nigeria have fulfilled their surveillance role within the context of security. Their results showed that the public perceive media performance as below expectations. Generally, the media are very important stakeholders in every society. They need to keep vigil of the society, analyse them and draw the attention of the public and the government on the implications of the issues reported. In the process, the media can recommend preventive measures. The overall aim is to make the society a better place.

The media, health behaviour and health policies

As canvassed by the agenda setting theory, the media are primary factors that shape the society. In the process of performing their functions as ascribed to them in relevant laws (in Nigeria, it is contained in section 22 of the 1999 constitution of the Federal Republic of Nigeria), the media play a role in influencing health behaviour and shaping government policies and programmes in the health sector. The media of communication such as newspaper, magazine, radio, TV and Internet-based media are important agents of any society. It is also in consideration of the important role of the media that they are regarded as the fourth estate of the realm, after the executive, judiciary and legislature. The three important issues in health communication are as follows: health behaviour, health policies and health programmes. Maryon-Davis [14] highlighted three areas that the media of communication can be useful for health promotion to include public information, social marketing and media advocacy. According to the researcher, through public information, the media educate the general public on health issues. With the use of social marketing tactics, the mass media of communication engage with the general public and trigger them to accept and apply certain health behaviour in their daily interactions. Finally, Maryon-Davis adds that with the application of media advocacy strategy, the mass media of communication can raise awareness on health policies with a view to improving the wellness of the general public. It is noteworthy that the three strategies are typically used in combination when using the media for health promotion [15].
Health behaviour is any action that a person engages in that has an implication on his or her health. This explanation is broad because health behaviour has two perspectives. The first angle is health behaviour that is beneficial to a person’s health (Conner 2002). This behaviour can be regarded as positive health behaviour. Such behaviour within the context of COVID-19 may include regular hand washing, social distancing, avoiding touching one’s face with unwashed hands, staying at home, among others. On the other hand, there are health behaviours that are dangerous to a person’s health. Such behaviour makes a person vulnerable to diseases and ailments. Examples of such behaviour, within the context of the current study, include going to crowded places, shaking hands indiscriminately, among others.

Media coverage of health issues is also likely to elicit changes in policies and programmes of government or the introduction of new ones. The government of every country is usually at the forefront of improving the health sector through budgetary provision and other interventions that will make the health sector viable. Over the years, media coverage of health issues and how such coverage impact on behaviour has been examined.

Ankomah et al. [16] examined the impact of radio programmes on the utilization of anti-malaria commodities and reported that people who are exposed to radio messages on the benefits of utilizing anti-malaria commodities are likely to modify their health behaviour based on the media content than those not exposed.

Gupta and Sinha [7] did a study to ascertain how the media report health issues and found that both electronic and print media gave less attention to health matters when compared with other issues like crime, politics and entertainment. Onyeizu and Binta [8] in their study found that even though health issues were well reported in the media, they appeared mostly as straight news story with less prominence given to health issues among the media examined. Galiani et al. [17] examined how media contents on hand washing influence health behaviour. Their result showed that there was no significant link between media messages and hand washing among the sample studied. Bowen [18] did a study to ascertain the link between media messages and the utilization of treated bed net in Cameroon and reported that a significant association exists between both variables. The point to make here is that the mass media of communication are essential in health promotion, health behaviour and policy advocacy. Studies examined above paid less attention in looking at the role of time as moderators of media coverage of health issues in general and infectious diseases in general.

**The world and COVID-19**

COVID-19 was first reported in the city of Wuhan in China in December of 2019. As at that time, it was largely regarded as a Chinese problem that was also going to end in China. According to Wu et al. [19] in an article which was published by *Journal of the Chinese Medical Association*, COVID-19 was first reported in late December in Wuhan and quickly spread to other places in China and eventually, other parts of the world. In Nigeria, COVID-19 was first confirmed on 27 February 2020. This was after the virus was reported in many other parts of the world like United States, Italy, Russia, among others. This means that Nigeria had ample time to prepare for the outbreak.

There have been many global confirmed cases of COVID-19 with several fatalities. The World Health Organization [20] says there is a total of 5,267,419 confirmed cases of COVID-19 as at 25 May 2020. It adds that a total of 341,155 have died of the virus. The situation, when compared with 1 month ago from May 25, is frightening. This is because as at 25 April 2020, there were only 2,710,948 confirmed cases globally and 187,844 deaths. These figures represent multiple increases in the number of cases. WHO also reported that in Nigeria, there were a total of 7,839 confirmed cases and 226 deaths as at 25 May 2020. This figure represented an exponential increase because as at 25 April 2020, Nigeria had only 1,095 confirmed cases with only 32 deaths, but a month later, these increased more than four times.
COVID-19 has proven that the global health system is still vulnerable and that the world is not as advanced in science as the 21st century has made us to believe. COVID-19 has rather shown that the interconnectedness of global economy has made the world vulnerable such that what happens in one country can have a significant impact on the entire world. COVID-19 has impacted significantly on almost every part of the world. It has grounded economic activities, schools are shut down, places of worship have been deserted, international flights have been very limited, if not completely stopped. There is a near total lockdown as people are encouraged to stay at home. Governments of countries have placed restrictions on movement both locally and internationally. Peoples’ sources of livelihood have been threatened. The world has many lessons to learn from COVID-19 both now and when it will finally be contained.

Theoretical framework

We made use of agenda setting theory to articulate this study. The theory originated from a 1922 book written by Walter Lippmann [21] with the title *Public Opinion*. Lippmann in the opening of the book had painted a picture of a 1914 scenario in which a few Englishmen, Frenchmen and Germans lived in an Island with no cable access, but got to know of a British mail steamer that usually circulated once in every 60 days. However, it happened that in the month of September, the mail steamer was yet to visit, but the islanders were still discussing the latest newspaper which its content was about the forth coming trial of Madame Caillaux for the shooting of Gaston Calmette. Lippmann narrated further that the people conglomerated with high expectations on a day in mid-September to know from the captain what the judgment had been. They realized that for over 6 weeks, those of them who were English and those of them who were French had been fighting on behalf of the sanctity of treaties against those of them who were Germans. Lippmann then asserted that for six consecutive weeks, they had behaved as though they were friends, when they were not. By this explanation, Lippmann had painted a picture of the power of the media in setting agenda for the public. The inhabitants of the island did not act as enemies because of their ignorance of what was happening. Although Lippmann did not specifically mention agenda setting power of the media, he provided a sketch in this regard. Lippmann had attributed the images in the minds of the public to media contents [22–26]. Also, Cohen [27, p. 13] avers that ‘the media may not be successful much of the time in telling people what to think, but it is stunningly successful in telling its readers what to think about’. Soroka [28] posits that Cohen’s assertion remains the clearest and most frequently cited annunciation of the public agenda-setting hypothesis. A clear postulation of the agenda setting theory was done by McCombs and Shaw after a 1972 study of 100 undecided voters in Chapel Hill to determine the correlation between voters’ agenda and media agenda. The result showed a significant correlation between media content and issue agenda. McCombs and Shaw thus conclude:

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.

Gever [26] tested the agenda setting theory through a sample of 400 respondents and reported that the media are effective in setting agenda for the general public. Within the context of this study, the media, it can be argued, have the ability to set agenda for the general public when COVID-19 was first reported in China. They could have done this by educating the public to adopt the appropriate health behaviour that will help them survive the health challenge should it spread to Nigeria. Also, the media could have drawn the attention of the government on the pending danger by letting them know why it was needed to take preventive measures. Therefore, we made use of the agenda setting
theory to ascertain how the Nigerian media exercise its agenda setting ability in times of the COVID-19 pandemic.

**Methodology**

We carried out this study with the utilization of content analysis. We regarded content analysis useful for the study because in this study, we aimed to examine media contents on COVID-19. We also considered content analysis useful for this study because we wanted to determine if the content of media related to COVID-19 changed from when it was first reported in China and when it spread to Nigeria.

We sampled newspapers, TV stations and radio stations for the study. We wanted to make sure that we had a representation of different types of media so that our sample will be rich enough to enable us draw conclusion. Therefore, we sampled two newspapers namely *Nation* and *Daily Sun* (both privately owned) and two TV stations namely Nigerian Television Authority (government owned) and Channels Television (privately owned). We also sampled two radio stations namely Dream Fm (privately owned) and Federal Radio Corporation of Nigeria (government owned). It should be noted that there are no national daily newspapers in Nigeria that are owned by the government. That is why there was no government newspaper in the sample selected. We combined both stratify and simple random sampling to select the media houses studied. Therefore, two attributes were used to guide our stratification. They are ownership and media genre. The ownership structures considered were private and government ownership. The media genres considered were newspapers, TV and radio. After the stratification, we randomly sampled the media houses, making sure that all the strata were dully represented. This means that our sample of the media examined was rich in terms of the representation of media with different features. This study covered 1 December 2019 to 27 March 2020. We divided the duration into 2. When the case was reported in China (27 December 2019 to 26 February 2020), during which time, the case was in China and other parts of the world, but not in Nigeria. The second duration was 27 February to 30 March 2020 during which time, COVID-19 had spread to Nigeria. The time frame chosen provided the researchers an opportunity to make comparison based on when Nigeria had a confirmed case with when there was no confirmed case in Nigeria.

**Story selection**

To sample the stories that were examined in the study, the researcher made use of the motif sampling approach. Gever (2018) defines motif sampling strategy as the use of key words to retrieve data from the websites of media outfits. Therefore, we made use of motif approach to retrieve data about COVID-19 from all the media houses selected. We made use of key words like ‘coronavirus’, ‘new confirmed cases of COVID-19’, ‘Outbreak of COVID-19’, ‘Outbreak of COVID-19’ among others. After the search results were generated, the researchers screened the stories and sampled only those that were related to COVID-19.

**Measurements used**

To achieve the objectives of this study, the researchers measured the following:

*Frequency of coverage*

Under this category, we were interested in knowing the number of stories on COVID-19 that appeared in the media within the time examined. Therefore, we counted the number of story occurrences.

*Type of story*

We wanted to know if the format that the media used to report stories on COVID-19 changed over time when there was a confirmed case of the virus in Nigeria and no case was confirmed in the country. Therefore, we made use of story format like *straight* news which were stories about COVID-19 that report issues about the pandemic with no in-depth analysis. The second category was *feature*. This was the opposite of straight news. It offered detailed information about issues on COVID-19. In the third
place, we look at *opinion stories*. These are stories that revealed the opinion of people (e.g. experts) about the issue or the views of media houses. In the final place, we looked at public service announcement. These were announcements made by the media houses as part of their social responsibility.

**Health behaviour recommendation**

Our attention here was to assess if media stories on COVID-19 made recommendations on the preventive health behaviour that people should engage in or not. Therefore, we examined as follows:

*Recommendation contents.* These are contents that suggested recommendations on health behaviour regarding how to avoid contracting COVID-19.

*No recommendations contents.* These are contents that did not suggest recommendations on the health behaviour to adopt so as to prevent COVID-19.

**Government intervention**

In this category, our attention was to determine if media stories made recommendations to the government on how to contain the virus or not. Therefore, the researcher examined the following:

*Suggestion to government contents.* These are contents that made suggestions to the government on how to contain COVID-19.

*No suggestions made.* These are contents that did not make any suggestion to the government on how to contain COVID-19.

We made use of the article as the unit of analysis for our study. Therefore, articles that were reported in the media selected, served as our unit of analysis. We made use of the code sheet as the instrument for data collection. We also took a step to make sure that inter-coder reliability was within acceptable rate. We achieved this by allowing random selection of two coders to code 20% of our stories. Subsequently, we 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 0.91 for story frequency, 0.79 for story type, 0.79 for health behaviour recommendation, while 0.78 was realized for suggested government intervention. We utilized a combination of descriptive statistics and inferential statistics in our analysis. Therefore, we deploy simple percentages among descriptive statistics and chi-square among inferential statistics. We made use of tables to present our results.

**Results**

We examined the stories on COVID-19 from the six media selected for the study. Our results yielded a total of 537 stories on the subject matter. We examined these stories taking into account the objectives of the study and the result is presented in Table I.

The objective of Table I is to find out the frequency of media coverage of COVID-19 before it was confirmed in Nigeria and when it was confirmed in the country. The result of the study showed that the media did not provide sufficient stories on COVID-19 until when there was a confirmed case in Nigeria. The result of the chi-square analysis showed a significant link between Nigeria’s COVID-19 status and the frequency of coverage.

**Table I Frequency of coverage**

| Media      | Frequency Before | Frequency After | Total |
|------------|------------------|-----------------|-------|
| NTA        | 20               | 71              | 91    |
| % of total | 3.7%             | 13.2%           | 16.9% |
| Channels   | 8                | 76              | 84    |
| % of total | 1.5%             | 14.2%           | 15.6% |
| Dream FM   | 17               | 29              | 46    |
| % of total | 3.2%             | 5.4%            | 8.6%  |
| Radio Nigeria | 11          | 71              | 82    |
| % of total | 2.0%             | 13.2%           | 15.3% |
| Nation     | 7                | 113             | 120   |
| % of total | 1.3%             | 21.0%           | 22.3% |
| Daily Sun  | 28               | 86              | 114   |
| % of total | 5.2%             | 16.0%           | 21.2% |
| Total      | 91               | 446             | 537   |
| % of total | 16.9%            | 83.1%           | 100.0%|
\( \chi^2 = 34.302 \) (5), \( P < 0.05 \). The degree of the relationship was determined with the use of coefficient contingency (C) and this yielded \( C = 0.244 \), interpreted as 24.4%.

In Table II, we wanted to know if a difference exists in the story type in media coverage of COVID-19 when it first broke out in China and when there was a confirmed case in Nigeria. Our result showed that before there was a confirmed case in Nigeria, the story type was largely straight news with little varieties in story type. However, when there was a confirmed case in Nigeria, the media used different story types like straight news, feature stories, opinion stories and public announcement to report the health issue. We found an association between Nigeria’s COVID-19 status and the story type used (\( \chi^2 = 93.014 \) (3), \( P < 0.05 \)). The degree of the association was explored with coefficient contingency (C) and this yielded \( C = 0.372 \) interpreted as 37.2%.

In Table III, we wanted to determine if media stories on COVID-19 made suggestions on the appropriate health behaviour for the general public. We found that before the outbreak of the virus in Nigeria, only 33% of media stories made recommendations on health behaviour to be adopted by the masses. However, after the outbreak, this increased more than twice (72%) the figure. The result of the chi-square analysis showed \( \chi^2 = 49.084 \) (1), \( P < 0.05 \), an indication that the results were significantly related to the status of the outbreak in Nigeria. Hence, there was a significant association; we took the next step by examining the degree of the association. We achieved this with the use of coefficient of contingency (C). Our result showed \( C = 0.308 \), interpreted as 30.8%.

In Table IV, the researchers sought to ascertain if media reports made recommendations on policies and programmes that government should implement so as to contain the outbreak of the virus. The result of the study showed that only 28.6% of the stories made recommendations to government on policies and programmes before the outbreak of the virus in Nigeria. There was a marginal increase to 37.4% when the virus was confirmed in Nigeria. We further cross-tabulated status of the outbreak in Nigeria with policy recommendations. The result showed \( \chi^2 = 2.213 \) (1), \( P > 0.05 \) at 0.05 level of significance. Therefore, we concluded that the status of the outbreak in Nigeria was not significantly linked to policy recommendations.

### Discussion of findings

In this study, we investigated the assumption that COVID-19 status of Nigeria is significantly associated with how the local media perform their surveillance role of highlighting the dangers of the virus to the general public and the government of Nigeria. The composition of our sample took into consideration characteristics of media such as ownership (private and public) and genre (print and electronic). Therefore, we examined six media made up of two newspapers, two TV stations and two radio stations. We tested the surveillance role of the mass media with specific attention to frequency of coverage, story type, recommended health behaviour and recommended policies and programmes for the government. We classified our analysis into two broad time frames. That is, when Nigeria had no confirmed case and when Nigeria had a confirmed case.

We found that there were generally few stories about the virus prior to when Nigeria had a

### Table II  Story type on COVID-19

| Media          | Frequency Before | Frequency After | Total % of Total |
|----------------|------------------|-----------------|------------------|
| NTA            | Count 20         | 71              | 91               |
| % of total     | 3.7%             | 13.2%           | 16.9%            |
| Channels       | Count 8          | 76              | 84               |
| % of total     | 1.5%             | 14.2%           | 15.6%            |
| Dream FM       | Count 17         | 29              | 46               |
| % of total     | 3.2%             | 5.4%            | 8.6%             |
| Radio Nigeria  | Count 11         | 71              | 82               |
| % of total     | 2.0%             | 13.2%           | 15.3%            |
| Nation         | Count 7          | 113             | 120              |
| % of total     | 1.3%             | 21.0%           | 22.3%            |
| Daily Sun      | Count 28         | 86              | 114              |
| % of total     | 5.2%             | 16.0%           | 21.2%            |
| Total          | Count 91         | 446             | 537              |
| % of total     | 16.9%            | 83.1%           | 100.0%           |
confirmed case (Table I). This is despite the fact that the virus was ravaging other countries of the world. Our second key finding was that before Nigeria had a confirmed case, stories about the virus were largely in straight news format. However, this changed when Nigeria had a confirmed case as the media examined made use of different story formats like features, opinion and public service announcement. This was in addition to straight news (Table II). A similar situation was noticed regarding recommendation on appropriate health behaviour. When Nigeria had no confirmed case, the few stories about the health issue paid less attention to life-saving health behaviour that the masses should adopt. This sharply changed when there was a confirmed case in the country (Table III). However, media stories on recommendation of policies and programmes did not follow a similar trend. This is because even though there were few stories about the virus that recommended policies and programmes to the government, it appeared this did not significantly change even after Nigeria had a confirmed case. This implies that Nigeria media generally failed to suggest policies and programmes to the government regarding the containment of COVID-19.

Our results have extended previous studies [7, 8] on media coverage of health issues by including the role of time in such coverage. With this addition, we hope that health reporters, health communication experts and policy makers in the health sector will be better guided in their understanding of the role of media in health promotion and education. Within

| Time   | Media       | Recommendations | Total |
|--------|-------------|----------------|-------|
|        |             | Recommendation | No recommendations |
| Before | NTA         | Count 6        | 14    | 20 |
|        | % of total  | 6.6%           | 15.4% | 22.0% |
|        | Channels    | Count 4        | 4     | 8 |
|        | % of total  | 4.4%           | 4.4%  | 8.8% |
|        | Dream FM    | Count 5        | 12    | 17 |
|        | % of total  | 5.5%           | 13.2% | 18.7% |
|        | Radio Nigeria | Count 3   | 8     | 11 |
|        | % of total  | 3.3%           | 8.8%  | 12.1% |
|        | Nation      | Count 7        | 0     | 7 |
|        | % of total  | 7.7%           | .0%   | 7.7% |
|        | Daily Sun   | Count 5        | 23    | 28 |
|        | % of total  | 5.5%           | 25.3% | 30.8% |
|        | Total       | Count 30       | 61    | 91 |
|        | % of total  | 33.0%          | 67.0% | 100.0% |
| After  | NTA         | Count 56       | 15    | 71 |
|        | % of total  | 12.6%          | 3.4%  | 15.9% |
|        | Channels    | Count 55       | 21    | 76 |
|        | % of total  | 12.3%          | 4.7%  | 17.0% |
|        | Dream FM    | Count 20       | 9     | 29 |
|        | % of total  | 4.5%           | 2.0%  | 6.5% |
|        | Radio Nigeria | Count 53    | 18    | 71 |
|        | % of total  | 11.9%          | 4.0%  | 15.9% |
|        | Nation      | Count 78       | 35    | 113 |
|        | % of total  | 17.5%          | 7.8%  | 25.3% |
|        | Daily Sun   | Count 59       | 27    | 86 |
|        | % of total  | 13.2%          | 6.1%  | 19.3% |
|        | Total       | Count 321      | 125   | 446 |
|        | % of total  | 72.0%          | 28.0% | 100.0% |
the framework of agenda setting theory [24, 26, 29], our result showed that media agenda setting on health issues can be improved on through the provision of early health warning messages.

**Conclusion**

Based on the findings of this study, we conclude that the media in Nigeria did not provide sufficient warning messages about COVID-19 when the virus was yet to spread to Nigeria. It is also our conclusion that even after the virus was confirmed in the country, the media did not provide sufficient information aimed at propelling health policies and programmes vis-a-vis COVID-19. This conclusion suggests that improvement is needed in media provision of warning health messages as well as policy-related contents.

Drawing from the results of this study and the conclusion derived, the researchers make four suggestions for further studies. First, we focused more in looking at the role of COVID-19 status on media coverage; further studies should pay close attention to how the individual media genres report the virus. In the second place, it is recommended that further studies should examine the influence of media messages on health behaviour related to COVID-19 as well as on environmental practice. Additionally, considering the significant impact COVID-19 is having on the society, it is recommended that further researchers should examine how political news has changed in times of the health pandemic. Finally,
others researchers are recommended to examine the influence of media coverage of COVID-19 on health behaviour of vulnerable groups like victims of conflict.

Conflict of interest statement

We declare no conflict of interest.

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