A Knowledge, attitude and practice (KAP) analysis of lassa fever media campaigns among residents of South-East Nigeria

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Abstract

Background: In as much as studies have been conducted on Lassa fever in Nigeria, the studies had no media angle and were carried out mainly in the Northern and Western regions of the country. This study examined how mass media intervention messages on Lassa fever have influenced the level of knowledge, attitudes and health practices of people living in South-East Nigeria towards controlling and eradicating this disease.

Methods: The study adopted survey research design. Multi-stage sampling technique was used in selecting 428 respondents while structured questionnaire was used for data collection.Data analyzed was by descriptive statistics and Pearson correlation technique.

Result: The level of exposure to and knowledge of Lassa fever media campaigns among South-East residents were high as confirmed by 90% and 51.1% respectively of the responses. Media campaigns against Lassa fever positively influenced the attitudes of 56.3% of the respondents towards prevention and control of this disease.There is positive significant relationship (0.93 with 0.01 level of significant) between exposure level to Lassa fever media campaigns and knowledge level of the disease among South-East residents.

Conclusion: Mass media campaigns aimed at sensitizing the public on Lassa fever disease was adjudged effective. There is also need to employ more of interpersonal communication strategies to enhance effective delivery of this health messages.

Keywords: Lassa fever,Media Campaigns, Knowledge, Attitudes, Practices.

Introduction

According to World Health Organization (WHO, 2017) statistics, the number of Lassa fever virus infection in Nigeria per year is estimated at 100,000 to 300,000 with approximately 5,000 deaths. This development is not in line with number 10 of aspiration 1 of African Union agenda (vision 2063) which seeks that "by 2063, Africa shall be a prosperous continent, with the means and resources to drive its own development, with sustainable and long-term stewardship of its resources and where African people will have a high standard of living, and quality of life, sound health and well-being". Also, based on theWorld Health Organization Report 2003 cited in Essendi &Wandibba (2011) the developing world has felt the impact of Tuberculosis (TB) and other communicable diseases like Lassa fever more than the developed world.

The occurrence of Lassa fever disease in Nigeria has been known to be a yearly occurrence with the outbreaks affecting great number of individuals on each occasion (WHO, 2017). Lassa fever is identified as a hemorrhagic and communicable disease of 2-21 days duration, transmitted by rats through their excreta. According to Udjo (2017, p.3724) communicable diseases dominate non-communicable diseases as causes of death in Africa. As such, most individuals have ignorantly died of Lassa fever disease (Oyetimi, 2012). This disease occurs mostly in West African countries particularly Sierra Leone, Liberia, Guinea and Nigeria (WHO, 2017). Ogoina (2013) emphasized that the outbreaks of this disease in Nigeria is most common in rural areas and hospital settings, occasioned by socio-cultural practices, poor environmental and personal hygiene and poor precautionary measures for the control and prevention of such disease.

According to WHO and NCDC (2017) report the outbreak of Lassa fever in Nigeria is still ongoing. The year 2018 recorded the worst outbreak of Lassa fever throughout the world with a significant death rate and more people becoming positive of the disease (Ogbaini, 2018). According to NCDC report,

laboratory tests confirmed that between January and March 2018, at least 317 people have been infected and at least 64 (20%) have died. Contrary to the 317 confirmed cases in the first quarter of 2018, there were just 143 laboratory confirmed cases in 2017 and just 101 cases in 2016 (NCDC, 2018).

The recurrent outbreak of Lassa fever in Nigeria and other African countries has attracted the attention of both international and local health agencies like World Health Organization (WHO), United Nations Children's Fund (UNICEF), Centre for Disease Control and epidemiologists (Adefisan, 2014). These agencies have put much effort in sensitizing citizens of African countries with the aim of curtailing and possibly eliminating the danger that Lassa fever and other diseases pose to people.

Locally, the National Centre for Disease Control (NCDC) and Nigerian Federal Ministry of health in collaboration with State Ministries of Health in South-East have carried out awareness campaigns against the disease through various media houses (FMoH, 2016; NCDC, 2016). The campaign themes include: "Operation kill all Rats", "Stop drinking soaked garri", "Avoid Rat Consumption"(Director, Enugu State Ministry of health, 2017).

In the opinion of Catalan-Matamoros (2011) media strategies are used at all levels of public health in a bid to achieve three objectives – the learning of correct health information and knowledge, the changing of health attitudes and values and the establishment of new health behaviours" (p.399). Newbold & Campos (2011) observed that mass media campaigns are widely used in public health for various reasons and have indicated positive outcomes in terms of reach and public awareness.

Media messages could improve knowledge, stimulate interest, shift attitude and change behaviours (Gholami, Pakdaman, MontazeriJafari& Virtanen, 2014). In line with this assertion, Tchuenche & Bauch (2012) affirmed that communication and mass media are central to showing the course of an epidemic and have the potential to simultaneously change the knowledge or attitude of a large proportion of the community (p.2). The result of a Cameroonian study by Pahl, Brook, Morojele & Brook (2010) on *100% Jeune* social marketing campaign showed effectiveness of the campaign in increasing consistent condom use with a causal partner among both males (45% to 70%) and females (29 % - 70 %).

As reported by Abubakar (2013), the result of a study conducted by Imoh (2007) among 2000 youths in ten Nigerian States to assess the level of their knowledge, attitudes, behaviour as well as media habits relating to sex, STDs and HIV/AIDS prevention and education in Nigeria revealed that 83% of the respondents have heard about HIV /AIDS through the mass media and 76% were aware that unprotected sex can lead to STD infections. This confirms the assertion by Obare, Birungi, Deacon & Burnet (2013) that behaviour change communication is one strategy that has been used to combat the spread of HIV and AIDS in sub-Saharan Africa. The strategy, according to these authors entails working with the targeted individuals and communities to develop and use communication approaches that respond to their specific needs with a view to promoting and sustaining positive behaviour (p.204).

However, some scholars stressed that public health communication programmes and interventions have traditionally been based onthe oversimplified assumption that health promoting knowledge and corresponding behaviour are automatically created as people are subject to a rich flow of relevant health promoting information (Stott et al., 1994; Sligo & Jameson, 2000; Ek & Widen Wulff, 2008; Smith-DiJulio et al., 2010). In reality, however, the case is largely that those individuals whom health promoters' information are trying to target are hard to reach due to various forms of miscommunication such as differences in sharing the same presumptions and preunderstandings as those who administrate, design and operationalize the health promotion programmes (Smith-DiJulio et al., 2010; Enwald et al., 2012).

Since the aim of media campaigns on Lassa fever was to sensitize the populace on preventive and proactive measures against the spread of this disease, it therefore became necessary to assess the audience views, knowledge and attitudes towards curtailing the spread of the Lassa fever disease based on their exposure to mass media intervention programmes.

Studies have no doubt been carried out on Lassa fever in Nigeria but available literature showed that these studies had no media angle and were carried out mainly in the Northern and Western regions (Oladeinde*et al.* 2014; Reuben *et al.* 2016; Lawal, 2014; Adesoji*et al.* 2016; Olowookere, 2014). Literature search also revealed that little or no study on Lassa fever has been conducted in South-East, especially with regard to mass media campaigns against this disease. Against this backdrop, this study was aimed at: (i) ascertaining the level of exposure to Lassa fever media campaigns among South-East residents (ii) determining the level of knowledge of Lassa fever media campaigns among South-East residents (iii) finding out the extent to which Lassa fever media campaigns have influenced the attitudes of South-East residents towards controlling the disease (iv) determining the level of influence of Lassa fever media campaigns on health practices of South-East residents.

Hypotheses

H_1. There is a significant positive relationship between exposure to and knowledge level of Lassa fever media campaigns among South-East residents

H_2. There is a significant relationship between attitude and health practices of South-East residents towards Lassa fever prevention and control.

Literature review and theoretical framework

Dissemination of information through multiple mass media has been found to be an effective means of communicating and improving people's knowledge, attitudes and health protective behaviours (Li et al., 2009). This implies that different media are most effective because the different communication channels complement one another in presenting the same public health messages to different targeted audiences.

Tchuenche & Bauch (2012) opined that communication and mass media are central to showing the course of an epidemic and have the potential to simultaneously change the knowledge or attitude of a large proportion of the community (p.2). In agreement to this statement, Weng (2014) notes that mass media dissemination of health messages is very essential in shaping public awareness and understanding of health issues (p.4). Also, Lisa & Elliot (2003) study on the effectiveness of mass media campaigns to promote HIV testing showed that the media were effective in achieving this objective.

Studies have shown that mass media have the power to prevent the spread of diseases and promote good health practices among different people in the society. For instance, Robinson & Levy (1986) found that when people need information on health issues that would better their lives, they rely on media and information repositories such as documents and databases. In recognition of the importance of communication and mass media in particular towards the improvement of public health and to combat killer diseases such as polio, measles, malaria, and other dreaded diseases, International Organizations like the World Health organizations, United Nations and other relevant agencies have used the mass media extensively to provide public enlightenment and advocacy role in curbing these deadly diseases. The Roll Back Malaria campaign and the Immunization programme are instances where the mass media are largely used to popularize the campaigns (Bello, 2015; Tsegyu, 2015).

In a study conducted by Agudosi (2007) to examine the effectiveness of media campaign in enhancing awareness and prevention of HIV/AIDS in reproductive health, the finding showed that media campaigns reached a large portion of the target population and exposure to mass media messages increased awareness of HIV/AIDS resulting in positive behaviour change. Similarly, Tsegyu (2015) conducted a study to appraise the effectiveness of mass media campaign in curbing the spread of Ebola virus among residents of Mina, Nigeria. His findings showed that the effectiveness of mass media awareness campaign on the outbreak of the Ebola virus disease was excellent; the effect of mass media campaign on the audience was positive and effective as majority of the public acted on the information they got from the media.

Studies have established a strong relationship between exposure to media messages and attitude/behavioural changes. For instance, a South African study conducted by Karl *et al* (2012) on the impact of National HIV/AIDS communication campaigns in reducing HIV risk behaviour, found that there was high level of exposure to 18 different HIV communication programmes across different age-groups. The study which was a cross-sectional survey that covered 13,234 people aged between 11-55 years found that young persons aged between 15 to 24 years have often seen or heard most of these programmes and that greater exposure to mass communication programmes was associated with greater HIV knowledge, condom use, having undergone HIV test in the past 12 months and less stigmatization attitude. Also, Oyero, Oyesomi, Abioye, Ajiboye and Kayode-Adedeji (2018) conducted a study on Strategic communication for climate change awareness and behavioural change in Ado-Odo/Ota Local Government of Ogun State.

In the study, the researchers argue that the use of multi-sectoral communication on human's handling processes of environment is not popular in the literature as crucial factor in creating awareness on climate change. Specifically, the study looks at the practices surrounding climate change and its awareness in Ado Odo/Ota local government of Ogun State.

From the results obtained from 970 randomly selected residents of Ado Odo/Ota local government through indepth interview, it was observed that the current behaviours surrounding climate change in the study location includes burning of waste and bush (41.1%), %), indiscriminate disposal of waste (18.1%), and the use of kerosene (45.4%), fire wood (6.4%) and coal for domestic purposes (3.3%). Based on these findings, it was recommended that there should be multi-sectoral communication strategy (MCS) and the use of television for effective climate change awareness campaign (Oyero, Oyesomi, Abioye, Ajiboye & Kayode-Adedeji, 2018).
Studies have been conducted on Lassa fever world over with similar and varying results on the knowledge level, attitudes and practices towards the

Lassa fever epidemic. Some studies have shown that knowledge and attitude towards Lassa fever remain poor among health workers and the general population in Nigeria despite on-going efforts to combat the disease which entailed the use of community health extension workers (Asogun*et al.* 2010; Ilesanmi*et al.*2015; Reuben *et al.* 2016).

The result of study conducted by Reuben & Gyar (2016) to assess the knowledge, attitudes and practices of Lassa fever in and around Lafia, Central Nigeria showed that 87% respondents heard of Lassa fever and those in urban area were more aware (89%) of Lassa fever than those from the sub-urban (80%). Also in line with this result was the finding of Ilesanmi *et al* (2015) which showed that respondents in South-West Nigeria were aware that Lassa fever was associated with symptoms such as headache, weakness, and fever and not with spontaneous abortion. In contrast to these findings, a survey by Lawal (2014) found that respondents' knowledge of Lassa fever was fair given that 68.3% out of the 300 respondents studied have not heard of Lassa fever before, with rural dwellers having the poorest knowledge of the disease.

Regarding the attitudes of respondents towards Lassa fever prevention and control, Asogun *et al* (2015) who assessed Lassa fever awareness and practices in a Nigerian rural community found that only 31% of the people had a correct knowledge of Lassa fever and 32% had poor attitudeand engage in practices that favour transmission of the disease. Also, a survey by Adesoji et al (2017) equally showed that most of the respondents do not think Lassa fever disease is deadly (91%) with the highest number of the respondents 128(42.7%) who believe that the disease is caused by the devil. The implication of these findings is that audience attitude towards controlling Lassa virus could still be poor or negative despite their high level of knowledge of the campaigns against such epidemic.

With regard to practices toward Lassa fever control, a survey carried out by Usifoh *et al* (2017) on Impact of Lassa Fever on the Practice and Consumption of Stored Food by staff and students of University of Benin Community found that many 306 (50.8%) stored food in containers, some 84 (13.9%) store in cellophane bags, while a few 41 (6.8%) in lockers. When rats nibble on their favorite food/snacks, 385 (68.9%) reported they dispose the entire food, while 155(25.7%) cut off the eaten portion and consume the rest, implying that respondents practices towards controlling Lassa fever was high. Contrary to this finding, Asogun,Okokhere, Okogbenin, Akpede, Gunther, & Happi (2010) assessed Lassa fever awareness and practices in a Nigerian rural community and found that only 31% of the people had a correct knowledge of Lassa fever and 32% had poor attitudeand engage in practices that favour transmission of the disease. Further finding was that most (72%) of the respondents do not use any means to control rats in their households and 43% of respondents encouraged bush- burning. Ocheie*t al* (2014) emphasize that the use of houses for both residential and commercial purposes also had increased risk of transmission of Lassa fever disease.

From the empirical literature reviewed, exposure, knowledge and attitude towards Lassa fever prevention and controlamong health workers and the general population of Nigeriawere relatively poor, despite efforts to combat the disease (Asogun*et al,* 2010; Lawal 2014; Ilesanmi *et al*., 2015; Reuben *et al* 2016). However, these studies paid no attention to mass media (newspaper, radio and Television, social media) campaigns as a strategy for curbing the spread of this Lassa fever disease. Also, most of these studies were conducted in the Northern and Western regions of Nigeria ((Reuben *et al* 2016; Lawal 2014; Asogun*et al* 2015; Adesoji*et al* 2017; Usifoh *et al* 2017). This shows that there is still dearth of information in the level of studies conducted in relation to exposure, knowledge and attitude to media campaigns on Lassa fever among residents of South-East Nigeria. It therefore became pertinent to carry out a study on Lassa fever media campaigns in the South-East to ascertain the exposure level of exposure of the residents on Lassa fever media campaigns, the extent of influence of these media campaigns on their knowledge and attitudes to media messages geared towards curtailing the disease.

This study was anchored on **Health belief model and agenda setting theory**. The **Health belief model** developed in the 1950s by Hochbaum, Rosenstock and Kegelsposits that higher perceived threat leads to higher likelihood of engagement in health-promoting behaviours. In relation to this study, it is believed that when residents of South-East, through media campaigns against Lassa fever perceive that the disease is a health threat and perceive themselves as being at risk of contracting the disease, there is the tendency that they will adopt media recommended hebaviour to avoid this disease. However, adopting recommended health behaviour is influenced by factors such as level of education, age and constant media information.**Agenda setting theory** which was formally formulated in 1972 by Maxwell McCombs and Donald Shaw explains the relationship between emphasis placed on issues by the mass media and the importance media audience attach to such issues. The relevance of this theory to this study is that with constant media campaigns and emphasis against Lassa fever, there is the tendency

that residents of South-East will become more knowledgeable about the disease and perceive it as health threat, which could in turn lead to positive attitude towards Lassa fever prevention and control.

Data and methods

This study adopted survey research design. Survey design was adopted based on the nature of the study which entails eliciting direct response from people living in South-East in order to ascertain how Lassa fever awareness campaign have influenced their knowledge of the disease, their attitudes and practices towards prevention and control this disease in South-East, Nigeria. Another reason was based on the impossibility of studying the entire population in South-East, Nigeria; hence, survey design was used to select and study a representative sample and then made generalization on the entire population.

The population of study comprised all the residents of South-East region, made up of Abia, Anambra, Ebonyi, Enugu and Imo States. South-East region was chosen because most of the works done on Lassa fever were carried out mainly within States in the Northern and Western regions of Nigeria, hence the choice of this region. The estimated population figure of this study was 21,590,245. This population figure was projected from the 2011 population (provided by the National Bureau of Statistics) using United Nations Development Programme (UNDP) population extrapolation index of 2.28% per annum, as cited in Owuamalam (2012).

From this population figure, a sample size of 385 was obtained using Australian Online Sample Size Calculator. This sample size was further increased to 428 using Wimmer & Dominick (2014) online formula in order to make provision for samples that might be lost in the field. Therefore, to calculate over sampling, a response rate of 95% was used and the possibility is calculated thus:

$$n_2 = \frac{\text{Minimum sample size}}{\text{Anticipated response rate}}$$

Where: n_2 = sample size adjusted for response rate
Minimum sample size = 385
Anticipated response rate = 95%

$$\text{Therefore: } n_2 = \frac{\text{Minimum sample size}}{\text{Anticipated response rate}} = \frac{385}{95}$$

$n_2 = 385/0.9 = 427.778$. Approximately 428.

Multi-stage sampling technique was used in selecting the sample for the study. The first stage was the purposive selection of the 15 senatorial zones in the 5 States. Given that each State in the South-East is made up of three (3) senatorial zones, therefore the fifteen (15) senatorial zones were purposively selected to ensure that each zone was represented in the study and that the result obtained were adequately generalized. Stage two was the selection of one Local government Area (LGA) from each of the 15 senatorial zones using simple random sampling technique and this gave a total of fifteen (15) LGAs. Also, proportionate stratification was used at this stage to determine the number of questionnaire to be allotted to each selected local government council, based on their population. At stage three, one community was selected from each of the 15 local governments using simple random sampling and this gave a total of 15 communities that were studied. The fourth stage was the selection of individual respondents from the selected communities using convenience sampling technique. At this stage, copies of the questionnaire were distributed to individuals in selected households within each selected community.

The instrument used for data collection was the structured questionnaire. Some of the questions in the questionnaire were structured in a 5-point likert scale format. For data analysis, data collected to achieve objective one was analyzed using frequency tables and simple percentages while data collected to achieve objectives two, three and four were analyzed using 5-point likert scale; with mean and standard deviation to determine the weight of responses. The total (mean) responses from each question was calculated using 5-point likert scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) arranged from 5 to 1 in descending order, in order to measure intensity of the respondents' options. The likert scale assumes that if the mean value obtained from the respondents is greater than the mean criterion level (3.00), the statement is accepted, but if the obtained mean value is less than the mean criterion level, the statement is rejected. The formula for likert-scale mean computation is:

$$\text{Mean} = \frac{\sum X}{N}$$

Where $\sum X$ = Total Number of Responses
N = Number of responses

:. The mean decision point for determining the acceptance or rejection of the responses in this study is: $= \frac{SA+A+U+D+SD}{N} = 5+\frac{4+3+2+1}{5} = 3.00$

The hypotheses raised in this study were tested using Pearson's correlation statistical tool. Pearson'scorrelation is a measure of linear association between two variables (denoted by *r*) - it is used to explain how two variables relate. Pearson's correlation coefficient can take a range values from +1 to -1. Hence, the stronger the association of the two variables, the closer the Pearson'scorrelation

coefficient will be either +1 or -1 depending on whether the relationship is positive or negative. This statistical tool was therefore, used to understand the relationship between exposure and knowledge level of Lassa fever media campaigns among South-East residents; and the relationship between attitudes of South-East residents and their health practices towards controlling the disease based on the media messages they were exposed to.

Results

A total of 421 out of 428 copies of questionnaire distributed to respondents were duly returned; hence analyzed was done based on these returned copies.

Table 2: Responses on whether the respondents have radio set/television set/or read newspapers

Variables/Responses	Frequency	Percentage (%)
Radio set		
Yes	389	92.4
No	22	5.2
Can't say	10	2.4
Total	421	100
Television set		
Yes	387	91.9
No	21	5.0
Can't say	13	3.1
Total	421	100
Newspaper		S
Yes	201	47.7
No	193	45.8
Can't say	27	6.4
Total	421	100

Result in the above table revealed that majority (79.6%) of sampled South-East respondents have radio and television sets in their homes and also read newspapers. This is in contrast to 55.7% who do not have these mass media channels. However, an insignificant number (11.9%) of the respondents were uncertain whether or not they have radio and television set and read newspapers in their homes.

Table 3: Responses of South-East residents on whether they have heard about Lassa fever and the frequency of obtaining information from mass media

Variable/Responses	Frequency	Percentage (%)
Have you heard about Lassa fever from the mass media		
Yes	379	90.0
No	22	5.2
Cant' say	20	4.8
Total	421	100
Frequency of obtaining information from mass media		
Always	96	22.8
Often	143	34.0
Occasionally	115	27.3
Rarely	38	9.0
Have never heard	29	6.9
Total	421	100

From data presented above, it was obvious that respondents who have heard about Lassa fever from mass media were 9 times (90.0%) higher than respondents who have not heard and those who could not say whether or not they have heard about this disease from the mass media. Although the respondents do not always get information about Lassa fever from mass media as indicated by 22.8%

of them; however, majority (34.0%) of the respondents get this information often. This was directly followed by 27.3% of those who get information on Lassa fever occasionally from the mass media. The number of respondents who indicated that they rarely get information and those that have never heard about Lassa fever from the media is quite negligible (15.9%). This finding implies that the constant emphasis on Lassa fever through the agenda setting function of mass media as used in this study is adjudged the reason many respondents have heard about the disease.

Table 4: Responses on whether respondentshave heard about 'Beware of lassa fever'/'Avoid rat consumption'/'Kick lassa fever out' campaign themes in the media

Variable/ Responses	Frequency	Percentage (%)
Have you heard about 'Beware of Lassa fever'/'Avoid Rat Consumption'/'Kick Lassa Fever Out' campaign themes in the media		
Yes	377	89.5
No	31	7.4
Can't say	13	3.1
Total	421	100

About 377 respondents representing (89.5%) have heard of the above Lassa fever campaign themes as advocated by the media,31 respondents (7.4%) have not heard while only 13 respondents (3.1%) were uncertain whether they have heard about these Lassa fever campaign themes or not from the mass media. This finding explains that the media are indeed generating public discourse on Lassa fever thereby exposing people to information and creating awareness of this disease through their agenda setting function.

Table 5: Mean rating and standard deviation on the level of knowledge of lassa fever media campaigns among South-East residents.

S/N	ITEMS	$\bar{x}$	SD	Dec
1.	From the media messages, Lassa fever virus is transmitted by rats	3.9	1.3	SA
2.	From the media messages, symptoms of Lassa fever include: fever, rashes, bleeding, organ failure, vomiting and diarrhea	4.2	0.9	A
3.	From the media messages, Lassa fever can be prevented through: proper food storage, proper personal and environmental hygiene, eliminating rats from homes	4.4	1.0	SA
	Grand mean	**4.2**	**1.1**	**SA**

Key: F-frequency, (%)-percentage, SA-strongly agree, A-agree, U-Undecided, D-disagree, SD-strongly disagree, $\bar{x}$ - Mean, SD – Standard deviation, Dec – Decision

The knowledge level of sampled respondents on how Lassa fever virus is transmitted showed a mean value of 3.9 and standard deviation of 1.3. Data on the knowledge level of sampled South-East respondents on the symptoms of Lassa fever showed a mean of 4.2 and standard deviation of 0.9. Also,result in the table above on the preventive measures of Lassa fever based on media messages revealed a mean value of 4.4 and a standard deviation of 1.0. The mean of 4.3 obtained in the above data which is above 3.0 mean decision point implies that South-East residents have high knowledge level of how Lassa fever could be prevented. The grand mean of 4.2 with a standard deviation of 1.1 means that South-East residents' level of knowledge on Lassa fever based on media campaigns was high. The above finding could be attributed to media agenda setting function of constant messages on Lassa fever which has increased people's knowledge of the causes, symptoms and preventions of disease.

Table 6: Mean rating and standard deviation on the extent to which lassa fever media campaigns have influenced the attitudes of South-East residents towards controlling the disease

S/N	ITEMS	$\bar{x}$	SD	Dec
1.	Through the Mass media, I perceive campaigns against Lassa fever as a good initiative	4.3	1.1	SA
2.	From media messages, I understand that Lassa fever is a health threat to all human	4.3	1.0	SA
3.	From media messages, I understand that eating rats increase the risk of contacting Lassa fever	4.2	1.0	SA
Grand mean		**4.3**	**1.0**	**SA**

Regarding the attitudes of the respondents, the obtained mean of 4.2 > 3.0 with standard deviation of 1.1 shows that South-East residents have positive dispositions about Lassa fever media campaigns. From the above table also, mean value of 4.3 > 3.0 and a standard deviation of 1.0 confirmed that Lassa fever is a health threat to all human. The mean of 4.2 > 3.0 and a standard deviation of 1.0 equally confirmed that eating rats increase the risk of contacting Lassa fever. Therefore, the overall mean of 4.3 with a standard deviation of 1.0 implies thatto a great extent,Lassa fever media campaigns have positively influenced the attitudes of South-East residents towards controlling the disease.

This finding in relation to the Health Belief Model used this study has confirmed that media campaigns against Lassa fever has actually influenced residents of South-East to perceive the disease as a health threat and perceive themselves as vulnerable to contracting the disease, which has translated into their positive attitudes towards controlling the disease.

Table 7: Mean rating and standard deviation on the level of influence of lassa fever media campaigns on health practices of South-East residents

S/N	ITEMS	$\bar{x}$	SD	Dec
1	As a result of Lassa fever media campaigns, I cover all rat holes in my house	4.4	1.0	SA
2	As a result of Lassa fever media campaigns, I now store food in a tightly-closed container	4.3	1.0	SA
3	Because of my exposure to Lassa fever media campaigns, I now maintain clean environment	4.3	1.0	SA
Grand mean		**4.3**	**1.0**	**SA**

From the result in table 7 above, the statement that South-East resident now cover rat holes in their houses as a result of their exposure to media campaigns was confirmed by mean value of 4.3 and a standard deviation of 1.0. The mean of item two in the above table is at 4.2 which is above the threshold of 3.0 with a standard deviation of 1.0 confirmed the acceptance of the statement that respondentsnow store food in a tightly-closed container as a result of Lassa fever media campaigns they were exposed to.The statement in the above table was equally accepted based on the obtained mean of 4.3> 3.0 with a standard deviation of 1.0. More so, the grand mean of 4.3 with a standard deviation of 1.0 confirmed that as a result of constant Lassa fever media campaigns, majority of South-Easterners now store their food in a safe place to avoid it being contaminated by rats which are vectors of the disease. This finding is explained by Health Belief Model which predicts that when people perceive a health threat and see themselves as vulnerable to the health threat, there is likelihood that they will adopt

media recommended behaviour. Also, the constant media emphasis on Lassa fever as health threat through their agenda setting function which has led to increased awareness and knowledge level of the disease, must have translated into positive health practices by South-East residents.

Table 8: Relationship between exposure and level of knowledge; attitude and health practices of South-East residents towards Lassa fever prevention and control

	Correlations	The level of exposure among South-East residents about Lassa fever media campaigns	South-East residents knowledge level on Lassa fever media campaigns
The level of exposure among South-East residents about Lassa fever media campaigns	Pearson Correlation	1	.935**
Sig. (2-tailed)			.000
N		421	421
South-East residents knowledge level on Lassa fever media campaigns	Pearson Correlation	.935**	1
Sig. (2-tailed)		.000	
N		421	421
		Attitude	**Practices**
Spearman's rho **Attitude**	Correlation Coefficient	1.000	.971**
Sig. (2-tailed)		.	.000
N		421	421
Practices	Correlation Coefficient	.971**	1.000
Sig. (2-tailed)		.000	.
N		421	421

**Correlation is significant at the 0.01 level (2-tailed).

Pearson's Correlation was used in testing the hypotheses. Result of the first hypothesis showed that correlation occurred at 0.93 with a significant level of 0.01. Since the correlation occurred at 0.93 and the level of significance < 0.05, it therefore, means that there is a positive significant relationship between the exposure level of South-East residents to Lassa fever media campaigns and their knowledge level of the disease.

The test of the second hypothesis revealed that correlation occurred at 0.97 coefficient and 0.01 significant level. This means that there is significant relationship between South-East residents' attitude and their health practices towards preventing the disease. Data presented in tables 6 & 7explained this hypothesis. Data from these tables which address research objectives 3 & 4 obviously shows that the positive influence mass media exerted on the

attitudes of South-East residentstranslated into positive health practices.

Discussion

It was established from the results that respondents' exposure level to Lassa fever media campaigns was high, as confirmed by 90% of the respondents. This finding implies that the constant emphasis on Lassa fever through the agenda setting function of mass media as used in this study is adjudged the reason many respondents have heard about the disease. This finding is in line with findings by Olowookere *et al* (2014) which revealed that 59% residents of Ile-Ife, South-West Nigeria have heard about Lassa fever with radio as their major source of information. This means that media campaigns, as Wakefield, Loken & Hornik (2010) pointed out are used to expose great proportion of heterogeneous population to messages through routine use of such existing media as radio, television, and newspapers. This explains that the media are indeed generating public discourse on Lassa fever disease thereby exposing people to information and creating awareness of this disease through their agenda setting function. The Agenda Setting function of the media comes to play here. As observed by Wakefield, Loken & Hornik (2010), if the media continues to project a particular health issue, it will gradually become a subject of discourse. This is similar to the findings of Ekwe (2017). Ekwe concludes that the media could make a particular health issue a matter of public discourse by highlighting such issue.

It was also found that the level of knowledge of Lassa fever media campaigns among South-East residents was high. The grand mean of 4.2 with a standard deviation of 1.1 confirmed this finding. This finding could be attributed to media agenda setting function of constant messages on Lassa fever which has increased people's knowledge of the causes, symptoms and preventions of disease. The justification of this finding based on the agenda setting theory used is that with constant media campaigns and emphasis against Lassa fever, there is the tendency that residents of South-East have become more knowledgeable about the disease and perceive it as health threat, which have in turn led to their positive attitude towards Lassa fever prevention and control.

This finding is supported by a study by Ilesanmi*et al* (2015) which showed that respondents in South-West Nigeria were aware that Lassa fever was associated with symptoms such as headache, weakness and fever and not with spontaneous abortion. However, this findingwas contrary to a study conducted in Kwara State, Nigeria by Adesoji*et al* (2016) which found that respondents had fair knowledge of the disease; that although the respondents have heard about Lassa fever through various media like radio, television, newspapers, magazines and social media, their knowledge is still inadequate.

Findings equally showed that significantly, mass media campaigns against Lassa fever have positively influenced the attitudes of South-East residents towards controlling the disease. This was confirmed by a grand mean of 4.3 with a standard deviation of 1.0. The respondents' perception of the fact that Lassa fever is a health threat could have been influenced by motivating factor like constant media messages as explained by the Health Belief Model (HBM) used in this study. The implication of HBM to this finding is that there is the tendency that people have adopted positive attitudes towards preventing the Lassa virus, having known it is a health threat.

This finding is in contrast to earlier study by Reuben & Gyar (2016) which found that respondents' attitude towards Lassa fever control was poor, as 83% of the respondents had rats in and around their residence, of which 28% come into contact with urine/feaces of the rodents and 24% consume foods contaminated by the rodents.But contrary to that of Lawal (2014) which found that respondents' knowledge of Lassa fever was fair given that 68.3% out of the 300 respondents studied have not heard of Lassa fever before, with rural dwellers having the poorest knowledge of the disease.

Further findings revealed that the level at which media campaigns against Lassa fever influenced the health practices of South-East residents was positively high. This was confirmed by grand mean of 4.3 > 3.0 with a standard deviation of 1.0 confirmed.This finding is justified by Health Belief Model which predicts that when people perceive a health threat and see themselves as vulnerable to the health threat, there is likelihood that they will take a recommended action. Also, the constant media emphasis on Lassa fever as health threat through their agenda setting function which has led to increased awareness and knowledge level, must have translated into positive health practices by South-East residents. This finding implies that the positive influence of Lassa fever media campaigns on attitudes of the respondents has actually translated into positive health practices. This finding was supported by that of Usifoh *et al* (2017) which found that many 306 (50.8%) stored food in containers, some 84 (13.9%) store in cellophane bags, while a few 41 (6.8%) in lockers. However, contrary to survey Asogun *et al* (2010) which found that only 31% of the people had a correct knowledge of Lassa fever and 32% had poor attitudeand engage in practices that favour transmission of the disease.

Result of hypothesesin table 8 shows that there is a positive significant relationship (0.93 with 0.01 level of significant) between the exposure level of South-East residents to Lassa fever media campaigns and their knowledge level of the disease. The result equally shows a significant relationship (0.97 with 0.01 significant level) between media messages on Lassa fever and attitudes of South-East residents towards controlling the disease.

Conclusion

This study concluded that health education through mass media is an effective means of enhancing people's knowledge and better behavioural changes. Mass media campaigns aimed at sensitizing the public on Lassa disease was adjudged to be effective, as evident from the findings. The Health Belief Model and Agenda Setting theory used in this study equally confirmed this conclusion. It was concluded that constant media campaigns and emphasis against Lassa fever have made residents of South-East to become more knowledgeable about Lassa fever and perceive it as health threat, which have in turn led to their positive attitudes and health practices towards prevention and controlthe disease. Also, the fact that South-East residents have adopted positive attitudes and health practices was justified by Health Belief Model which predicts that when people perceive a health threat and see themselves as vulnerable to the health threat, there is likelihood that they will adopt a positive behaviour.

Though the respondents encouraged that more awareness should be created not only through the media but through community, social and religious leaders, so that the campaign will reach the grass root (rural) level. Findings of this study will in no small measure help to realize number 10of aspiration 1 of African Union Agenda (vision 2063) where African people aspire to have a high standard of living, and quality of life, sound health and well-being.In addition to the use of mass media, there is need to employ more of interpersonal communication strategies such as health workers, community, social and religious leaders in Lassa fever campaign process so as to effectively drive down the message on the precautions against Lassa fever to the subconscious of the public, especially those living in endemic areas.Precautionary measures should be strictly inculcated in people, especially those in rural areas by government and health agencies through regular sanitation exercises. Furthermore, the language of communication by media and campaign managers should be considered with particular reference to those in the rural areas.

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