



## ENHANCING PUBLIC AWARENESS OF LASSA FEVER VIRUS THROUGH PUBLICITY IN CROSS RIVER STATE, NIGERIA

Edim Eka James<sup>1</sup>, Inyang Bassey Inyang<sup>2</sup> and Ann Ochuole Ochelebe<sup>3</sup>

<sup>1</sup>Department of Marketing, University of Calabar, Nigeria

Email: [jamesedim@gmail.com](mailto:jamesedim@gmail.com) (Corresponding author)

<sup>2,3</sup>Department of Marketing, University of Calabar, Nigeria

### Cite this article:

Edim E.J., Inyang B.I., Ann O.O. (2022), Enhancing Public Awareness of Lassa Fever Virus Through Publicity in Cross River State, Nigeria. International Journal of Public Health and Pharmacology 2(1), 49-63. DOI: 10.52589/IJPHP-LVIFLMLW.

### Manuscript History

Received: 21 June 2022

Accepted: 28 July 2022

Published: 9 Aug 2022

### Copyright © 2022 The Author(s).

This is an Open Access article distributed under the terms of Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0), which permits anyone to share, use, reproduce and redistribute in any medium, provided the original author and source are credited.

**ABSTRACT:** *This study centered on enhancing public awareness of Lassa Fever Virus through publicity in Cross River State. It was aimed at determining the influences of press releases, factsheet and social media on public awareness of Lassa Fever Virus. As a cross-sectional study, primary data were obtained from 208 residents of Calabar Metropolis through a structured questionnaire. Descriptive statistics were adopted for data analysis and interpretation, while hypothesis testing was done using simple linear regression. Consequently, the findings of the study revealed that press releases, factsheet and social media were publicity tools that significantly enhanced public awareness of Lassa Fever Virus in Cross River State. Therefore, we have recommended that: The Nigerian government (at Federal, State and Local levels), and public health organizations should intensify the use of press releases, factsheets and social media as effective publicity tools for providing factual and credible information about public health challenges to improve public awareness and mobilize members of the public in an effort to combat them in a way that sustainably preserves the public's health. Practical implications and a future research agenda were also presented.*

**KEYWORDS:** Publicity, Public Awareness, Public Health Crisis, Lassa Fever Virus, Disaster Management



## INTRODUCTION

Lassa fever is an acute viral zoonotic illness caused by lassa virus, an arenavirus known to be responsible for a severe haemorrhagic fever characterized by fever, muscle aches, sore throat, nausea, vomiting and chest/abdominal pain (Asogun et al., 2019). The virus is endemic in West Africa and has been reported from Sierra Leone, Guinea, Liberia and Nigeria. Some studies indicate that 300,000 to 500,000 cases of Lassa fever and 5000 deaths occur yearly across West Africa (Hwang et al., 2021). According to the World Health Organization (2021, pg. 1), “the annual peak of human cases is usually observed during the dry season (December–April) following the reproduction cycle of the Mastromy rats in the wet season (May – June). Given that 90-95 percent of human infections are due to indirect exposure to (through food or household items contaminated by infected rats’ urine and feces) or direct contact with infected Mastectomy rats, the very high density and high circulation of Lassa fever virus in young non-immune rat population during the wet season create a potential for further human infection, thus, the number of infections is expected to continue to rise until the end of the dry season”. In Nigeria, the World Health Organization (2022, pg. 1) reports that “from 3<sup>rd</sup> to 30<sup>th</sup> January, 2022, 211 laboratory confirmed Lassa fever cases including 40 deaths (case fatality ratio: 19%) have been cumulatively reported in 14 of the 36 Nigerian states and the Federal Capital Territory across the country. Three states account for 82 percent of confirmed cases: Ondo (63), Edo (57) and Bauchi (53). The other states affected are Benue (11), Ebonyi (5), Oyo (5), Taraba (5), Kogi (4), Enugu (2), Kaduna (2), Cross River (1), Delta (1), Katsina (1) and Plateau (1)”.

In a deliberate effort to slow the rate of human infections and ultimately combat the spread of Lassa Fever, the Nigerian Government, in collaboration with various domestic and international health organizations, has implemented a number of initiatives such as community fumigation, improvement of community sanitary standards and public sensitization through mass communication tools like publicity. In the view of Nix and Wolfe (2017), publicity is an unpaid form of communication whereby information about an organization, and its activities that are considered newsworthy and relevant is disseminated to create awareness and generate responses from the target audience. There are various tools of publicity; however, in the Counter-Lassa Fever campaign, the Federal Ministry of Health, working with various state governments and international partners relied on press releases, factsheets and social media to disseminate important information about the virus to the general public. Despite that, between January and April, 2021, Nigeria has so far reported at least 50 Lassa fever-related deaths. The Nigeria Centre for Disease Control (NCDC), in that same period, reported six (6) new confirmed Lassa fever cases, bringing the country’s total infection cases to 247 (Enitayo, 2021). The current situation implies that Lassa Fever currently constitutes a public health challenge for West African countries, including Nigeria which demands urgent and coordinated responses; these responses begin with public awareness.

Unfortunately, public health experts have decried that most Nigerians lack full understanding of the severity of Lassa fever as well as the precautionary measures to take in their daily lives to avoid being infected (Ogunlayo, 2022). In that sense, it is conceivable that lack of public sensitization has hampered the government’s efforts at combating the virus even as it scrambles to contain the prevailing COVID-19 pandemic. To that end, the government has implemented public sensitization programmes designed to create awareness among the Nigerian public, in urban and especially rural areas, about the dangers of Lassa fever and precautionary measures necessary to mitigate infection rates. In that effort, press releases,



factsheets and social media platforms have been utilized to communicate vital information related to Lassa fever in an attempt to educate the public to effectively combat the virus. However, the effectiveness of these publicity campaigns in terms of enhancing public awareness of the virus in Cross River State is yet to be determined as there is inadequate research enquiry in the state despite being one of the affected Nigerian states. This study therefore was carried out to determine the influence of publicity (press release, factsheet and social media) on public awareness of Lassa fever virus in Cross River State, Nigeria.

## LITERATURE REVIEW

### Theoretical Framework

The theoretical underpinning for this study is rooted in the reactivist theory of crisis management, propounded by Rappaport and Knepper (1998). This theory is grounded in the assumption that in a social context, the possibility of crisis emergence over the long term cannot be avoided because of the diverse interests and fallibility of human systems. This entails that in every human society or system, there is a real possibility for crises to emerge, either arising from the conflicting interests of humans or from the fallibility (imperfection) of human nature (Rappaport & Knepper, 1998). The theory defines crisis as an unwanted occurrence which causes disagreement, pain and losses to one or all parties involved in a social exchange relationship. The very fact that crises cause pain, disagreement and damage to people is why it is essential for crises to be averted or eliminated from exchange relationships. The basic premise of this theory therefore is that people will have to react to the emergence of crises on a continuous basis in order to ensure the practical existence of human societies and systems. This means that in order for human societies to function properly, people must seek and resolve crises after they have emerged. According to Rappaport and Knepper's (1998) conceptualization of the crisis, Lassa fever can be considered as a natural crisis because it is an unwanted occurrence causing pain and loss of human lives. Therefore, the reactivist theory recognizes that, as is the case in other crises, efforts have been made by the Nigerian government and other organizations to react to the Lassa fever virus to contain and mitigate its prevalence in the country. The premise of the theory further implies that through these reactionary measures, the crisis of Lassa fever virus could be mitigated, which was the focus of this study.

### Lassa fever infections in Nigeria

According to Seladi-Schulman and Newman (2018), Lassa fever is a viral infection carried by the multimammate rat. This is one of the most common rodents in equatorial Africa, found across much of sub-Saharan Africa. The epidemic mainly occurs in Sierra Leone, Liberia, Guinea, and Nigeria. However, the *Mastomys* rat is common in neighboring countries, so these areas are also at risk. Lassa fever was first discovered in Nigeria, when two missionary nurses became ill with the virus in 1969. Its name is derived from the village of Lassa, where it was first documented. Since its discovery in 1969, Lassa fever has continued to plague Nigerians especially those living in rural areas. In February of 2022, the Nigeria Centre for Disease Control (NCDC) confirmed a total of 358 cases of Lassa fever recorded across 19 States (News Agency of Nigeria, 2022). The cases of Lassa fever in Nigeria appears to be increasing; from 211 cases in January, 2022 (World Health Organization, 2022) to 358 cases



in February of the same year (News Agency of Nigeria, 2022). This may be because the infection rarely presents significant symptoms in patients when they are infected. Buttressing this viewpoint, Shaffer et al. (2017) assert that eighty (80) percent of infections do not produce significant symptoms. In the remaining twenty (20) percent of cases, Lassa fever becomes serious. Symptoms can include: bleeding in the gums, nose, eyes, or elsewhere; difficulty in breathing; cough; swollen airways; vomiting and diarrhea, both with blood; difficulty in swallowing; hepatitis; swollen face; pain in the chest, back, and abdomen; shock; hearing loss, which may be permanent; abnormal heart rhythms; high or low blood pressure; meningitis; seizures, among others. In around one (1) percent of all cases, Lassa fever is fatal, and around fifteen (15) to twenty (20) percent of all hospitalizations for the disease will end in death. Death can occur within 2 weeks after the onset of symptoms due to multiple organ failure (Shaffer et al., 2017).

### **Publicity**

Publicity is a mass communication and public relations tool adopted by companies, organizations, government and non-governmental organizations around the world to achieve important communication goals. It is an unpaid tool of mass communication that enables communicators to get a positive response from their audiences by placing commercially-significant news in mass media (Pahwa, 2021). Essentially, publicity is not paid for by an organization; it comes from reporters, columnists, and journalists. According to Krizanova et al. (2019), publicity refers to a public-relations function that uses any communication channel to convey news or information about someone or something, through the media. It involves giving public speeches, interviews, offering charitable donations, etc., that attract mass media to publish the news about them. It can be in the form of news, stories, event information or write-ups, that creates awareness and credibility in the people regarding a brand, product or the company offering them. In the views of Luxton et al. (2015), publicity aims at spreading information or news, to the maximum number of people, at the minimum amount of time. It is undertaken for a wide range of purposes, such as promoting awareness about a public health challenge such as Lassa fever, COVID-19 or Monkeypox, through various tools such as press releases, factsheets and social media, among others.

### **Press release and public awareness**

A press release is an official statement delivered to members of the news media for the purpose of providing information, an official statement, or making an announcement (Astutik et al., 2018). It is a written communication that reports specific but brief information about an event, circumstance, product launch, or other happenings. Generally, any information deliberately sent to a reporter or media source is considered a press release as it is information released by the act of being sent to the media (Seitel, 2017). A press release is a document that serves three marketing and promotional purposes, namely: to notify the media about an event in hopes that they will spread the word; to share something about a business organization, hoping a reporter will see a story in a company's press release and write an actual news article about it; and to promote a company's appearance on the internet via blogs, websites, and social networks (Kunczik, 2016). As a major publicity tool, press releases have been found by various studies to significantly increase public awareness of certain issues and subjects of public interest. The foregoing premise is corroborated by the study of Mutabazi et al. (2017), which revealed that press releases had a significant positive impact on public awareness of mother-to-child transmissions of HIV in Mali. The premise above is also corroborated by the



study of Treves-Kagan et al. (2015), which revealed that press release had a significant and positive relationship with public enlightenment on sexually-transmitted infections in rural South Africa.

### **Factsheet and public awareness**

A factsheet or fact file is a single page document containing essential information about a product, substance, service or other topic (Graves, 2018). Factsheets are frequently used to provide information to an end user, consumer or member of the public in concise, simple language. They generally contain key safety points, operating instructions or basic information about a topic depending on the purpose of the fact sheet. According to Hu and Pang (2016, pg. 14), “a fact sheet is a short, printed document with information about a particular subject, especially a summary of information that has been given on a radio or television programme. They frequently make use of elements such as lists, tables and diagrams to convey meaning quickly and effectively”. In the views of Johnston and Sheehan (2020), factsheets convey new facts or information aimed at increasing knowledge. Factsheets have been extensively used to communicate health information. Research-based healthcare factsheets were evaluated as excellent at efficiency, usefulness in practice, and importance at improving practice by ninety-nine (99) percent of nurses surveyed in a recent study (Valente, 2015). The design and use of factsheets as a publicity tool for the dissemination of information to a mass public has been found to significantly enhance public awareness about certain topical issues of public concern. The premise above is reinforced by the study of Prakash and Vadlamannati (2017), which revealed that factsheets played significant roles in raising public awareness about the menace of child trafficking in India. The above premise is also in alignment with the study of Anwar et al. (2020), which revealed that factsheets had significant positive correlation with awareness creation of the COVID-19 pandemic in Jordan. Therefore, this study proposes the following hypothesis:

### **Social Media and Public Awareness**

Strauss and Frost (2019, pg. 32) define social media as “a collection of online communication channels dedicated to community-based input, interaction, content-sharing and collaboration. It includes interactive computer-mediated technologies that facilitate the creation and sharing of information, ideas, career interests and other forms of expression via virtual communities and networks”. Jantsch (2018, pg. 19) maintains that “by design, social media is internet-based and offers users easy electronic communication of personal information and other content, such as videos and photos. Users engage with social media on a computer, tablet or Smartphone via web-based software or web applications, often utilizing it for messaging”. According to Parker (2017), social media provides a virtual space where people can express, exchange and disseminate information to friends and families. As an important publicity tool, social media significantly contributes to the creation of mass public awareness through its interactive nature and wide coverage. This entails that social media has a significant relationship with awareness creation among a given population of people. The assertion above is supported by the study of Treves-Kagan et al. (2015), which revealed that social media has a significant and positive relationship with public enlightenment on sexually-transmitted infections in rural South Africa. Similarly, the foregoing assertion is backed by the study of Yusuf et al. (2015), which found that social media has a significant effect on awareness creation and public mobilization in the campaign against Ebola in Liberia.





## Empirical Review and Conceptual Model Design

Treves-Kagan et al. (2015) conducted a study on the publicity and public enlightenment on sexually-transmitted infections in rural South Africa. The study obtained primary data from 149 respondents in Durban and Pretoria with the aid of a structured questionnaire. The Pearson's Product Moment Correlation tool was adopted to statistically test the hypotheses developed for the study. Consequently, the findings revealed that publicity (social media, factsheet, press release and community relations programmes) had a significant and positive relationship with public enlightenment on sexually-transmitted infections in rural South Africa. Therefore, the study concluded that publicity campaigns significantly improved public enlightenment on sexually-transmitted infections in South Africa. Also, Yusuf et al. (2015) conducted a study on the effect of publicity tools in the Counter-Ebola campaign in Liberia. The study aimed to demonstrate the effect of publicity tools (press release, factsheet, social media, video news releases and public service announcements) in the Counter-Ebola campaign in Liberia. A 5-Point likert-scale questionnaire was used to collect primary data from 204 respondents in Monrovia. Data analysis was done using multiple linear regression in the Statistical Package for the Social Sciences (SPSS 15). The findings of the study revealed that all publicity tools tested (press release, factsheet, social media, video news releases and public service announcements) had significant effects on awareness creation and public mobilization in the campaign against Ebola in Liberia. Hence, the study concluded that publicity served as an indispensable Counter-Ebola campaign tool in Liberia during the outbreak.

Similarly, Prakash and Vadlamannati (2017) examined the role of publicity in mitigating the menace of child trafficking in India. The purpose of the study was to examine the roles of publicity (social media, factsheet, press release and newsletters) in raising public awareness about the menace of child trafficking in India. The study used a semi-structured questionnaire to collect primary data from 174 residents of Delhi, Surat and Kolkata for analysis. Descriptive statistics (frequency tables, percentages and charts) were used to statistically analyze the data obtained. The results subsequently showed that social media, factsheet, press release and newsletters played significant roles in raising public awareness about the menace of child trafficking in India. Therefore, the study concluded that publicity plays a significantly crucial role in mitigating the menace of child trafficking in India. Furthermore, Mutabazi et al. (2017) examined the impact of publicity programs on public awareness of mother-to-child transmissions of HIV in Mali. The aim of the study was to verify the impacts of publicity programmes (community relations, press releases, social media and brochures) on public awareness of mother-to-child transmissions of HIV in Mali. The researchers used a structured research questionnaire to obtain primary data from 195 respondents in Timbuktu, Mali, for analysis. Data analysis was done with the aid of a simple linear regression tool in the Statistical Package for the Social Sciences (SPSS 15). Consequently, the findings revealed that community relations, press releases, social media and brochures had significant positive impacts on public awareness of mother-to-child transmissions of HIV in Mali. Hence, the study concluded that publicity had a significant positive impact on public awareness of mother-to-child transmissions of HIV in Mali.

Finally, Anwar et al. (2020) conducted a study on the publicity campaigns and awareness creation of the COVID-19 pandemic in Jordan. The aim of the study was to determine the statistical correlation between publicity campaigns (press releases, factsheet and social media) and awareness creation of the COVID-19 pandemic in Jordan. To that end, primary data were

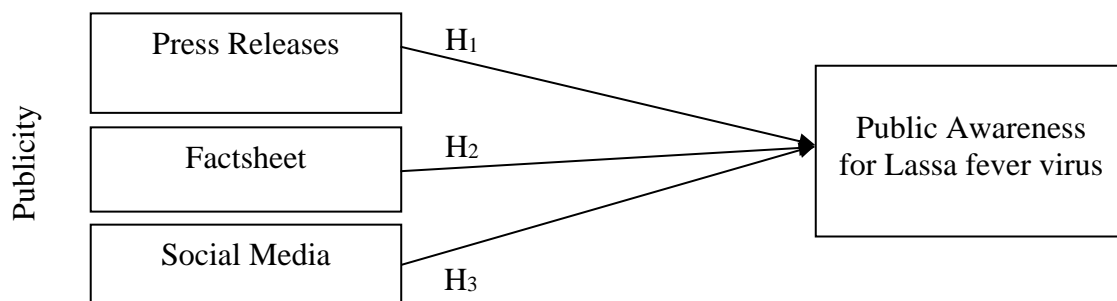
obtained from 206 respondents in Amman Metropolis with the aid of a structured research questionnaire. Descriptive statistics and Pearson's Product Moment Correlation were the statistical tools employed to analyze the data obtained in the study. Consequently, the findings revealed that press releases, factsheet and social media had significant positive correlations with awareness creation of the COVID-19 pandemic in Jordan. Therefore, the study concluded that there is a significant positive correlation between publicity and awareness creation of the COVID-19 pandemic in Jordan. From the foregoing existing studies, it has been established that publicity tools (including factsheets, press releases and social media) have been used to significantly enhance public awareness of social issues, including public health. On this basis, therefore, this study proposes the following hypotheses for statistical testing:

H<sub>1</sub>: Press release significantly enhances public awareness of Lassa fever virus in Cross River State

H<sub>2</sub>: Factsheets significantly enhance public awareness of Lassa fever virus in Cross River State

H<sub>3</sub>: Social media significantly enhances public awareness of Lassa fever virus in Cross River State

These hypotheses have further been consolidated into the conceptual model in Figure 1 to portray the hypothesized relationship between publicity and public awareness of Lassa fever virus in Cross River State.



**Figure 1: Conceptual framework of the study.**

*Source: James, Inyang and Ochelebe (2022)*

## METHODOLOGY

To enable the collection of firsthand primary data from respondents, we adopted a cross-sectional survey research design, which facilitated primary data collection on a one-time basis at a single period of time. The population of the study comprised 371,022 residents of Calabar, obtained from the 2006 general population census held in Nigeria (Ottong et al., 2010). To determine the sample size, the Taro Yamane formula (Godwill et al., 2021) was applied as follows:



$$\frac{N}{1+N(e)^2}$$

Where:

n	=	Sample size required
N	=	Finite population
I	=	Constant
e	=	Margin of error (5 percent)

By simple substitution,

$$\begin{aligned} n &= \frac{371,022}{1+371,022(0.05)^2} \\ &= \frac{371,022}{1+371,022(0.0025)} \\ &= \frac{371,022}{1+927.555} \\ &= \frac{371,022}{928.555} \\ &= 399.56 \end{aligned}$$

∴ n = 400 approximately

Furthermore, to select respondents to participate in the study, we applied a cluster random sampling technique. In applying this sampling technique, we divided the study area (Calabar Metropolis) into two (2) distinct cluster groups, namely: Calabar South and Calabar Municipality. These cluster groups were further broken down into streets and neighborhoods, from which adult residents were randomly included in the questionnaire survey. Therefore, structured questionnaire was the instrument for data collection. The instrument was divided into two (2) sections, namely: Section A (which elicited respondents' bio-data like age, sex, occupation, educational level, marital status etc.) and Section B (which contained statements built from the study variables: press releases, factsheets, social media and public awareness). Respondents' opinions were measured on a 5-Point Likert's scale of Strongly Agree (SA = 5), Agree (A = 4), Undecided (U = 3), Disagree (D = 2) and Strongly Disagree (SD = 1). The instrument was further validated through content validity, while Cronbach's alpha reliability was applied to verify the reliability of the instrument as shown in Table 1, which reveals that all research constructs produced reliability coefficients from 0.7 and above.



**Table 1: Research constructs operationalization and reliability coefficients**

Variables	Statement	Cronbach's alpha coefficient
<b><i>Press release (PRESREL 1-3)</i></b>		<b><i>0.801</i></b>
PRESREL1	The Government makes press releases to the media on Lassa Fever to inform the general public	
PRESREL2	Through press releases, residents are informed of the current status of Lassa fever	
PRESREL3	Information gotten from press releases reliably helps residents prevent infection	
<b><i>Factsheet (FSHEET 4-6)</i></b>		<b><i>0.708</i></b>
FSHEET4	Health organizations have released detailed factsheets to inform the public about Lassa fever	
FSHEET5	Government agencies keep the public aware of the preventive measures against Lassa fever through factsheets	
FSHEET6	Information gotten from factsheets have helped residents prevent the spread of Lassa fever	
<b><i>Social media (SOCMED 7-9)</i></b>		<b><i>0.781</i></b>
SOCMED7	Health organizations and government agencies use social media to raise awareness of Lassa fever	
SOCMED8	Various information and contents on Lassa fever could easily be obtained on social media for free	
SOCMED9	Social media allows residents to get the latest information about Lassa fever infections	
<b><i>Public awareness (PUBWARE 10-12)</i></b>		<b><i>0.758</i></b>
PUBWARE10	I am aware of the disease called "Lassa fever"	
PUBWARE11	I understand the dangers posed by the Lassa fever virus	
PUBWARE12	I have been enlightened on the measures to take to avoid infection and spread of the virus	

Having confirmed that the research questionnaire was valid and reliable, we adopted descriptive statistics to analyze and interpret the data obtained from respondents, while the hypotheses developed were tested using simple linear regression, with the following regression model:

$$Y = a + \beta X + e \text{ ----- EQ1}$$

$$\text{PUBWARE} = a + \beta \text{PUB} + e \text{ ----- EQ2}$$

Where:

PUBWARE = Dependent variable (public awareness)

a = The intercept (or constant)

$\beta$  = Coefficient of the independent variable (publicity)



PUB = Publicity (independent variable)

e = Margin of error (5 percent)

Therefore:

X<sub>1</sub> = Press release

X<sub>2</sub> = Factsheet

X<sub>3</sub> = Social media

## ANALYSIS AND DISCUSSION

The primary data used in this study were obtained through the administration of 400 copies of the questionnaire to residents of Calabar South and Calabar Municipality, Cross River State, out of which, 208 copies representing 52.0 percent were successfully retrieved and deemed usable for the study. The remaining 192 copies representing 48.0 percent could not be retrieved from respondents. Hence, this analysis is based on the data retrieved from 208 randomly selected respondents in Cross River State. The demographic characteristics of the respondents are presented in Table 2.

**Table 2: Demographic profile of respondents**

Age	Frequency	Percent
18-24 years	40	19.2
25-31 years	50	24.0
32-38 years	44	21.2
39-45 years	27	13.0
46 years or above	47	22.6
<b>Total</b>	208	100.0
<b>Sex</b>		
Male	109	52.4
Female	99	47.6
<b>Total</b>	208	100.0
<b>Marital status</b>		
Single	86	41.3
Married	100	48.1
Separated	22	10.6
<b>Total</b>	208	100.0
<b>Occupation</b>		
Student	109	52.4
Businessman/woman	56	26.9
Civil servant	43	20.7
<b>Total</b>	208	100.0

Source: Field survey (2022)



Table 2 above is a summary of respondents' demographic characteristics, including age, sex, marital status, and occupation. On age, the data shows that out of the 208 respondents surveyed, 40 respondents representing 19.2 percent were between the age of 18 – 24 years, 50 respondents representing 24.0 percent were between the age of 25 – 31 years, 44 respondents representing 21.2 percent were between the age of 32 – 38 years, 27 respondents representing 13.0 percent were between the age of 39 – 45 years, while 47 respondents representing 22.6 percent were 46 years and above. With respect to respondents' sex, the data shows that 109 respondents representing 52.4 percent were male, while 99 respondents representing 47.6 percent were female. It implies that there were more male respondents than female in the survey. On respondents' marital status, the data shows that 86 respondents representing 41.3 percent were single, 100 respondents representing 48.1 percent were married while 22 respondents representing 10.6 percent were separated. Regarding respondents' occupation, the data shows that 109 respondents representing 52.4 percent were students, 56 respondents representing 26.9 percent were businessmen/women, while 43 respondents representing 20.7 percent were civil servants.

### **Hypotheses Testing and Discussion of Findings**

#### *Press release and public awareness of Lassa fever virus*

The regression results in Table 3 show the effect of press releases on public awareness of Lassa fever virus in Cross River State. The model summary reveals that the relationship between press releases and public awareness of Lassa fever virus is 59.0 percent (as seen in the R column), which indicates a strong degree of relationship. The coefficient of determination ( $R^2$ ) of 0.348 indicates that up to 34.8 percent of the variants in the dependent variable (public awareness of Lassa fever virus) is explained by press releases. This implies that the press release enhances public awareness of Lassa fever virus in Cross River State by up to 34.8 percent when other factors are held constant. Also, the F-statistic ( $F = 110.132$ ), t-statistic ( $t = 10.494$ ) and significance level ( $p\text{-value} = 0.000 < 0.05$ ) indicate press release significantly and positively influences public awareness of Lassa fever virus in Cross River State. This finding aligns with the study by Mutabazi et al. (2017) which revealed that press releases had a significant positive impact on public awareness of mother-to-child transmissions of HIV in Mali. The finding also aligns with the study by Treves-Kagan et al. (2015) that press release had a significant and positive relationship with public enlightenment on sexually-transmitted infections in rural South Africa. This implies that the adoption of press releases to disseminate information significantly enhanced public awareness of Lassa fever virus in Cross River State.

#### *Factsheets and public awareness of Lassa fever virus*

The regression results in Table 3 show the effect of factsheets on public awareness of Lassa fever virus in Cross River State. The model summary reveals that the relationship between factsheets and public awareness of Lassa fever virus is 61.2 percent (as seen in the R column), which indicates a very strong degree of relationship. The coefficient of determination ( $R^2$ ) of 0.415 indicates that up to 41.5 percent of the variants in the dependent variable (public awareness of Lassa fever virus) is explained by factsheet. This implies that factsheets enhances public awareness of Lassa fever virus in Cross River State by up to 41.5 percent when other factors are held constant. Also, the F-statistic ( $F$



= 145.893), t-statistic ( $t = 4.720$ ) and significance level ( $p\text{-value} = 0.000 < 0.05$ ) indicate that factsheet significantly and positively influences public awareness of Lassa fever virus in Cross River State. This finding corresponds with the study by Prakash and Vadlamannati (2017) that factsheets played significant roles in raising public awareness about the menace of child trafficking in India. The finding also corresponds with the study by Anwar et al. (2020) that factsheets had a significant positive correlation with awareness creation of the COVID-19 pandemic in Jordan. The implication of this finding is that the use of factsheets to disseminate information on Lassa fever significantly enhanced public awareness of the virus in Cross River State.

#### *Social media and public awareness of Lassa fever virus*

The regression results in Table 3 show the effect of social media on public awareness of Lassa fever virus in Cross River State. The model summary reveals that the relationship between social media and public awareness of Lassa fever virus is 59.7 percent (as seen in the R column), which indicates a strong degree of relationship. The coefficient of determination ( $R^2$ ) of 0.326 indicates that up to 32.6 percent of the variants in the dependent variable (public awareness of Lassa fever virus) is explained by social media. This implies that social media enhances public awareness of Lassa fever virus in Cross River State by up to 32.6 percent when other factors are held constant. Also, the F-statistic ( $F = 99.781$ ), t-statistic ( $t = 6.394$ ) and significance level ( $p\text{-value} = 0.000 < 0.05$ ) indicate that social media significantly and positively influences public awareness of Lassa fever virus in Cross River State. This finding bears semblance to the study by Treves-Kagan et al. (2015) which revealed that social media has a significant and positive relationship with public enlightenment on sexually-transmitted infections in rural South Africa. The finding also aligns with the study by Yusuf et al. (2015) that social media has a significant effect on awareness creation and public mobilization in the campaign against Ebola in Liberia. The implication of this finding is that the use of social media to disseminate information on Lassa fever significantly enhanced public awareness of the virus in Cross River State.

**Table 3: Summary of regression analysis results**

Independent variable	Hypotheses	R	$R^2$	Standardized $\beta$ coefficient	Test statistic	P value	Significance
Press release	$H_1$	0.590	0.348	0.590	F test= 110.132 T test= 10.494	0.000	Significant
Factsheet	$H_2$	0.612	0.415	0.612	F test= 145.893 T test= 4.720	0.000	Significant
Social media	$H_3$	0.597	0.326	0.597	F test= 99.781 T test= 6.394	0.000	Significant

**Significant @  $P \leq 0.05$**

*Source: Authors' analysis via SPSS (2022)*



## CONCLUSION AND PRACTICAL IMPLICATIONS

The effect of publicity on public awareness of public health challenges has attracted substantial research attention from scholars in the past several years. This may be as a result of the growing importance of the social marketing practice, where marketing tools, strategies and principles are harnessed to promote social goals such as health, security, environmental preservation and social wellbeing. Also, it may be as a result of the myriad of public health challenges, such as Zika, Denge, COVID-19, Lassa fever, Monkeypox and others, facing developing and developed countries alike in the 21<sup>st</sup> century. To that end, researchers around the world have conducted various studies to determine the role of publicity in addressing public health challenges such as Tuberculosis, Human Immunodeficiency Virus (HIV), Ebola Virus as well as social issues such as teenage pregnancy, human and child trafficking. The focus of the present study was to explore the influence of publicity (press release, factsheets and social media) on enhancing public awareness of Lassa fever virus in Cross River State. After thorough statistical analysis of primary data obtained from respondents using descriptive and inferential statistics, the findings of the study revealed that factsheets had the most significant influence on enhancing public awareness of Lassa fever virus in Cross River State, followed by press releases and social media. Therefore, we can conclude that the use of publicity tools to disseminate information on Lassa fever has led to a significant enhancement in public awareness of the virus in Cross River State, Nigeria. This implies that if publicity tools are also deployed to disseminate information on Lassa fever on a nationwide basis, more public awareness could be created, thereby bolstering public resilience and cooperation towards stemming further infections in Nigeria.

As such, we recommend that the Nigerian Government (at federal, state and local levels), and public health organizations should intensify the use of press releases as an effective tool for providing factual and credible information about public health challenges (like Lassa fever) in order to improve public awareness and mobilize members of the public in an effort to combat such challenges. We also recommend that public health professionals and organizations in Nigeria should prioritize the use of factsheets to provide comprehensive, up-to-date and credible information about public health challenges (like Lassa fever) to members of the public in order to improve awareness and effectively garner public cooperation in dealing with such public health challenges. Finally, we recommend that social media platforms such as Facebook, Twitter, Instagram and YouTube should increasingly be used by public health professionals and organizations in Nigeria to create mass awareness about public health challenges (like Lassa fever) in order to mobilize members of the public to collaboratively combat the health challenges in a way that preserves the public health.

## LIMITATIONS AND FUTURE RESEARCH

Since the data used in this study were obtained from residents in Calabar, it implies that the study does not have a nationwide scope as it does not center on other states like Benue, Ebonyi, Oyo, Taraba, Kogi, Enugu, Kaduna, Delta, Katsina and Plateau, that are active hotspots for Lassa fever virus. There is therefore an urgent need for further studies in the affected states with a nationwide scope to determine the influence of publicity tools (press release, factsheet, social media and a variety of others) on public awareness of Lassa fever virus in Nigeria. Such studies will reinforce the generalizability of the present findings made in this study; and enable





Nigerian health organizations to determine the best publicity tools to apply on a nationwide basis to increase public awareness of Lassa fever and mitigate its spread to more regions of the country. Also, since Nigeria is currently facing more public health challenges other than Lassa fever, future studies should be carried out to determine how publicity tools could be applied to enhance the fight against COVID-19 and Monkeypox, which currently pose health challenges to Nigeria and the rest of the world.

## REFERENCES

- Anwar, A., Malik, M., & Ismaila, V. (2020). Publicity campaigns and awareness creation of the COVID-19 pandemic in Jordan. *The International Journal of Frontier Sciences*, 4(2), 59-60
- Asogun, D. A., Günther, S., Akpede, G. O., Ihekweazu, C., & Zumla, A. (2019). Lassa fever: Epidemiology, clinical features, diagnosis, management and prevention. *Infectious Disease Clinics*, 33(4), 933-951.
- Astutik, D., Harymawan, I., & Nasih, M. (2018). The effectiveness of social media and press release transparency to detect indications of financial fraud. *Editorial Board*, 8(2), 15-21.
- Enitayo, P. (2021). Nigeria reports 50 Lassa fever deaths in 2021, results from LASCOPE study. Retrieved from: <https://rb.gy/1spc4u>
- Godwill, I. T., Owei, O. B., & Brown, I. (2021). An Analysis of Existing Housing Stock in Selected Neighbourhoods in Port Harcourt Municipality. *European Journal of Environment and Earth Sciences*, 2(3), 57-61.
- Graves, L. (2018). Factsheet: Understanding the promise and limits of automated fact-checking. *International Journal of Communication*, 8(3), 78-81
- Hu, Y., & Pang, A. (2016). Public relations practitioners' perceptions of the use of crisis response strategies in China. *Public Relations Review*, 42(2), 333-335.
- Hwang, J., Schneider, M. C., Lee, J. Y., & Cho, S. I. (2021). An exploration of the protective effect of rodent species richness on the geographical expansion of Lassa fever in West Africa. *Journal of Neglected Tropical Diseases*, 15(2), 109-118.
- Jantsch, J. (2018). *Social media: Concepts and practices (2nd Ed.)*. Islamabad: Khan Publishers Limited.
- Johnston, J., & Sheehan, M. (2020). *Public relations: Theory and practice*. London: Routledge.
- Krizanova, A., Lăzăroiu, G., Nadanyiova, M., & Moravcikova, D. (2019). The effectiveness of marketing communication and importance of its evaluation in an online environment. *Sustainability*, 11(24), 70-81.
- Kunczik, M. (2016). *Images of nations and international public relations*. London: Routledge.
- Luxton, S., Reid, M., & Mavondo, F. (2015). Integrated marketing communication capability and brand performance. *Journal of Advertising*, 44(1), 37-46.
- Mutabazi, J. C., Zarowsky, C., & Trottier, H. (2017). The impact of publicity programs on public awareness of mother-to-child transmissions of HIV in Mali. *Public Health Reviews*, 38(1), 1-27.



- News Agency of Nigeria (2022). Nigeria confirms 358 cases of Lassa Fever in 2022, as UK reports 3 deaths. Retrieved from: <https://guardian.ng/news/nigeria-confirms-358-cases-of-lassa-fever-in-2022-as-uk-reports-3-deaths/>
- Nix, J., & Wolfe, S. E. (2017). The impact of negative publicity on police self-legitimacy. *Justice Quarterly*, 34(1), 84-108.
- Ogunlayo, F. (2022). Rising fatalities from Lassa fever. Retrieved from: <https://www.thisdaylive.com/index.php/2022/04/29/rising-fatalities-from-lassa-fever/>
- Ottong, J. G., Ering, S. O., & Akpan, F. U. (2010). The population situation in cross river state of nigeria and its implication for socio-economic development: Observations from the 1991 and 2006 censuses. *Journal of Emerging Trends in Educational Research and policy studies*, 1(1), 36-42.
- Pahwa, A. (2021). What is publicity? – Characteristics, types and examples. Retrieved from: <https://www.feedough.com/what-is-publicity-characteristics-types-examples/>
- Parker, C. (2017). *301 ways to use social media to boost your marketing*. New York: McGraw-Hill
- Prakash, N., & Vadlamannati, K. C. (2017). The role of publicity in mitigating the menace of child trafficking in India. *The Round Table*, 103(5), 483-495.
- Rappaport, M. & Knepper, T. (1998). A guide to practical crisis management: Toward a reactivist approach. *British Journal of Sociology*, 4(3), 167-171
- Seitel, F. P. (2017). *Practice of public relations (1<sup>st</sup> Ed)*. New Jersey: Pearson Education.
- Seladi-Schulman, J. & Newman, T. (2018). Everything you need to know about Lassa fever. Retrieved from: <https://rb.gy/fatikb> (Accessed March 10, 2021)
- Shaffer, J. G., Schieffelin, J. S., Boisen, M. L., & Hartnett, J. N. (2017). Lassa fever in post-conflict Sierra Leone. *Journal of Neglected Tropical Diseases*, 8(3), 27-48.
- Strauss, J. & Frost, R. (2019). *E-marketing (6th Ed.)*. New York: Pearson Education.
- Treves-Kagan, S., Ntswane, L., Gilvydis, J. M. & Gulati, H. (2015). Publicity and public enlightenment on sexually-transmitted infections in rural South Africa. *BMC Public Health*, 16(1), 1-13.
- Valente, S. M. (2015). Evaluation of innovative research-based fact sheets. *Journal for Nurses in Staff Development*, 21(4), 171-176. 22
- World Health Organization (2021). Lassa Fever – Nigeria. Retrieved from: <https://www.who.int/csr/don/20-february-2020-lassa-fever-nigeria/en/>
- World Health Organization (2022). Lassa fever – Nigeria. Retrieved from: <https://www.who.int/emergencies/disease-outbreak-news/item/lassa-fever---nigeria>
- Yusuf, R., Yahaya, P. & Qabli, E. (2015). The effect of publicity tools in the counter-Ebola campaign in Liberia. *International Journal of Research in Public Health*, 8(2), 56-71