How do Nigerian newspapers report COVID-19 pandemic? The implication for awareness and prevention

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Abstract

This study examined media coverage of COVID-19 in Nigeria with attention to the frequency and depth of coverage, story format, news sources, media tone and themes. Four widely read newspapers were content analysed between February 2020 and April 2020. Focus was on *Daily Sun*, *Vanguard*, *Daily Trust* and *Leadership*. Results indicated that the Nigerian media performed well in terms of covering the pandemic, which in turn created awareness. However, the coverage was not in-depth as most of the reported stories were short and were predominantly straight news. It was also observed that the media cited more of the Nigeria Centre for Disease Control (NCDC) and government officials. Further findings disclosed that most of the stories were alarming and induced panic. Most common topics were coverage of cases in Nigeria, death rates and concerns about Nigeria's preparedness. Public sensitization and education were sparingly covered. Ethics healthcare workers could adhere to received minimal attention. The media should focus more on sensitizing and educating the public on the necessary steps to take in curbing the virus. They should refrain from over usage of alarming and panic tone in presenting the stories of COVID-19 pandemic in Nigeria.

Introduction

The novel Coronavirus disease 2019 (COVID-19) was first identified in Wuhan China in December 2019. It has emerged as a respiratory infection with significant concern for global public health hazards. Starting with initial suspicions of animal to the human transmission for earlier cases, the paradigm has shifted towards human to human transmission via droplets, contacts and fomites [1]. The virus is caused by a new and more virulent type of Coronavirus known as severe acute respiratory syndrome Coronavirus 2 (SARS-CoV-2) [2]. As of 21 May 2020, the COVID-19 has affected 213 countries and territories around the world with about 5 171 936 global cases. Over 2 068 371 people had recovered from the disease, while there had been around 333 100 deaths [3].

In Nigeria, the first confirmed case of the disease was announced on 27 February 2020, when an Italian citizen in Lagos tested positive for the virus [4]. On 9 March 2020, a second case of the virus was reported in Ewekoro, Ogun State, involving a Nigerian citizen who had contact with the Italian citizen [5]. As of 21 May 2020, the Nigeria Centre for Disease Control (NCDC) reported 4971 cases, 1070 recovered and 164 deaths [6]. The NCDC was established in the year 2011 in response to the challenges of public health emergencies and to enhance Nigeria's preparedness and response to epidemics through prevention, detection and control of communicable and non-communicable diseases [4].

Unlike infections such as the Flu and other agents, media coverage has highlighted COVID-19 as a unique threat, which further exaggerates the panic, stress and the potential for hysteria [7]. The mass media is considered a source of health information. They can help to shape the way people act

and react towards health issues [8]. More importantly, the media help to create awareness and mobilize members of the public to cooperate with health authorities in the fight against pandemic at any given time [9]. The relationship between the mass media and the spread of disease is complex and mutual. On one hand, media reports about the COVID-19 may influence the attitude of the public towards the disease and enhance their self-protecting awareness. People informed by the media reports may change their behaviours. They may take correct precautions, such as frequent hand-washing, wearing protective masks and keeping social distances. Moreover, the degree of mass media attention to COVID-19 will inform the public on the severity of the outbreak. So it is no wonder that the mass media has long been recognized as a powerful force for shaping how we experience the world and ourselves [7]. To the best of our knowledge, studies that examine media coverage of COVID-19 is scarce. This paper is one of the first to study the content of Nigerian newspapers' coverage of the COVID-19 outbreak.

Aim and objectives

The current study attempts to demonstrate media coverage of the COVID-19 pandemic in Nigeria. It also intends to ascertain if the media coverage is creating awareness and educating the masses on preventive measures to take. Focus was on four widely read newspapers in Nigeria: *Daily Sun*, *Vanguard*, *Daily Trust* and *Leadership*. This study is guided by the following questions:

RQ1: What is the level of frequency and depth of coverage of the COVID-19 outbreak in the sampled newspapers?

RQ2: What is the story format used in the coverage of the COVID-19 outbreak in Nigeria?

RQ3: What are the dominant news sources of COVID-19 outbreak in the sampled newspapers?

RQ4: What is the dominant tone (alarming, reassuring or neutral) used in the coverage of COVID-19-related stories in Nigeria?

RQ5: What are the most salient news themes in the sampled newspapers on the COVID-19 pandemic?

Theoretical underpinning

This study is anchored on the agenda setting theory. In 1972, the agenda setting theory was proposed by McCombs and Shaw [10]. According to Baran and Davis [11], the theory opines that there is a significant relationship between media reports and peoples' ranking of public issues. The theory establishes a correlation between the rate at which the media cover a story and the value people place on such a story. This indicates that the media determine what issues should be considered more important by society [12]. This is accomplished through frequency of reporting, prominence given to the reports through headline display, pictures, layout in newspapers, magazines, films, graphics or timing on radio and television [13]. In summary, when the mass media allocate importance to an issue, it can influence the importance people assign to an issue, which can, in turn, determine their reaction to it. Relating this theory to the study, the prominence the media gives to COVID-19 can influence peoples' opinions and reactions towards the pandemic. This would increase their awareness and inform them about the precautionary measures to adopt. Thus, this work set out to examine Nigerian newspaper publishers' coverage of the COVID-19 pandemic, implication for awareness and prevention.

Methodology

Research design and focus

A quantitative content analysis (CA) was employed to study online newspaper reportage of the COVID-19 scourge in Nigeria. Four widely read Nigerian newspapers available online were selected for the study. The newspapers are the *Daily Sun*, *Vanguard*, *Daily Trust* and *Leadership*. These newspapers were selected because of their national reach and readership. Moreover, they were selected to represent the northern and southern parts of the

country. *Daily Sun* and *Vanguard* are predominantly recognized in the South. At the same time, *Daily Trust* and *Leadership* are popular in the North. The coverage period was from February 2020 to April 2020. This period was selected because the first reported COVID-19 case in Nigeria was reported on 27 February 2020 and it became more alarming from March 2020 [2].

Techniques and criteria for selecting stories

An online search was conducted using keywords including 'COVID-19', 'COVID-19 outbreak', 'Coronavirus', 'Coronavirus in Nigeria', 'death rates of Coronavirus', 'intervention on Coronavirus', 'updates on Coronavirus' and 'pandemic in Nigeria'. The search in total retrieved 650 articles consisting of 'news', 'editorials', 'feature', 'opinion' and 'column' articles. For screening, the emphasis was on the headline and lead. For articles that lacked a lead (news analysis or column) the first and the concluding paragraph were read to realize if they should be included for the analysis. For inclusion, articles needed to report on COVID-19 in Nigeria; thus, articles on COVID-19 that focused on other countries were not included. Furthermore, articles that merely mentioned Coronavirus in the body were also excluded. By using these criteria, 309 articles were eliminated, leaving a final sample of 341 articles for the study (see Fig. 1).

Unit of analysis and coding procedure

The unit of analysis for this study were news stories on COVID-19 found in the sampled newspapers news, editorials, features, opinion, and column sections. The categories were operationalized as follows.

Newspaper

This refers to the newspaper outlet that could be *Daily Sun, Vanguard, Daily Trust* and *Leadership*.

Frequency and depth of coverage

Coders checked the number of articles each sampled newspaper published in a month. Furthermore, the entire stories published between February and April 2020 were also ascertained. To realize the depth of coverage, the word counts for each article were noted and categorized as long, short or medium. For
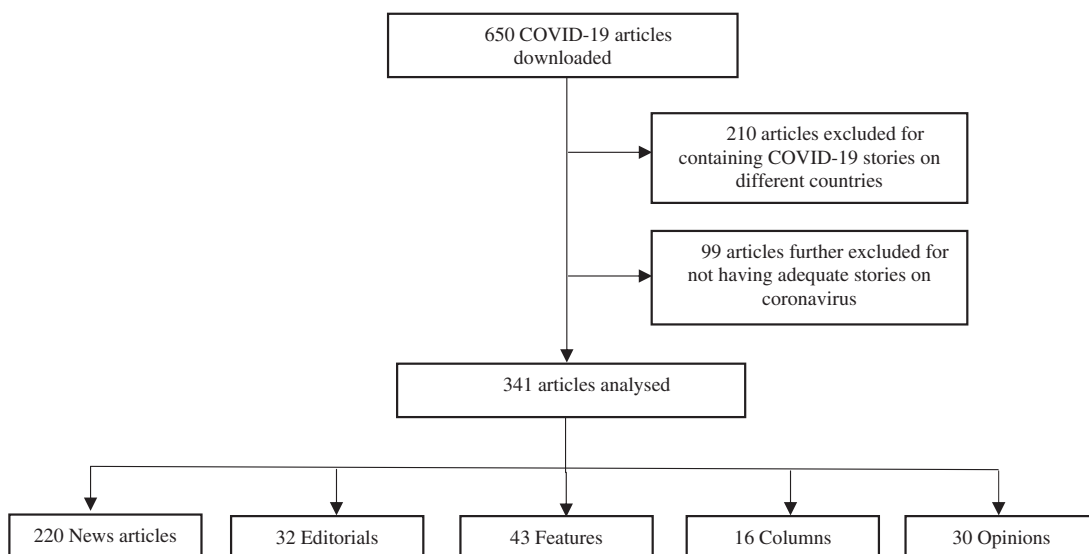

Fig. 1. Articles selection flowchart.

example, news stories of 400 words above were considered long, while stories with 200–399 words were considered medium and those with length of 1–199 words were considered short. This categorization is consistent with prior research [14].

Text format

The text format was coded as 'straight news', 'features', 'editorial pages', 'opinion' and columns.

Sources

The sources were coded as follows: 'Other Government Officials (i.e. ministers, senators, house of representative members and presidential spokespersons)', 'NCDC', 'WHO/United Nations', 'society (i.e. citizens, corporate bodies/agencies and business)', 'medical experts (i.e. Virologist)', 'victims of COVID-19 (i.e. recovered patients and those in quarantine)' and 'health sector (i.e. hospitals, ministry of health and pharmaceutical companies)'. When no source was mentioned, the newspaper reporter was judged to be accountable for the statements and was coded as 'newspaper reporters/ editorials'.

Tone

To measure the tone of the news coverage, three categories were defined based on prior research [9]. The tone was categorized into 'alarming', 'neutral' or 'reassuring'. In general, a report was judged as alarming when the situation is defined in terms of risk and hazard. For example: 'NCDC raises pandemic alert level'; 'more Nigerians cases feared'. As such, warnings for severe outbreaks are alarming as are updates on the number of patients, hospitalizations and fatalities. The same goes for descriptions of the virus as 'extremely contagious' or 'deadly'. A report is reassuring when risks related to COVID-19 are put in a broader perspective that downscale the risk (also because of effective preparations by health authorities). For example: 'COVID-19 is not a death sentence; it is treatable'. Stories were coded as neutral when they contain both perspectives or when the tone is undecided.

Themes

The themes that were identified in the coverage of the COVID-19 outbreak in Nigeria include:

i. Cases in Nigeria: those who have contracted COVID-19 in Nigeria or those who are being treated.

ii. Death rates in Nigeria: number and death rates from the COVID-19 scourge.

iii. The risk to healthcare workers: risk of treating patients.

iv. Concerns about Nigeria's preparedness: messages in this theme included fears expressed by healthcare workers about their readiness to handle COVID-19 patients, complaints about porous interstate border control systems, worries about inadequate isolation and treatment centres and reservations about some hospitals' capacity to conduct COVID-19 tests.

v. Government/institutional measures and response: messages in this theme covered the measures and efforts government has taken in the fight against the COVID-19 outbreak (e.g. lockdown, closure of schools and other sectors of the economy).

vi. Public enlightenment and education: this included news articles on sensitizations and public education on the COVID-19 virus disease. For example, mode of spread, signs, symptoms, risk factors as well as where and when to report for medical care. It also covered precautions that the public can take to reduce chances of exposure to COVID-19, such as using face masks, washing of hands, using hand sanitizers and social distancing.

vii. Treatment and control: cases of recovery from COVID-19.

viii. Fear, panic and anxiety: emotional responses that COVID-19 is causing across populations.

ix. Helpers/volunteers: involvement/responses of other countries, international and non-governmental agencies.

x. Funding/cost of fighting COVID-19: funds needed or provided to fight COVID-19.

xi. Ethics: ethics of treating those with COVID-19, and measures to reduce its transmission (e.g. quarantine).

xii. Discrimination: discrimination against infected persons and states with the highest cases.

Intercoder reliability

To ensure the reliability of this study, two coders were purposefully selected to do the coding for all the stories. They were Master's students at the Department of Mass Communication, Taraba State University, Jalingo, Nigeria, who are competent in CA. Intercoder reliability test was performed by randomly selecting and double-coding 20% of the sampled news articles. Cohen's Kappa intercoder reliability test yielded 0.89 scores for themes; tone 0.90, source 0.91, frequency of coverage 0.89 and depth of coverage 0.92, respectively.

Data analysis

Data analysis was done using IBM SPSS Statistics for Windows, version 25 (IBM Corp., Armonk, NY, United States). Descriptive statistics involving frequencies and percentages were run to describe the sampled article characteristics and to allow for a meaningful understanding of the data. The data collected were also subjected to ANOVA and Chi-square, set at 0.05 significance level. Finally, all data were presented in the form of tables for easy understanding.

Results

RQ1: frequency and depth of coverage of the COVID-19 outbreak

Table I examined the frequency of media coverage of the COVID-19 outbreak in Nigeria. A total of 650 articles were published between February and April 2020. However, after an eligibility screening (see Fig. 1), 341 articles were found useable for

Table I. *Frequency of COVID-19 coverage between February and April 2020*

Newspaper	No. of stories covered	Frequency (%)
Daily Sun	74	21.7
Vanguard	81	23.8
Daily Trust	89	26.1
Leadership	97	28.4
Total	341	100

analysis. Comparatively, a significant difference was found in the coverage of COVID-19 ($F(3, 341) = 14.87$, $P < 0.001$). *Leadership* ($M = 3.48$, SD $= 1.53$) ($n = 97$, 28.4%) and *Daily Trust* ($M = 3.19$, SD $= 1.48$, $P < 0.001$) ($n = 89$, 26.1%) reported more stories of COVID-19 than *Vanguard* ($M = 2.59$, SD $= 1.82$) ($n = 81$, 23.8%) and *Daily Sun* ($M = 2.46$, SD $= 1.42$) ($n = 74$, 21.7%). Overall, the newspapers threw their weight in the coverage of the pandemic in Nigeria ($M = 5.69$, SD $= 2.82$).

Table II shows the amount of media attention for each month (February, March and April 2020). We found a significant variation in the coverage ($F(2, 341) = 14.87$, $P < 0.01$). Turkey *post hoc* comparisons indicated increased attention to COVID-19 ($M = 3.48$, SD $= 1.44$, $P < 0.001$) in April. During the first month (February) of the outbreak in Nigeria, the media had fewer stories ($n = 68$, 19.9%) ($M = 1.80$, SD $= 0.66$). However, in the second month (March), there was an increase in media attention ($M = 2.88$, SD $= 0.69$) ($n = 103$, 30.2%). The pandemic in the third month (April) triggered a huge news wave. Media paid more attention and consequently had more reports on the outbreak ($M = 4.28$, SD $= 1.82$). Almost half of the total ($n = 170$, 49.9%) stories covered in the three months ($n = 341$) occurred in April alone ($M = 4.07$, SD $= 1.55$, $P < 0.001$). Comparatively, *Daily Trust* ($n = 43$, 48.3%, $P < 0.01$) and *Leadership* ($n = 47$, 48.5%, $P < 0.01$) had more stories in April ($M = 4.02$, SD $= 1.51$, $P < 0.001$) than *Daily Sun* ($n = 39$, 52.7%) and *Vanguard* ($n = 41$, 50.6%).

To realize the depth of coverage, words per article was analysed and categorized as short, medium and long. Table III shows the average words per article. We observed that most of the stories on COVID-19 were relatively short, described using 1–199 words ($M = 3.53$, SD $= 1.69$). Comparatively, *Daily Trust* ($M = 3.52$, SD $= 1.69$) and *Leadership* ($M = 2.53$, SD $= 1.25$) had shorter stories.

RQ2: story format used in the coverage of the COVID-19 outbreak in Nigeria

Table IV shows a significant variation in story format ($F(3, 341) = 18.87$, $P < 0.001$). More than half

Table II. *Coverage of COVID-19 within the 3 months*

Newspaper	February (%)	March (%)	April (%)	Combined total (%)
Daily Sun	12 (16.2)	23 (31.1)	39 (52.7)	74 (100)
Vanguard	15 (18.5)	25 (30.9)	41 (50.6)	81 (100)
Daily Trust	20 (22.5)	26 (29.2)	43 (48.3)	89 (100)
Leadership	21 (21.6)	29 (29.9)	47 (48.5)	97 (100)
Total	68 (19.9)	103 (30.2)	170 (49.9)	341 (100)

The total columns explain the number of stories on COVID-19 for that month.

Table III. *Words in the articles*

Newspaper	400 words above (long) (%)	200–399 (medium) (%)	1–199 (short) (%)	Combined total (%)
Daily Sun	13 (17.6)	21 (28.4)	40 (54.1)	74 (100)
Vanguard	15 (18.5)	19 (23.5)	47 (58)	81 (100)
Daily Trust	13 (14.6)	16 (18)	60 (67.4)	89 (100)
Leadership	12 (12.4)	18 (18.6)	67 (69)	97 (100)
Total	53 (15.5)	74 (21.7)	214 (62.8)	341 (100)

Table IV. *Story format*

Newspaper	News (%)	Feature (%)	Editorial (%)	Opinion (%)	Columns (%)	Combined total (%)
Daily Sun	50 (67.6)	10 (13.5)	8 (10.8)	5 (6.8)	1 (1.4)	74 (100)
Vanguard	52 (64.2)	10 (12.3)	9 (11.1)	7 (8.6)	3 (3.7)	81 (100)
Daily Trust	58 (65.2)	12 (13.5)	7 (7.9)	8 (8.9)	4 (4.5)	89 (100)
Leadership	60 (61.9)	11 (11.3)	9 (9.3)	10 (10.3)	7 (7.2)	97 (100)
Total	220 (64.5)	43 (12.6)	33 (9.7)	30 (8.8)	15 (4.4)	341 (100)

(64.5%) of COVID-19 information in the selected newspapers were presented as news stories ($M = 3.83$, SD = 1.72). A trivial number of feature articles also constituted a common source of COVID-19 information ($M = 2.83$, SD = 1.23), while editorial ($M = 2.61$, SD = 1.19), opinion ($M = 2.52$, SD = 1.14) and column news articles ($M = 2.42$, SD = 1.11) were the least.

RQ3: dominant news sources of COVID-19 outbreak in the sampled newspapers

Table V sought to determine the sources of media reports on COVID-19 pandemic in Nigeria. The intention here is to realize the most cited sources across the sampled newspapers.

The results revealed a significant variation in the usage of sources ($F(6, 341) = 16.87$, $P < 0.001$). The highest source cited was the NCDC ($n = 90$, 26.4%) ($M = 4.90$, SD = 1.69, $P < 0.001$), followed by other government officials ($n = 77$, 22.6%) ($M = 4.62$, SD = 1.59, $P < 0.001$), health sector (hospitals, Ministry of Health, pharmaceutical companies, etc.) ($n = 62$, 18.2%) ($M = 4.52$, SD = 1.49, $P < 0.001$), medical experts (e.g. Virologist) ($n = 32$, 9.4%) ($M = 3.62$, SD = 1.41, $P < 0.001$) and WHO/United Nations ($n = 29$, 8.5%) ($M = 3.24$, SD = 1.31, $P < 0.001$). There was a striking aspect of the results, the media cited only a few sources from the society ($n = 24$, 7%) ($M = 2.62$, SD = 1.32) and victims of COVID-19 ($n = 15$, 4.4%) ($M = 2.52$, SD = 1.31). The least

Table V. *Sources cited*

Newspaper sources	Daily Sun (%)	Vanguard (%)	Daily Trust (%)	Leadership (%)	Combined total (%)
NCDC	22 (29.7)	24 (29.6)	25 (28.1)	19 (19.6)	90 (26.4)
Other Government Officials	16 (21.6)	17 (21)	18 (20.2)	26 (26.8)	77 (22.6)
Health sector (hospitals, Ministry of Health, pharmaceutical companies, etc.)	15 (20.3)	14 (17.3)	15 (16.9)	18 (18.6)	62 (18.2)
Medical experts (e.g. Virologist)	8 (10.8)	9 (11.1)	8 (9)	7 (7.2)	32 (9.4)
WHO/United Nations	4 (5.4)	6 (7.4)	9 (10.1)	10 (10.3)	29 (8.5)
Society (citizens, corporate bodies/ agencies, business, etc.)	6 (8.1)	5 (6.2)	6 (6.7)	7 (7.2)	24 (7)
Victims of COVID-19 (e.g. recovered patients and those in quarantine)	1 (1.4)	3 (3.7)	4 (4.5)	7 (7.2)	15 (4.4)
Newspaper reporters/editorials	2 (2.7)	3 (3.7)	4 (4.5)	3 (3.1)	12 (3.5)
Total	74	81	89	97	341 (100)

Table VI. *Media tone*

Newspaper	Neutral (%)	Reassuring (%)	Alarming (%)	Combined total (%)
Daily Sun	4 (5.4)	12 (16.2)	58 (78.4)	74 (100)
Vanguard	5 (6.2)	11 (13.6)	65 (80.2)	81 (100)
Daily Trust	5 (5.6)	9 (10.1)	75 (84.3)	89 (100)
Leadership	6 (6.2)	10 (10.3)	81 (83.5)	97 (100)
Total	20 (5.9)	42 (12.3)	279 (81.8)	341 (100)

sources came from newspaper reporters/editorials themselves ($n = 12$, 3.5%) ($M = 2.13$, SD $= 0.62$). It has been shown that media sources could influence the tone of media reports [15]. In this view, Table VI was computed to realize the tone (alarming, reassuring or neutral) of media coverage of COVID-19 outbreak.

RQ4: dominant tone (alarming, reassuring or neutral)

Table VI demonstrates the dominant tone used in the coverage of COVID-19 in Nigeria. Results indicate that most of the stories on COVID-19 had an alarming tone ($n = 279$, 81.8%) ($M = 4.64$, SD $= 1.72$) signifying no significant difference across media usage of the tone ($F(2, 341) = 14.87$, $P < 0.05$). Overall, only a few stories ($n = 42$, 12.3%) ($M = 2.65$, SD $= 1.65$) were reassuring and neutral ($n = 20$, 5.9%) ($M = 2.12$, SD $= 1.25$). However, it was observed that newspapers from the

North (*Daily Trust* and *Leadership*) had more alarming stories ($M = 3.65$, SD $= 1.69$). Table VII was computed to realize some of the predominant themes on COVID-19 in the Nigerian media.

RQ5: the most salient themes on COVID-19 outbreak

In this section, an effort was made to realize the dominant themes in the coverage of COVID-19 pandemic in Nigeria.

As shown in Table VII above, different topics were covered ($F(12, 341) = 18.87$, $P < 0.001$). The most common topic was the coverage of COVID-19 cases in Nigeria ($M = 4.97$, SD $= 1.76$), followed by death rates ($M = 4.93$, SD $= 1.75$), risks faced by health workers ($M = 4.83$, SD $= 1.73$), concerns about Nigerian preparedness ($M = 3.83$, SD $= 1.63$) and government institution measures and response ($M = 3.42$, SD $= 1.53$). Public enlightenment and education were the fifth most common topic in the

Table VII. *Content of the 341 articles from widely read newspapers*

Themes	n (%)
Cases in Nigeria (those who have contracted COVID-19 in Nigeria or those who are being treated)	59 (17.3)
Death rates in Nigeria (number and death rates from the COVID-19 scourge)	42 (12.3)
The risk to healthcare workers (risk of treating patients)	40 (11.7)
Concerns about Nigeria's preparedness (fears expressed by healthcare workers about their readiness to handle COVID-19 patients; complaints about porous interstate border control systems; worries about inadequate isolation and treatment centres and reservations about some hospitals' capacity to conduct the COVID-19 test)	38 (11.1)
Government/Institutional measures and response (lockdown, closure of schools and other sectors of the economy)	34 (10)
Public enlightenment and education (media messages in the mode of spread, signs, symptoms, risk factors, face mask, washing of hands, using hand sanitizer and social distancing)	32 (9.4)
Fear, panic and anxiety (emotional responses that COVID-19 is causing across populations)	28 (8.2)
Ethics (ethics of treating those with COVID-19 and measures to reduce its transmission, e.g. quarantine)	21 (6.2)
Treatment and control (cases of recovery from COVID-19)	19 (5.6)
Discrimination (discrimination against infected persons and states with the highest cases)	12 (3.5)
Funding/cost of fighting COVID-19 (funds needed or provided to fight COVID-19)	9 (2.6)
Helpers/volunteers (involvement/responses of other countries, international and non-governmental agencies)	7 (2.1)

media ($M = 3.22$, SD $= 1.43$). Topics that covered fear, panic and anxiety among the population took the sixth slot ($M = 3.11$, SD $= 1.32$). The ethics of treating those with COVID-19, and measures to reduce its transmission was ranked seventh most recurring topic in the media ($M = 2.82$, SD $= 1.23$). This was followed by cases of recovery from COVID-19 ($M = 2.72$, SD $= 1.21$). The least covered topics centred on discrimination, funding/cost of fighting COVID-19 and helpers/volunteers. These topics accounted for only ($n = 28$, 8.2%) ($M = 2.62$, SD $= 1.19$) of 341 stories.

Discussion

Our study examined media coverage (February 2020 to April 2020) of COVID-19 in Nigeria with attention to the frequency and depth of coverage, story format, news sources, media tone and themes. With respect to frequency of coverage, we found that the media reported 341 stories on COVID-19 outbreak in Nigeria between February to April 2020. During the first month (February) of the outbreak in Nigeria, the media had fewer stories. During the second month (March), there was an increase in media attention. Whereas, the third month (April) triggered a huge news wave. We observed that newspapers based in the Northern part of Nigeria had more stories on COVID-19, and a possible explanation for this could be because the northern part of Nigeria has witnessed increased cases of COVID-19. By implication, it could be deduced that the Nigerian media increased their interest on the reportage of the virus. A likely reason for this could be because the pandemic intensified from March. This outcome is contrary to a research which found that the Dutch media gave greater attention to the Dutch influenza in 2009, right from its first stage and less attention on its final stage [9].

In respect to the depth of coverage, though the Nigerian media had a considerable number of stories on COVID-19 outbreak, yet, most of the stories were short, suggesting a lack of in-depth writing to explain more about the virus. In the contemporary digital news environment, journalists are under pressure to deliver content quickly [16], and this may be the reason why most of the newspapers had shorter stories. With respect to the story format used in the coverage of the COVID-19 outbreak in Nigeria, we found that more than half of the total

stories studied were presented as straight news stories. This outcome is consistent with a research that investigated media coverage of Ebola in Nigeria [17]. We therefore maintain that Nigerian newspapers used more of straight news because they are more concerned with delivering the news on COVID-19 first hand to the public.

Prior research has shown that news source plays a significant role in assigning importance to certain aspects of an issue [13]. In this view, we found that the highest source cited was the NCDC, followed by other government officials, health sector, medical experts (e.g. Virologists) and WHO/United Nations. In contrast, the society and victims of COVID-19 were sparingly cited. A probable reason for citing the NCDC more in the newspapers could be because they are responsible for controlling infectious disease in Nigeria. They announce new infectious disease, death rates and any other related cases including COVID-19 infections. We observed that the least cited sources were newspaper reporters/editors themselves. This result is slightly different from Asaolu et al. [8] who found that reporters/editors and medical experts were the most frequently cited sources in the coverage of the Ebola crisis in Nigeria. We reason that there are possibilities that politics may affect truthful coverage of the COVID-19 outbreak in Nigeria since a large number of the stories cited government officials, such as ministers, senators, house of representative members and presidential spokespersons. Tobechukwu [18] stressed that the Nigerian media has been found wanting due to its active association with partisan politics.

Regarding the dominant tone and themes used in the coverage of COVID-19 in Nigeria, the study found that most of the stories were alarming and induced panic with much focus on the increasing cases in Nigeria, death rates and concerns about Nigeria's preparedness. Only a few stories were reassuring and comforting, suggesting that COVID-19 is not a death sentence but could be managed and prevented when the appropriate measures are followed. The media might have focused on the alarming tone to increase the readiness of the Nigerian government as well as increase the awareness among the populace. However, public sensitization and education were sparingly covered. Ethics healthcare workers could adhere to received minimal attention. More emphasis was placed on death tolls and cases than proffering solutions. Though their efforts may be commendable, it is still inadequate given the fact that infections are increasing in Nigeria. It could be argued that the Nigerian media has created awareness of the outbreak but has not been very effective in reporting preventive measures. Drawing from the agenda setting theory, it could be said that the more the media demonstrate preventive measures to the public, the more they will see that as important. However, concentrating more on panic reporting may destabilize the public and create more chaos. This will increase confusion and public anxiety leading to adoption of practices just as in the case of Ebola, many Nigerians drank and bathed with salt water due to fear, which led to several deaths [19].

Conclusion

We conclude that the media in Nigeria paid attention to the issue of the COVID-19 outbreak. However, the coverage was not in-depth; most stories were short and were mostly straight news. Longer stories accord a topic with a level of depth that is simply impossible with a shorter story [14]. Furthermore, the media quoted the NCDC and government officials more often. They also used health sector and medical experts as sources. Most of the stories were alarming and induced panic. Only a few stories were reassuring. More emphasis was placed on death tolls and cases of COVID-19 than proffering solutions. We contend that the Nigerian mass media has done well in creating awareness on the outbreak, but has not been very effective in educating the public on preventive measures to take. The Nigerian media, especially newspapers need to do more with regard to preventive measures the public can take to curb the virus. This could be achieved through increasing their attention towards informing the public on the pandemic mode of infection, signs, symptoms, risk

factors, usage of face masks, washing of hands using hand sanitizers and social distancing. They should feature more articles, opinions and editorial to help inform and educate Nigerians about the pandemic as well as provide detailed analysis of the steps to take in curtailing the spread of the virus. The media should refrain from too much panic reporting to avoid putting the citizens in a state of panic.

This research which is one of the first to examine media coverage of COVID-19, contributes to the growing body of studies. Nevertheless, there are some limitations worth mentioning. First, the study only focused on four newspapers in Nigeria. This implies that COVID-19-related stories on radio and television in Nigeria were not included. Future studies could extend this to examine both television and newspapers to obtain a richer data. Further limitation could be the time frame. The analysis only covered from February 2020 to April 2020. It is possible that there will be a change in the media behaviour as the pandemic progresses. The media may do better in the coming months. Future research could examine the coverage of media from April 2020 to determine if the Nigerian media improved in their coverage of the pandemic.

Conflict of interest statement

We declare no conflict of interest.

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