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Preventing Lassa Fever Disease through Effective Health Communication in Nigeria

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Abstract:

Health communication is known to provide information about diseases and their prevention. Lassa fever which is an epidemic prone disease caused by the Lassa virus has claimed lives in different parts of Nigeria since 2015. Despite Lassa fever awareness among people, majority seem not to be adept with the preventive measures. Hence, people still get infected. The methodology used was survey method, having questionnaire as the research instrument administering 854 of them to respondents that were randomly chosen in Ekiti and Ondo State. Findings revealed that respondents adopted washing of hands daily than eating well cooked food, and preference for being clean for the prevention of Lassa fever. The study concludes that an increase in health communication messages on Lassa fever would result in improved behaviour of respondents towards the infection. The study recommends that other preventive measures on Lassa fever should not be sidelined

Keywords: Health communication. Lassa fever, preventive measures, behaviour, prevention

1. Introduction

Health communication play an important role in public health promotion campaign designed to prevent and control infectious disease around the world. Health communication is the study and use of communication strategies to inform and influence individual and community decisions that enhance health. Ratzan (1994) opines that health communication is the art of informing, influencing and motivating individuals, institutions and public audiences about health issues through planned learning experiences based on sound theories. Health communication is the translation and distribution of health messages by health experts to the people who can relay these messages in different places simultaneously using different communication channels. Individuals consult different media channels to acquire health information and skills to improve their health decisions. It is also known as health education. The United States Department of Health and Human Services (2000) further posits that health communication is the study and practice of communicating recommended health information such as in public health campaign, health education and between doctor and patient. According to Akinfeleye (1987), health communication could basically be described as the form of communication that is disseminated by the mass media for adequate health care delivery. Health communication is a broad and multidisciplinary concept that incorporates many different work fields (Schiavo, 2007). That is, it comprises of different people from different professions like medicine, sociology, psychology, public health and communication all working together for national and regional organizations to provide individuals with up- to- date and evidence- based health information. It is the process of promoting health by disseminating messages through mass media, interpersonal channels and events.

Lassa fever is an acute viral hemorrhagic fever (VHF) that is caused by the Lassa virus. The illness was discovered in 1969 when two missionary nurses died in Nigeria. The virus was named after the town of Lassa in Borno State, Nigeria where the first cases originated. According to the Public Health Muskegon County Lassa Fever Fact Sheet (2016) the virus, a member of the virus family Arenaviridae, is a single stranded RNA animal borne virus which spreads to man from the multi-mammate rat (*mastomys natalensis*). This is a common rodent in equatorial African, ubiquitous in human households and even eaten as a delicacy in some areas. Signs and symptoms of Lassa fever typically occur one to three weeks after the patient is exposed to the virus. For the majority of Lassa fever virus infections (approximately 80%), symptoms are mild and remain undiagnosed. Mild symptoms include slight fever, general malaise and weakness, and headache. In 20% of infected individuals, however, disease may progress to more serious symptoms including haemorrhaging (in gums, eyes, or nose etc.), respiratory distress, repeated vomiting, facial swelling, pain in the chest, back, and abdomen, as well as shock. Neurological problems have also been described, including hearing loss, tremors, and encephalitis. Death may occur within two weeks after symptom onset due to multi-organ failure. Worldwide, an estimated 2 million people are infected each year resulting in 5,000 to 10,000 deaths (McCormick, 1999). It has been estimated that 300,000 to 500,000 cases and 5000 deaths from Lassa fever occur yearly across West Africa (Ogbu, Ajaluchukwu & Uneke 2007), with an endemic and high sero prevalence rates reported in Nigeria, Sierra Leone, Guinea, and Liberia (Kerneis, Koivogui, Magassouba, Koulemou, Lewis, Aplogan, Grais, Guerin & Fichet, 2009). In Nigeria, outbreaks of the infection have been reported in Edo, Ebonyi, Ondo, Taraba, Plateau, Anambra, Nasarawa, Yobe, Ekiti and recently Rivers (Ogbu, et al

2007; Nigerian Centre for Disease Control, NCDC, 2012). Earlier studies have shown that the seroprevalence in Nigeria is about 21% (Tomori, Fabiyi, Soningbe, Smith & McCormick 1988). Thus, the disease is present in virtually all the geographical regions of the country. Within the first quarter of 2012, 525 suspected cases of Lassa fever, 96 laboratory-confirmed cases and 54 deaths (CFR 10.3%) were recorded in 16 States as at 9th March, 2012 (NCDC, 2012). A large number of those infected are asymptomatic while a significant proportion of infected individuals only develop mild illness (McCormick, 1987). Recently epidemic instances of the disease have been reported in healthcare workers and within health facilities, often resulting in severe morbidities and mortalities (Institute of Lassa Fever Research and Control, ILFRC, 2011)

Lassa virus has been classified as a 'Category A' pathogen, meaning that, it is considered to be one of the world's most dangerous disease which kills fast if not attended too. It is in the light of this that the study examined preventing Lassa fever disease through effective health communication.

1.1. Statement of the Problem

Worldwide, an estimated 2 million people are infected each year resulting in 5,000 to 10,000 deaths (McCormick, 1999). It has been estimated that 300,000 to 500,000 cases and 5000 deaths from Lassa fever occur yearly across West Africa (Ogbu, Ajaluchukwu&Uneke, 2007), with an endemic and high seroprevalence rates reported in Nigeria, Sierra Leone, Guinea, and Liberia (Kerneis, Koivogui, Magassouba, Koulemou, Lewis, Aplogan, Grais, Guerin &Fichet, 2009). In Nigeria, outbreaks of the infection have been reported in Edo, Ebonyi, Ondo, Taraba, Plateau, Anambra, Nasarawa, Yobe, Ekiti, Lagos, Ogun and recently Rivers (Ogbu, et al, 2007; Nigerian Centre for Disease Control, NCDC, 2012). Earlier studies have shown that the seroprevalence in Nigeria is about 21% (Tomori, Fabiyi, Soningbe, Smith & McCormick, 1988). Thus, the disease is present in virtually all the geographical regions of the country. Within the first quarter of 2012, 525 suspected cases of Lassa fever, 96 laboratory-confirmed cases and 54 deaths (CFR 10.3%) were recorded in 16 States as at 9th March, 2012 to 2015 (NCDC, 2012). However, health organizations and NGOs such as World Health Organization (WHO) United Nations Children's Fund (UNICEF), the Federal Ministry of Health and Information have carried out health interventions and programmes on Lassa fever.

Moreover, the fire brigade approach used by the health workers to control the rapid spread of Lassa epidemic is not helpful, as a result, the local populace have suffered heavy casualties. Lassa fever outbreaks can have substantial health, economic and social implications. The healthy imperative is to control the spread as quickly as possible in order to minimize the effects of morbidity and mortality. The risk for an epidemic of Lassa fever to spread over a whole community is because of complex factors such as attitudinal disposition of the respondents. Any community that is found to have an outbreak of infectious disease is because of inability to prevent infectivity. The behaviour response predispose them to infection. Research has also indicated that after targeted health communications interventions, people with low education and income remain less knowledgeable and are less likely to change behaviour than the highly educated ones (Healthy People, 2010). The differences in this disparity have shown that people with low health literacy are more likely to report poor health, have an incomplete understanding of their health problems and treatment. This study intends to find out how Lassa Fever disease can be prevented through effective health communication. The question then arise: can Lassa fever disease be prevented through effective health communication.

1.2. Objectives of the Study

- 1) Find out how respondents in Ekiti and Ondo State prevented the Lassa fever infection.

1.3. Hypotheses of the Study

- Ho₁: Health communication messages on Lassa fever do not significantly influence the prevention of Lassa fever infection.

2. Theoretical Framework

Like any other academic endeavor, this work is pegged on a theory which is the behaviour theory. The behaviour theory is relevant to health communication because it explains changes in people's behaviour. The theory states that behaviour is as a result of an individual's response to what happens in the environment. The theory was propounded by Ivan Pavlov and B.F Skinner in 1957. The theory is a combination of two theories which are observational learning theory and limitation behavior theory. The theory explains people's behavior to the mass media, what they learn and how much it affects the individual (Anaeto et al, 2008). These theories also explains a great external factor on the society, holding that each behavior is an outcome of an influence on individual, thereby placing a significant emphasis on individual differences of people and in addition, that behavior can also be adopted. . The behavioural theory is relevant to the study in that change in the behaviour of people or an individual is as a result of an individual response to events that happen in the environment.

3. Review of Pertinent Literatures

3.1. Health: Meaning and Clarifications

Health is a state of wellbeing. Good health is not necessarily the absence of disease and sickness. According to world health organization (WHO) in 1948, health is defined as the state of complete physical, social and mental wellbeing and not just the absence of disease or infirmity. To psychiatrist Lowen (1990), it is the truth of the body while Dubos (1987) views health as a way of life that enables imperfect human beings to achieve a rewarding and not too painful

existence while they cope with an imperfect world. This definition notes that everyone has a different view on what health means as their needs differ. Agbonifo (1983) explains that health is said to be the state of mental and physical uprightness and one of the basic components of any functioning society. In other words, a country is healthy if the mental and physical needs of the citizens are met. Health is both intrinsically and instrumentally valuable in human society and yet; it is regarded as an end in itself (Sen, 1999). This view point sees health/healthcare as societal development component because its importance is emphasized. The World Health Organization (2011) identifies the importance of health in human society and these include; social and economic environment, the physical environment and the individual characteristics and behavior. Research has also shown that there are other key factors that determine the health status of people. The Public Health Agency of Canada (2011) describe these factors as; income and social status, social support networks, education and literacy, employment and working conditions, social environment, physical environment, personal health practices and so on. Despite the various definitions given, the World Health Organization (WHO) regional office for the eastern Mediterranean further gave a new definition of health as a dynamic state of complete physical, mental, spiritual and social well-being and not merely the absence of disease or infirmity (Nagase, 2012, p. 77). It should be noted that when people have good health, there is liberty to move freely around.

The importance of health cannot be over emphasized because in the Sustainable Development Goals (SDGs) that was formulated by the United Nations in 2015 opines "ensure healthy lives and promote well-being for all at all ages" (United Nations, 2016 p. 1) and in order to attain this goal, people need to be well informed on how to live healthy lifestyles, know preventive measures and treatment.

3.2. Health Communication

Health communication plays a very important role in health promotion campaign, precisely because it provides information about diseases and their prevention. According to Healthy People (2010), health communication encompasses the study and use of communication strategies to inform and influence individual and community decisions that enhance health. It further posits that it links the domains of communication and health and is increasingly being recognised as a necessary element of effort to improve personal and public health. Health communications helps to create awareness; thus, it helps to reduce the spread of diseases. According to Akinfeleye (1987), health communication is the form of communication disseminated by the mass media for adequate health care delivery. In addition, Akpobo (2015), following United State Development of Health and Human Services, opines that health communication is the study and practice of communicating promotional health information such as in public health campaigns, health education and between doctor and patient. The Public Health Ontario (2010) maintains that health communication is the process of promoting health by disseminating messages through mass media, interpersonal channels and event. It further defines it as "where good health promotion and good communication practice meet" that is, for health communication to be effective, the use of communication media is important to reach out to the target audience. The European Centre for Disease Prevention and Control (2014) in their technical report on health communication and its role in the prevention and control of communicable disease in Europe shows that health communication is the study and use of communication strategies to inform and influence individual and community decisions that enhance health. It further maintains that it is a core strategy for public health improvement because it can take many forms, either written or oral, which can be directed to people for better understanding. Today health communication is recruited to prevent and control communicable diseases, and for health communication to be effective, its initiatives must use an effective and efficient strategy for promotion. In 2009, the European Centre for Disease Prevention and Control (ECDC) started a project with the aim of enhancing the use and development of health communication for the prevention and control of communicable disease in the European Union countries and European Economic Areas (EEA). The objective of the project was to collect information on the status of the implementation of health communication activities by focusing on communicable diseases in the EU/EEA countries. Part of the objectives also stated that information must be made available by creating national public health information campaigns and public literacy programmes on communicable diseases from EU/EEA countries. It must also bring together stakeholders interested in health communication research by focusing on communicable disease via expert meetings, seminars and online forums and facilitating the dissemination of the translating health communication projects activities, thereby promoting good practices and innovations that focus on communicable diseases.

Health communication can effect change in the society through the creation of awareness by using different mass media programmes. Health communication has a relationship with development communication and is a crucial part of public health programmes. Furthermore, the United States Department of Health and Human Services believes that health communication programmes can effect changes among individuals, organizations, communities and the society as a whole. In individuals, the interpersonal level is the most fundamental level and individual behaviour affects their health status. The groups that people belong too also have a significant effect and impact on their health status since they are defined structured and these include: government agencies, health insurers, associations, clubs and so on. Additionally, opinion leaders and policy makers influence people through health communication programmes, which promote awareness, and engender changes in people's attitudes and beliefs. The society, as a whole, influences the behaviour of individuals by articulating its values and norms, by affecting the opinions and attitudes of the people, and by formulating policies and laws that would regulate people's behaviours. Health communicators use different methods to design health programmes such as media literacy, media advocacy, public relations, advertising, education entertainment, individual and group instruction and partnership development (U S Department of Health and Human Services 2000). Health communication is a two way process that involve the sender and the receiver of the message so as to be effective. That is why there are health professionals and patient relations, also the construction of public health messages and campaigns and the dissemination of information. This is where the interpersonal form of communication comes in. Researchers have

therefore concluded that when these channels are used, health communication is likely to succeed when the attributes of effective health communication are taken into consideration.

3.3. Lassa Fever: An Overview

Lassa fever is an acute viral illness that was discovered in 1969 when two missionary nurses died in Borno State Nigeria. The virus was named after the town in Nigeria where the first cases occurred. According to Ute (2012) "Lassa fever is a socially and economically devastating disease that is endemic in West Africa" (p. 109). The Health Initiative for Safety and Stability in Africa Newsletter (2016) says that "Lassa virus is a rodent that is commonly known as the multimammate rat (*mastomysnatalensis*) which gets infected with Lassa virus by shedding the virus in their urine and faeces" (p. 3). When this happens, any human being that eats any of the contaminated food automatically gets infected. Ute further opines that Lassa fever is caused by Lassa fever virus, a member of the family Arenaviridae. It is an enveloped single stranded bi-segmented rna virus Replication for Lassa virus is very rapid, while also demonstrating temporal control in replication. Lassa fever is common in some parts of West Africa including Sierra Leone, Liberia, Guinea and Nigeria; however, other neighboring countries also are at a great risk, as the animal vector for Lassa virus, the "multimammate rat" (*Mastomysnatalensis*) is distributed throughout the region. According to the National Center for Emerging and Zoonotic Infectious Disease Factsheet, in 2009, the first case from Mali was reported in a traveler living in southern Mali; Ghana reported its first cases in late 2011. Meanwhile, isolated cases have also been reported in Côte d'Ivoire and Burkina Faso and there is serologic evidence of Lassa virus infection in Togo and Benin. By the 6th of January 2016, the number of deaths had risen to 44 in Nigeria and on the 22nd January the Honourable minister of Health in Nigeria, Professor Isaac Adewole stated that the country currently has 212 cases of Lassa fever which makes it more endemic. The European Center for Disease Control and Prevention (2016) noted that the disease is endemic in the countries of the Mano river basin which are (Guinea, Sierra Leone & Liberia) and Nigeria. These countries report the majority of Lassa fever cases. In addition, human cases were reported in Ghana (October 2001), Mali (February 2009) and Benin (November 2014). In the past five years, notable outbreaks have been reported in Nigeria in 2012 (1 723 cases, 112 fatalities in 23 states), in 2013 (232 cases, 15 fatalities in nine states) and 2014 (208 cases, 17 fatalities) and in Liberia in 2013 (12 cases, 8 fatalities, Bong county) and (14 cases, 1 fatality, Margibi county). According to the National Center for Emerging and Zoonotic Infectious Disease Factsheet: The number of Lassa virus infections per year in west Africa is estimated at 100,000 to 300,000, with approximately 5,000 deaths. Unfortunately, such estimates are crude, because surveillance for cases of the disease is not uniformly performed. In some areas of Sierra Leone and Liberia, it is known that 10%-16% of people admitted to hospitals every year have Lassa fever, which indicates the serious impact of the disease on the population of this region (p. 1) The number of Lassa virus infections in West Africa per year was roughly estimated at 100,000 to 300,000, with at least 5,000 deaths yearly (Godwin, Jonathan and Shima 2013, p. 43). The disease is common in Nigeria, Guinea, Congo and Liberia. However, according to research, other West Africa countries too may be affected. The overall case-fatality rate is 1%, up to 15% among hospitalized patients (What you need to know accessed on the 31st of December 2016). The incubation period of Lassa fever ranges from 6 to 21 days and death usually occurs within 14 days of onset in fatal cases (Health Initiative for Safety & Stability 2016). From studies read, Lassa fever disease is terribly deadly and dangerous. Human beings are usually infected with the virus when they get exposed to urine or faeces of infected *mastomys* rats and these always occur when there is a direct contact with the blood, urine or other bodily secretions of people infected with the disease.

4. Methodology

The survey method was used. The questionnaire was used as an instrument of data collection. The area of study was Ondo and Ekiti state. The sample size for Ondo and Ekiti State was calculated using Saunders, Lewis and Thorn hill (2009) formula to arrive at 854 respondents that were surveyed. The sampling technique used was the multistage probability sampling technique.

4.1. Presentation and Discussion of Findings

- RQ1: How have the respondents prevented the Lassa fever infection?

Item	SA 5	A 4	D 3	SD 2	U 1	Mean	SD
I wash my hands daily.	394 (49.3)	341 (42.6)	22 (2.8)	14 (1.8)	29 (3.6)	4.32	0.90
I eat well cooked food.	152 (19)	551 (68.9)	51 (6.4)	16 (2.0)	30 (3.8)	3.97	0.82
I am always clean.	146 (18.3)	536 (67)	68 (8.5)	19 (2.4)	31 (3.9)	3.93	0.84
I make sure I wash my cloths.	120 (15)	545 (68.1)	78 (9.8)	23 (2.9)	34 (4.3)	3.87	0.85
Average Weighted Mean						4.02	0.85

Table 1: Ways through Which Lassa Fever Infection Was Prevented

Key: SA=Strongly Agree, A=Agree, D=Disagree, SD=Strongly Disagree

***Decision Rule If Mean Is ≤ 1.49 Undecided; 1.5 To 2.49 = Strongly

Disagree; 2.5 To 3.49 =Disagree; 3.5 To 4.49= Agree; 4.5 To 5= Strongly Agree

Table 1 indicates that from the general perspective, the residents Ekiti and Ondo State on the average agreed that they prevented the Lassa fever infection (Average Weighted Mean= 4.02, SD=0.85). The respondents specifically on the average agreed to carrying out the following activities that they: washed their hands daily (Mean= 4.32, SD=0.90), ate well cooked food (Mean=3.97, SD=0.82), were always clean (Mean=3.93, SD=0.84) and made sure they washed their cloths (Mean=3.87, SD=0.85). This suggests that although residents in Ekiti and Ondo State agreed to have prevented Lassa fever by engaging on all the activities listed, more residents on the average adopted washing of hands daily than eating well cooked food, and preference for being clean for the prevention of Lassa fever.

Item	SA 5	A 4	D 3	SD 2	U 1	Mean	SD
I am now a neater person	388 (48.5)	341 (42.6)	34 (4.3)	8 (1.0)	29 (3.6)	4.31	0.89
I now boil my food more than before	240 (30)	499 (62.4)	21 (2.6)	12 (1.5)	26 (3.3)	4.15	0.81
I now have a better attitude towards what I eat	167 (20.9)	585 (73.1)	16 (2.0)	8 (1.0)	24 (3.0)	4.08	0.73
I want all rats in my house dead	158 (19.8)	540 (67.5)	52 (6.5)	14 (1.8)	36 (4.5)	3.96	0.86
Lassa fever disease has made me to consider to stop eating bush meat	203 (25.4)	441 (55.1)	99 (12.4)	24 (3.0)	32 (4.0)	3.95	0.93
Average Weighted Mean						4.09	0.84

Table 2: Attitude of the Public towards Lassa Fever Disease

Key: SA=Strongly Agree, A=Agree, D=Disagree, SD=Strongly Disagree,

***Decision Rule If Mean Is ≤ 1.49 Undecided; 1.5 To 2.49 = Strongly Disagree; 2.5 To 3.49 =Disagree; 3.5 To 4.49= Agree; 4.5 To 5= Strongly Agree

Table 2 depicts that from the general perspective, the residents of Ekiti and Ondo State on the average agreed that they had some attitudinal disposition towards the Lassa fever disease (Average Weighted Mean= 4.09, SD=0.84). Specifically, respondents agreed on all the parameters for measuring attitude towards the Lassa fever disease as follows, that: they are now neater (Mean=4.31, SD=0.89), they now boil their food more than before (Mean= 4.15, SD=0.89), they now have a better attitude towards what they ate (Mean=4.08, SD=0.73), they now wish all rats in their houses dead (Mean=3.96, SD=0.86) and that Lassa fever disease had made them to consider to stop eating bush meat (Mean=3.95, SD=0.93). This implies that the attitude of Ekiti and Ondo States residents towards Lassa fever disease in terms of prevention were in terms of being neater, preference for boiling food more, better attitude towards what is eaten, wish that all rats in their houses were dead and consideration to stop eating bush meat.

Item	SA 5	A 4	D 3	SD 2	U 1	Mean	SD
Made me to be neater.	375 (46.9)	360 (45)	25 (3.1)	11 (1.4)	26 (3.3)	4.31	0.87
Made me to be careful of what I eat.	174 (21.8)	574 (71.8)	22 (2.8)	7 (0.9)	21 (2.6)	4.09	0.71
Made me to hate rats.	198 (24.8)	516 (64.5)	47 (5.9)	12 (1.5)	25 (3.1)	4.07	0.80
Changed my eating preference from eating outside to cooking at home.	153 (19.1)	529 (66.1)	68 (8.5)	19 (2.4)	30 (3.8)	3.95	0.84
Stopped me from eating bush meat.	141 (17.6)	486 (60.8)	118 (14.8)	22 (2.8)	31 (3.9)	3.86	0.87
Average Weighted Mean						4.06	0.82

Table 3: Behaviour of the Public towards Lassa fever disease

Key: SA=Strongly Agree, A=Agree, D=Disagree, SD=Strongly Disagree, ***Decision Rule If Mean Is ≤ 1.49 Undecided; 1.5 To 2.49 = Strongly Disagree; 2.5 To 3.49 =Disagree; 3.5 To 4.49= Agree; 4.5 To 5= Strongly Agree

Table 3 shows from the general perspective that residents of Ekiti and Ondo State on the average agreed they had behavioral inclination as a result of the Lassa fever preventive measures (Average Weighted Mean= 4.06, SD=0.82). Respondents on the average agreed to the individual parameters for respondents' behavioral inclination as a result of the Lassa fever preventive measures as follows: made them neater (Mean=4.31, SD=0.87), made them to be careful about what they ate (Mean=4.09, SD=0.71), made them to hate rats (Mean= 4.07, SD=0.80), changed their eating preference from eating outside to cooking at home (Mean=3.95, SD=0.84) and stopped them from eating bush meat (Mean=3.86, SD=0.87). This suggests that the Lassa fever preventive measures made them neater, made them to be careful about what they ate, made them to hate rats, changed their eating preference from eating outside to cooking at home and stopped them from eating bush meat.

- H₁: Health communication messages on Lassa fever do not significantly influence the prevention of Lassa fever infection

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.238 ^a	0.057	0.056	2.42285

Table 4: Model Summary for the Influence of Lassa Fever Health Communication Messages on the Prevention of Lassa Fever Infection

a. Predictors: (Constant), Health Communication Messages on Lassa Fever

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.349	0.840		8.749	0.000
	Health Communication Messages on Lassa fever	0.149	0.022	0.238	6.898	0.000

a. Dependent Variable: Prevention of Lassa Fever Infection

Table 5: Simple Linear Regression for the Influence of Lassa Fever Health Communication Messages on the Prevention of Lassa Fever Infection

Table 5 shows that health communication messages on Lassa fever significantly influences the prevention of Lassa fever infection ($p < 0.05$). Furthermore, health promotional messages on Lassa fever had a weak, positive significant influence on prevention of Lassa fever infection ($\beta = 0.238$, $p < 0.05$). Furthermore, Table 5 indicates a weak positive significant correlation coefficient ($\beta = 0.238$) and positive slope ($B = 0.149$) which are statistically significantly different from zero ($p < 0.05$, $T = 6.898$). The implication of this is that an increase in health communication messages on Lassa fever will increase the prevention of Lassa fever infection and a reduction in health communication messages on Lassa fever will reduce the prevention of Lassa fever infection. Furthermore, the model indicates that health communication messages could explain 5.7 percent ($R^2 = 0.057$) variation in prevention of Lassa fever infection. The model accounts for a significant amount of prevention of Lassa fever infection ($F(1, 790) = 47.581$, $p < 0.05$). Therefore, the hypothesis that health communication messages on Lassa fever do not significantly influence the prevention of Lassa fever infection was rejected.

5. Discussion of Findings

The study result manifested that the respondents specifically on the average agreed to carry out the following activities: washed their hands daily, ate well cooked food, were always clean and made sure they washed their cloths. This suggests that although residents of Ekiti and Ondo State, Nigeria agreed to have prevented Lassa fever by engaging on all the activities listed, more respondents on the average adopted washing of hands daily than eating well cooked food, and preference for being clean for the prevention of Lassa fever. This is in line with Titus (2012) who emphasizes that campaign messages and advocacy on clean and safe environment will promote prevention especially within the endemic areas while Tobin et al (2013) report that the hand gloves were the most useful personal protector gear when dealing with a patient with Lassa fever. Stating further that the most common mode of presentation within communities was cited as the proper storage of food by 111(84.7%) while the least mentioned was the avoidance of bush burning 60(45.8%). The researcher further emphasized in the study that precautionary measure to be taken to prevent spread in healthcare facilities were stated as adequate health education and good hand washing practice by 100(76.3%) and 91(61.5%) respondents' respectively. The finding of this study together with that of Adebimpe (2013) validates the importance in the prevention of Lassa fever so as to eradicate it. Adebimpe (2013) also attested that preventive recommendation for health care in his research include regular use of personal protective device (such as hand gloves, gowns and so on), proper disposal of hospital waste, proper case management, disease notification and improved public health education about Lassa fever.

Contrary opinions are expressed in the findings of Aigbiremolen et al (2012) where only 13% and 16.9% of the study respondents regularly practiced barrier nursing and hand washing respectively as a means of containing the spread of the infection. In their findings, there was poor compliance with standard preventive practices despite the fact that the awareness level about Lassa fever was high.

In addition, the residents of Ekiti and Ondo State agreed that they had attitudinal disposition towards the Lassa fever disease. This implies that the attitude of respondents towards Lassa fever disease in terms of prevention were in terms of being neater, preference for boiling food more, better attitude towards what is eaten, wishing that all rats in the house are dead and consideration to stop eating bush meat. Furthermore, the general perspective that residents of Ekiti and Ondo state on the average agreed they had behavioural inclination as a result of the Lassa fever prevention measures which has helped them to stop some habits.

6. Conclusion

The major aim of the study was to look at preventing Lassa fever disease through effective health communication in Nigeria. Based on the findings, the study concludes that an increase in health communication messages on Lassa fever would result in improved behaviour of respondents towards the infection. Another conclusion drawn from this study is

that respondents in Ekiti and Ondo State adopted washing of hands more than other preventive measures against Lassa fever virus.

7. Recommendations

Although the findings of the study showed that there was a very high level of awareness and knowledge of Lassa fever, among the respondents, yet they demonstrated poor choices regarding the preventive measures. Majority of the respondents believed Lassa fever could be prevented with the aid of washing hands alone; thus, they effectively sidelined other preventive measures.

8. References

- i. Adebimpe, W. O (2015). Community awareness and perception towards rodent control: Implications for prevention and control of lassa fever in urban slums of south western nigeria. *Malta Journal of Health Science*1(21) 26-32
- ii. Adebimpe, W. O. (2015). Knowledge and preventive against lassa fever among primary health care workers in Oshogbo. *University Of Mauritius Research Journal*,1(21) 5-10
- iii. Aigbiremolen, A.O, Duru, C.B, Awunor, N.S, Abejegah C, Abah S.O, Asogun A.D &Eguavoen O.L (2012) Knowledge & application of infectious disease control measures among primary care workers in nigeria: The lassa fever example. *International Journal of Basic, Applied and Innovative Research. IJBAIR*,2012, 1(4), 122-129. Retrieved from www.antrescentpub.com
- iv. Akinfeleye, A. (1987). Communication network: essentials of effective surgery. In R.A Akinfeleye (ed) *Health Communication and Development*. Ibadan: Spectrum Books.
- v. Akpobo, O. (2015). Mass media health communication: imperative for sustainable health development in Nigeria. *Journal of African Studies*, 4(1), 20-25
- vi. Anaeto, S. Onabanjo, O. &Osifeso .J. (2008.)Models and theories of communication.United State of America. Africa Renaissance Books Incorporated,
- vii. Godwin I.A, Jonathan T.K &Shima K.G (2013) Lassa fever outbreak in makurdi, north central nigeria: what you need to know. *Journal of Dental and Medical Science*, 7(15) 42-46. Retrieved from www.iosrjournals.org
- viii. Herre, U. (2012). The use and effect of social media in health communication about common head lice. A master's thesis submitted to the department of Psychology, Health and Technology, University of Twente, School, Retrieved from <http://www.utwente.nl/bms/htsr/education/complete%20assignment/2012-11-15%20Herre%20Uittenhout.pdf>
- ix. Kerneis, S., Koivogui, L., Magassouba, N., Koulemou, K., Lewis, R., Aplogan, A., Grais, R.F, Guerin P. J., &Fichet, C. E. (2009). Prevalence and risk factors of lassa seropositivity in inhabitants of the forest region of guinea: A Cross-Sectional Study. *Journal of Health Communication*, 9(1), 20-25
- x. McCormicks, I. (1999). Lassa fever: In Saluzzo JF Dodet B. Editors. *Emerging and control of rodent borne viral disease*. Elsevier: 177-195
- xi. Ogbu, O, Ajaluchukwu E &Uneke C J (2007). Lassa fever in west african sub-region: An overview. Retrieved from *J. Vect Borne Dis* 1(44) 1- 11 review article
- xii. Ratzan, S. (1994). Health communication, challenges for the 21st century. *American Behavioral Science* 38(2), 5-10
- xiii. Schiavo, R. (2007). *Health communication from the theory to practice*. San Francisco: Jossey-Bass
- xiv. Sen, A. K. (1999). *Development as freedom*. New York: Knoph
- xv. Titus, I. (2012). Lassa fever: the challenges of curtailing a deadly disease. *Pan African Medical Journal*.ISSN: 1937:8688 Retrieved from <http://www.panafrican-med-journal.com/content/article/11/55/full>
- xvi. Tobin, E. A., Asogun, D. A., Isah E. C &Ebhodaghe, P. (2013). Assessment of knowledge and attitude towards lassa fever among primary care providers in an endemic suburban community of edo state: implications for control. *Journal of Medicine and Medical Sciences*4(8), 311-318, Retrieved from <http://www.interestjournals.org/JMMS>.
- xvii. Tomori O, Fabiyi A, Sorungbe A, Smith A & McCormick J.B (1998). Viral hemorrhagic fever antibodies in nigerian populations. *AM J. Trop. Med. Hyg*: 38; 407-410
- xviii. U S Department of Health and Human Services, Office of Disease Prevention and Health Promotion, *Healthy People 2010* 1 & 2.(11), 11-20. Retrieved from <http://www.health>
- xix. Ute, I. (2012). Lassa fever in the tropics. Department of Physiology, College of Medicine, Ambrose Ali University, Ekpoma, Nigeria. Accessed from www.intechopen.com page 100