KNOWLEDGE, PREPAREDNESS AND PREVENTIVE PRACTICES OF LASSA FEVER AMONG HEALTH WORKERS IN ONDO STATE, NIGERIA

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Abstract

The study assesses the knowledge, attitude and preventive practices of Lassa fever among health workers in Ondo State. A cross-sectional descriptive design was adopted. Multi stage sampling technique was used to select six hospitals out of eighteen general/specialist hospitals in eighteen LGAs of Ondo State and lastly, 350 health workers participated in this study. The instruments used were questionnaires and observed practice checklist. Data were analysed using descriptive statistics. The results of the demographic characteristics of respondents showed that majority of the respondents are within the ages of 30 to 39 years, females and were married. Majority of the respondents were Nurses and Chews with above five years of experience. Lastly, majority of the respondents are from the State specialist Hospitals. Further findings shows that the respondents are highly knowledgeable about Lassa fever (70.6%) and the source of their knowledge is the Media (67.7%). This study also reports that the level of preparedness and response to Lassa fever is poor (38%), the practice of Lassa fever prevention is adequate (55%) and the type of preventive practices of Lassa fever used by respondents in the health facilities are health education, adequate hand washing and safe injection practice. Two hypotheses are tested. The first hypothesis tested reveals that the knowledge on Lassa fever is significant with the respondent's qualification (grade) and type of facility while there is no association between knowledge and age. The second hypothesis reveals that there is no association between practice of prevention of Lassa fever and age including sex. It is therefore recommended that adequate resources and information on preventive practices of Lassa fever be provided for proper Lassa fever prevention in all health facilities in Ondo State.

Keywords: Knowledge, preventive practices, Lassa fever, Laboratory.

Introduction

Nigeria has an unprecedented experience in relation to the recent outbreak of Lassa fever. This first outbreak occurred in Bauchi State in 2015. Afterwards, about 19 States of the Federation have had outbreak of Lassa fever epidemic since August, 2015. The Nigeria Centre for Disease Control (NCDC) reports that the total number of confirmed and suspected cases is 175 with a total of 101 deaths from 19 States of the Federation on February 6th, 2016. The highest incidence case of Lassa fever is recorded in Bauchi, Edo, Oyo and Taraba, with 54% of confirmed cases and 52% of reported deaths (Usifor, et al (2018)). According to WHO (2017), 4 (four) health workers are confirmed infected with Lassa fever while 2 (two) have died. In Edo State, NCDC report 4 new cases of Lassa fever with three (3) cases confirmed in 2016. Out of the 18 Local Government Areas in Edo State, it is reported that Lassa fever is endemic in 13 (CDC, 2016).

Lassa fever is a viral haemorrhagic fever caused by an arenavirus. It is an acute and fatal viral haemorrhagic disease (Cobo, 2016, Yun & Walker, 2012). It emerges as one of the most prevalent viral haemorrhagic fevers in West Africa. However, there are challenges regarding the laboratory diagnosis and confirmation of the disease due to inadequate facility and low capacity in most Lassa fever endemic areas of the region (Ehichioya, Asogun, Ehimuan, Okokhere, Pahlmann and Ölschläger, 2012). Zero positivity has also been found in the Central African Republic Democratic of the Congo, Mali and Senegal (WHO, 2000). Sporadic cases have occurred in travelers returning to Britain, the Netherlands, and Germany from the endemic areas.

Adesoji (2016) opines that with the outbreak of Lassa in mid-November and January 2016, the virus must have spread to other States of the Federation such as: Nasarawa, Niger, Taraba, Kano, Rivers, Edo, Plateau, Gombe and Oyo. He further reports that a total of 81 cases and 35 deaths are reported, with a mortality rate of 43.2%. Adequate information and knowledge of the disease is hence imperative and cannot be over emphasized. Olowookere (2014) conducts a study in Osun State, South West Nigeria, result shows that knowledge of Lassa fever among respondents shows that 62% of the respondents have good general knowledge on Lassa fever. Another related study conducted by Adesoji (2016) in and around Lafia, North Central Nigeria among 200 respondents reveals that 87% of the respondents have heard about Lassa fever previously even though there is a misconception on the mode of transmission, while 39% of the respondents identified bleeding as the major clinical manifestation. This

study therefore assesses the knowledge, attitude and preventive practices of Lassa fever among health workers in Ondo State.

The Federal Ministry of Health in Nigeria notified the World Health Organization (WHO) of an outbreak of Lassa fever in 2012 (WHO, 2012). Eighty-seven (87) deaths that are recorded happened to occur in 23 States in the country. According to WHO (2012), three doctors and four nurses are reported to be among the fatalities. Lassa fever claims over 100,000 lives between 1969 and 2013 (WHO, 2012). Dan-Nwafor, et al (2019) report that 71% of confirmed cases in 2019 are from three States that claim to have standard Lassa fever treatment centres (Ebonyi, Edo and Ondo). Due to the above, there is need to assess the knowledge, attitude and preventive practices of Lassa fever among health workers in Ondo State.

Objectives of the study

1. to assess the knowledge of Lassa fever among the health workers in Ondo State
2. to assess the level of preparedness of health workers towards prevention of Lassa fever
3. to assess the practices in relation to Lassa fever prevention among health workers in Ondo State.

Hypotheses

1. There is no significant association between knowledge and the age of health workers in Ondo State.
2. There is no significant association between respondent's preventives practices of Lassa fever and the respondent's level of knowledge on Lassa fever.

Methodology

This study adopts a cross-sectional descriptive design. The research setting is General and State Specialist Hospital in Ondo State. The population for this study comprised of all health workers in General and State specialist Hospital in Ondo State. The population of health workers in these facilities as at the time of the study were 1449. Sample size for the study was determined by using Taro Yamaneh (1970) to select 350 health workers from General/State hospitals selected for the study. Three-hundred and fifty (350) health workers were selected using Multi Stage Sampling Technique. In the first stage, six local government areas were selected and the selected LGA were Idanre, Ondo East, Akure North, Akure South, Owo and Ondo West. Simple random sampling method was used to select six hospitals for the study, out of eighteen general/specialist hospitals in eighteen LGAs of Ondo state. Also, simple random sampling method was used to select 3 wards each from the six hospitals, Further, balloting sampling method was used to select respondents in each ward of the three wards in the six hospitals on prorata, thus making a total of 350respondents.

The instruments used for the study consist of questionnaire and observational checklists designed to assess the practice of Lassa fever prevention by health workers. The questionnaire has four sections - A to D. Section A focuses on the demographic data of the respondents. Section B consist of information on Knowledge of Lassa Fever, Section C focused on the level of preparedness and response to Lassa fever, Section D is on the practice of prevention of Lassa fever in health facilities. The instruments were validated by two experts one is from infectious control department and the other, a statistician to ensure face and content validity of the instrument. Pilot test was done using split half method to ensure reliability. Using Cronbach alfa, the reliability coefficient score was 0.79. The questionnaires were distributed to the respondents after seeking their consent and the purpose of the study explained to them. The questionnaires were collected on completion from the nurses and confidentiality of the questionnaires was ensured. Data was analyzed through descriptive statistics was result presented in tables and charts. While chi-square was used for inferential statistics at a significant level of p = 0.05 Permission and ethical approval was given by the Hospital Research and ethics committee. All the questionnaires were answered anonymously. The confidentiality of the information provided was ensured.

Results

Table 1 shows that (35.7%) are less than 30 years. (28.3%) of the respondents are above age 39 while few (36.0%) are between age 30 and 39. Majority (91.7%) are females while (8.3%) are males. Few (18.6%) are single, (76.9%) of the respondents are currently married, (2.0%) are divorced while (2.6%) are widowed. Tenth percent of the respondents are nursing assistants, (13.7%) are enrolled nurses, very few (1.7%) are registered midwifes, (11.4%) are laboratory assistants, (17.4%) are CHEW, while (9.1%) are health assistants. All (100.0%) of the respondents have tertiary education. About half (49.4%) have spent less than five years in the health/medical practices. While (13.7%) have up to 15 years working experience in health/medical practices. About third-fifth (58.0%) of the respondents work in the state specialist hospital, while (23.1%) work in comprehensive health centres. This study concludes that the demographic characteristics of respondents are as follows: Majority of respondents are within the ages of 30 to 39 years, females and are married. Majority of the respondents are Nurses and Chews with above five years of experience. Lastly, majority of respondents are from the State specialist Hospitals.

Table 1: Socio-demographic characteristics of the respondents

Variables	Categories	N	%	Mean ± SD
Age	<30	125	35.7	
	30-39	126	36.0	34.5 ± 8.8
	≥40	99	28.3	
Sex	Male	29	8.3	
	Female	321	91.7	
Marital status	Married	269	76.9	
	Single	65	18.6	
	Widowed	9	2.6	
	Divorced	7	2.0	
Qualification (grade)	Nursing assistant	38	10.9	
	Enrolled nurse	48	13.7	
	Registered nurse	62	17.7	
	Enrolled midwife	21	6.0	
	Registered midwife	6	1.7	
	Medical officer	0	0	
	Laboratory assistant	40	11.4	
	CHEW	61	17.4	
	JCHEW	20	5.7	
	CHO	22	6.3	
	Health Assistant	32	9.1	
How many years have you spent in the health/medical practice	<5	173	49.4	7.5 ± 7.8
	5-14	129	36.9	
	≥15	48	13.7	
Type of facility	State specialist Hospital	203	58.0	
	Primary Health Centre	66	18.9	
	Comprehensive Health Centre	81	23.1	

The result on Table 2 shows that all the respondents (100.0%) have heard about Lassa fever. Majority (67.7%) have heard about Lassa fever through media, (14.9%) gets the source of their information from colleagues, (11.4%) have heard about Lassa fever from their places of work (hospitals) while few (6.0%) heard about Lassa fever through seminars. Majority (94.0%) agreed that Lassa fever is a viral disease while few (6.0%) agree that Lassa fever is bacterial. Largely (90.9%) concur that incubation period last from 3 to 21 days. Majority (99.1%) agree that reservoir is made up of rats, (0.9%) agree that reservoir is made up of rats and bats. (38.6%) concur that infection with the organism when treated late is usually deadly. Almost all (96.9%) agree that Lassa fever can be transmitted from one person to another person through direct contact with infected body fluid. Higher number of respondents (92.0%) concur that transmission of Lassa fever is from animal to person. Less than one-tenth (7.4%) agree that Lassa fever can be transmitted from inanimate objects (fomites) to person. Findings above also shows that (100%) agree that fever unresponsive to anti-malarial or/ and antibiotics is a symptom of Lassa fever, (93.4%) claim that retrosternal chest pain is another symptom of Lassa fever, (31.4%) agree that facial swelling and spontaneous abortions are symptoms of Lassa fever respectively, while (45.1%) concur that blindness is a symptom of Lassa fever. This study implies that the respondents are highly knowledgeable about Lassa fever (70.6%) and the source of their knowledge is the Media (67.7%)

Table 2: Knowledge towards Lassa fever

Questions	Category	N	%
Have you heard about Lassa fever?	Yes	100	100
	No	0	
If yes, please specify the source	Media	237	67.7
	Colleague	52	14.9
	Seminars	21	6.0
	Hospital	40	11.4
Which type of disease is Lassa fever?	Viral	329	94.0
	Bacterial	21	6.0
	Both	0	0

Incubation period last from 3 to 21 days?	None	0	0
	Yes	318	90.9
	No	15	4.3
	I don't know	17	4.9
The reservoir is usually which of the following?	Rats	347	99.1
	Bats	0	0
	Both	3	0.9
	None	0	0
Infection with the organism when treated late is usually deadly?	Yes	135	61.4
	No	215	38.6
Transmission of Lassa fever include:	Person to person by direct contact with infected body fluid	339	96.9
	Animal to person	322	92.0
	Inanimate objects (fomites) to person	26	7.4
Symptoms of Lassa fever includes	Fever unresponsive to antimalarials or/ and antibiotics	237	68.4
	Retrosternal chest pain	327	93.4
	Sore throat	274	78.3
	Bleeding from orifice	203	58.0
	Facial swelling	110	31.4
	Spontaneous abortion	110	31.4
	Neck stiffness	149	42.6
	Photophobia	80	22.9
	paralysis	153	43.7
	Blindness	158	45.1

The result from Table 3 shows that (90.3%) are aware of the presence of disease surveillance officer (DSNO) in the LGA. More than half (68.6%) are aware of the constituted rapid response team in their LGA while (69.7%) are aware that DSNO/ response team are trained on prompt response to Lassa fever outbreak. Majority (72.9%) opine that there are detected cases of Lassa fever in their LGA while (11.1%) agree not to have known. (34.9%) agree that DSNO/ response team carried out contact tracing when the case/cases is detected, (36.6%) do not agree while (28.6%) are not aware that DSNO/ response team carried out contact tracing when the case/cases is detected. Majority (75.7%) opine that they do not have a lab to carry out investigation on Lassa fever. (4.7%) belief that their lab is well equipped to carry out Lassa fever investigation while (91.8%) do not agree. (12.6%) refer suspected cases to IRRUA, majority (68.9%) refer their suspected clients to FMC while (18.9%) refer to SSH. few (8.3%) have a designated Ambulance to transport suspected patients for treatment while none of the respondents have drug for prophylaxis in their centres/hospitals. (36.0%) have no involvement of community engager to curb Lassa fever, (20.6%) are averagely involved in community engagement to curb Lassa fever while (0.9) are fully involved in community engagement to curb Lassa fever. (32.0) uses fumigation to control the spread of rats in their community, majority used rat poisoning to control the spread of rats in their communities while (23.1%) use physical killing to control the spread of rats in their community. This study reveals that the level of preparedness in response to Lassa fever is poor (38%)

Table 3: Level of preparedness in response to Lassa fever

Variables	Yes (%)	No (%)	I don't know (%)
There is DSNO in your LGA?	316(90.3)	34(9.7)	
Is Rapid response team constituted in your LGA?	240(68.6)	14(4.0)	96(27.4)
Are the DSNO/ response team trained on prompt response to Lassa fever outbreak?	244(69.7)	42(12.0)	64(18.3)
Have you detected any suspected case of Lassa fever in your LGA?	255(72.9)	56(16.0)	39(11.1)

Do the DSNO/ response team carried out contact tracing when the case/cases was detected?	122(34.9)	128(36.6)	100(28.6)
Do you have lab to carry out investigation on Lassa fever?	85(24.3)	265(75.7)	
If yes? Is it well equipped?	4(4.7)	78(91.8)	3(3.5)
Where do you refer suspected cases?			
IRRUA		44	
FMC		241	
SSH		65	
Do you have a designated Ambulance to transport suspected patients for treatment?	29(8.3)	321(91.7)	
Do you have drugs for prophylaxis	0(0)	100 (100)	
Do you have separate ward for caring for Lassa fever suspected patients?	33(9.4)	300	17
How would you rate the involvement of community engager to curb Lassa fever on a scale of 1 to 5 with 1 meaning no involvement at all and 5 very much involve?			
1		126	
2		104	
3		72	
4		45	
5		3	
What are the methods used to control the spread of rats in your community?			
Fumigation		112	
Trapping		78	
Blocking of rodent hole		181	
Rat poisoning		329	
Physical killing		81	

Findings from table 4 show that (66.7%) have tap water while (100.0%) have available water. (66.7%) have adequate spaces in between beds (6 meters) while (33.3%) have adequate gloves and masks respectively. The findings show that all the respondents have adequate apron while none of the respondents have adequate hand sanitizers. The study reveals that staff is short with the ratio of staff to patient to be 1:5. (33.3%) show that there is injection safety method while (66.7%) show that there is barrier nursing method. This study observes that the practice of Lassa fever prevention is adequate (55%).

Assessment of Practice of Lassa fever prevention
Table 4: Observational checklist of Lassa fever practice

Variables	Frequency (N=3)/Percentage (%)	
	Yes	No
Availability of taps for running water	2(66.7)	1(33.3)
Availability of water	3(100)	0 (0)
Adequate spaces in between beds (6 meters)	2(66.7)	1(33.3)
Adequate gloves	1(33.3)	2(66.7)
Mask	1(33.3)	2(66.7)
Apron	3(100)	0(0)
Hand sanitizer	0(0)	3(100)
Ratio of staff to patient 1:5	0(0)	3(100)
Is there injection safety method?	1(33.3)	2(66.7)
Is there barrier nursing method?	2(66.7)	1(33.3)
Is there isolation method?	3(100)	0(0)

Type of Preventive Practices of Lassa fever in health facilities

The result in fig 1 shows that all the respondents (100.0%) practice health education, adequate hand washing and safe injection practice to prevent Lassa fever in health facilities, (19.1%) practice the use of dedicated equipment for each patient, (10.3) practice personal protective equipment while (7.1%) practice isolation to prevent Lassa fever in health facilities. The summary of this study shows that health education, adequate hand washing and safe injection practice are the preventive practices of Lassa fever in the health facilities.
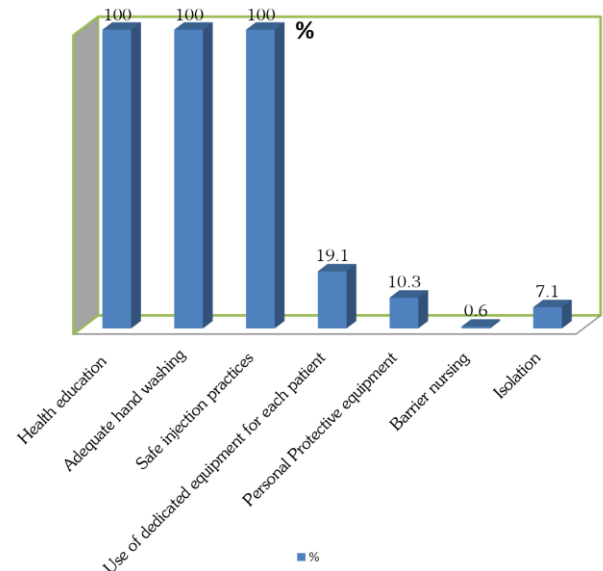

Fig1: Type of Preventive Practices of Lassa fever in health facilities

Table 5 shows the association between knowledge on Lassa fever and their Age, sex, marital status, qualification, how many years spent in the health/medical practice and type of facility. Their knowledge is significant with their qualification (grade) and type of facility. We can conclude that we do not reject null hypothesis which means that there is no association between knowledge and age.

Table 5: Association between Knowledge towards Lassa Fever and Social Demography

| | Knowledge Score | | | | |
	Good N(%)	Poor N(%)	Total N(%)	Chi-square	P-value
Age					
<30	122(97.6)	3(2.4)	125(100.0)	0.317	2.295
30-39	124(98.4)	2(1.6)	126(100.0)		
≥40	99(100.0)	0(0.0)	99(100.0)		
Sex					
Male	28(96.6)	1(3.4)	29(100.0)	0.339	0.916
Female	317(98.8)	4(1.2)	321(100.0)		
Marital status					
Married	264(98.1)	5(1.9)	269(100.0)	0.676	1.527
Single	65(100.0)	0(0.0)	65(100.0)		
Widowed	9(100.0)	0(0.0)	9(100.0)		
Divorced	7(100.0)	0(0.0)	7(100.0)		
Qualification (grade)					
Nursing assistant	38(100.0)	0(0.0)	38(100.0)	<0.001	30.249
Enrolled nurse	48(100.0)	0(0.0)	48(100.0)		
Registered nurse	61(98.4)	1(1.6)	62(100.0)		
Enrolled midwife	21(100.0)	0(0.0)	21(100.0)		
Registered midwife	6(100.0)	0(0.0)	6(100)		
Medical officer	0(0.0)	0(0.0)	0(0.0)		
Laboratory assistant	40(100.0)	0(0.0)	40(100.0)		
CHEW	61(100.0)	0(0.0)	61(100.0)		
JCHEW	31(96.9)	1(3.1)	32(100.0)		
CHO	22(100.0)	0(0.0)	22(100.0)		
Health Assistant	17(85.0)	3(15.0)	20(100.0)		
How many years have you spent in the health/medical practice	168(97.1)	5(2.9)	173(100.0)	0.075	5.190
<30	129(100.0)	0(0.0)	129(100.0)		
30-39	48(100.0)	0(0.0)	48(100.0)		

≥40					
Type of facility					
State specialist Hospital	202(99.5)	1(0.5)	203(100.0)	0.05	5.838
Primary Health Centre	63(95.5)	3(4.5)	66(100.0)		
Comprehensive Health Centre	80(98.8)	1(1.2)	81(100.0)		

Table 6 shows the association between Practice towards Lassa fever prevention and their Age, sex, marital status, qualification, how many years spent in the health/medical practice and type of facility. The practice is significant with the marital status, qualification (grade), years spent in the health/medical practice and type of facility. However, there is no association between practice of prevention of Lassa fever and age and sex

Table 6: Association between Practice towards Lassa fever and Social demography

	Practice score			Chi-square	P-value
	Good N(%)	Poor N(%)	Total N(%)		
Age					
<30	27(21.6)	98(78.4)	125(100.0)	0.332	2.207
30-39	32(25.4)	94(74.6)	126(100.0)		
≥40	30(30.3)	69(69.7)	99(100.0)		
Sex					
Male	5(17.2)	24(82.8)	29(100.0)	0.290	1.118
Female	84(26.2)	237(73.8)	321(100.0)		
Marital status					
Married	77(28.6)	192(71.4)	269(100.0)	0.001	16.242
Single	5(7.7)	60(92.3)	65(100.0)		
Widowed	3(3.3)	6(66.7)	9(100.0)		
Divorced	4(57.1)	3(42.9)	7(100.0)		
Qualification (grade)					
Nursing assistant	14(36.8)	24(63.2)	38(100.0)	<0.001	46.551
Enrolled nurse	26(54.2)	22(45.8)	48(100.0)		
Registered nurse	12(19.4)	50(80.6)	62(100.0)		
Enrolled midwife	7(33.3)	14(66.7)	21(100.0)		
Registered midwife	0(0.0)	6(100.0)	6(100.0)		
Medical officer	5(12.5)	35(87.5)	40(100.0)		
Laboratory assistant	5(8.2)	56(91.8)	61(100.0)		
Chew	7(21.9)	25(78.1)	32(100.0)		
Jchew	10(45.5)	12(54.4)	22(100.0)		
Cho	3(15.0)	17(85.0)	20(100.0)		
Health assistant					
How many years have you spent in the health/medical practice	45(26.0)	128(74.0)	173(100.0)	<0.001	18.527
<30	21(16.3)	108(83.7)	129(100.0)		
30-39	23(47.9)	25(52.1)	48(100.0)		
≥40					
Type of facility					
State specialist hospital	71(35.0)	132(65.0)	203(100.0)	<0.001	23.401
Primary health centre	7(10.6)	59(89.4)	66(100.0)		
Comprehensive health centre	11(13.6)	70(86.4)	350(100.0)		

Discussion

This study assesses the knowledge, attitude and preventive practices of Lassa fever among health workers in Ondo State. The demographic characteristics of respondents reveal that more than one third of the respondents are within the ages of 30 to 39 years. Majority of the respondents are females. These findings are in agreement with the findings of Usifor, et al (2018) in Edo State of Nigeria where majority of the respondents are females. We are of the view that more female respondents in this study may be attributed to the fact that there is usually more female health workers in Ondo State. Also, the greater number of females to male workers is a

reflection of the high impact of female gender in the health profession in Nigeria, where we have more females as nurses, health attendants and orderlies than males. Majority of the respondents in this study are married. This study concurs with the findings of Moses (2009) in Sierra Leone where majority of the food handlers are married. Majority of the respondents are Nurses and Chews with above five years of experience. Lastly, majority of respondents are from the State specialist Hospitals.

This study observes that the respondents are highly knowledgeable about Lassa fever. The findings are similar to the findings of Ilesanmi, et al, (2015) where majority of their respondents in Owo, Ondo State, Nigeria are highly knowledgeable about Lassa fever. Also, this study is similar to the study conducted by Tobin, (2013) where the health workers in Edo State are knowledgeable about Lassa fever. We believe that the apparently higher level of knowledge in this study may be due to the greater attention given to the disease during the recent outbreak in 2014 by the Federal Government and the press. Nevertheless, Lassa fever in Ondo State and Nigeria is yet to gain the political attention it deserves by all tiers of government.
Furthermore, the source of their knowledge is the Media. This study agrees with the findings of Olowookere (2017) where mass media is identified to be the major source of information on Lassa fever. This study is similar to Adefisan (2014) and Oluremi (2015) where majority of their respondents who are rural community dwellers in Ilorin and Ibadan heard about Lassa fever through radio and television. This study is also in line with the study conducted in Esan East and Esan Central Local Government area of Edo State, South -South of Nigeria among health workers by Aigbiremolen, (2012) where majority got information about Lassa fever from the television, radio and the print media. The writers posit that the source of respondents' knowledge may be as a result of continuous campaigns and news items in the public media which helped to sustain the dissemination of information on Lassa fever.

This study reveals that the level of preparedness and response to Lassa fever is poor. It is observed that majority of the laboratories are not well equipped to detect the case of Lassa fever hence there is a high incidence. This study observes that the practice of Lassa fever prevention is adequate. This is contrary to a study carried out among Primary health care providers in suburban community in Edo State by Tobin et al (2013) where it is reported that prevention and control of Lassa fever is poor. This study shows that the type of prevention practice used are health education, adequate hand washing and safe injection practice are the preventive practices of Lassa fever in the health facilities. The writers observed that these types of preventive practices are the most common types used in Nigerian health facilities.

The first hypothesis tested reveal that the knowledge on Lassa fever is significant with the respondent's qualification (grade) and type of facility while there is no association between knowledge and age. This finding support Adesoji (2016) who discovered that no relationship exists between age and knowledge of Lassa fever among the respondents as $P > 0.05$. This means no matter the age, an individual may not be knowledgeable about Lassa fever unless he is health educated on it. The second hypothesis tested revealed that there is no significant association between practice of prevention of Lassa fever and age, including sex.

Conclusion and recommendations

Health workers in Ondo State have a good knowledge of Lassa fever. Their knowledge is significant with their qualification (grade) and type of facility. Also, their practice is significant with their marital status, qualification (grade), years spent in the health/medical practice and type of facility. Majority are observed to manage Lassa fever prevention poorly. All the respondents observe safe injection practices. Few (19.1%) use dedicated equipment for each patient, very few (7.1%) isolate patients. About half of the observational practice checklists of the respondents (48%) are always on gloves while (42%) always put on apron. Even with the high level of literacy among the respondents, about (94%) of the respondents regularly wash their hands. This could be as a result of poor monitoring and supervision from sanitation department in the state. (42%) sometimes wash and disinfect surfaces and utensils.

Based on the findings of this study, it is important to consider the following recommendations: The study recommends a wider media campaign over the radio, television, newspaper and magazines as well as the social media about Lassa fever among the Nigerian populace by stakeholders since the study emphasizes their impact in educating people on Lassa fever, so that the teeming population can be adequately informed about the disease in order to forestall future outbreaks.

The study also recommends proper monitoring of information disseminated to the populace on health issues especially endemic diseases like Lassa fever that causes outbreaks, morbidity, and mortality to the people. This is because people depend on the media for accurate knowledge on health. Therefore, government and other regulatory agencies relation to the media should be of utmost importance, censor

properly and monitor information on health issues to ensure that citizens get the correct and adequate required information. The laboratories in hospitals should be well equipped to ensure early detection of cases of Lassa fever. It is further recommended that adequate resources be provided for proper Lassa fever prevention in all health facilities in Ondo State and Nigeria at large. Also, training and retraining should be organized for all health workers in Ondo State to ensure compliance with proper preventive practices of Lassa fever.

References

Adefisan, A.K (2014). The Level of Awareness that Rat is a Vector of Lassa Fever among

Rural People in Ijebu-North Local Government, Ogun State, Nigeria. Journal of Education and Practice. Vol 5, No 37.

Adesoji, J. O. (2016). Knowledge Beliefs and Sources of Information On Lassa Fever.
          Rom. Jour. of Sociological Studies, New Series, No. 2, p. 153–166.

Aigbiremolen, A.O., Duru, C.B., Awunor, N.S., Abejegah, C., Abah, S.O., Asogun,

A.D., Eguavoen, O.L (2012). Knowledge and Application of Infectious Disease ControlMeasures among Primary Care Workers in Nigeria: The Lassa Example. International Journalof Basic, Applied and Innovative Research 1(4) 122–129.

Asogun D, Okokhere P, Okogbenin S, Akpede G, Gunther S, Happi C. Lassa fever awareness

And practices in aNigerian rural community. International Journal of Infectious Disease.2010;14(1): 208.

Centers for Disease Control and Prevention (CDC). 2012. Lassa virus strain. Emerg Infect Dis., 6(5): 466–76.

Cobo F. (2016). Viruses Causing Hemorrhagic Fever. Safety Laboratory Procedures. The open virology journal,   10,   1–9. https://doi.org/10.2174/1874357901610010001

Ehichioya DU, Hass M, Becker-Ziaja B, Ehimuan J, Asogun D a, Fichet-Calvet E, et al.

Current molecular epidemiology of Lassa virus in Nigeria. J ClinMicrobiol2010; 49:1157–61.

Ehichioya DU, Asogun DA, Ehimuan J, Okokhere PO, Pahlmann M, Ölschläger S, et al.

Hospital-based surveillance for Lassa fever in Edo State, Nigeria, 2005-2008. Trop

Med Int Heal. 2012;17(8):1001–4

Dan-Nwafor, C.C., Furuse, Y.,. Ilori, A.R., Ipadeola, O. Akabike, K.O., Ahumibe, A.,

Ukponu, W., Bakare, L., Okwor,T.J., Joseph,G., Mba, N.G., Akano,A., Olayinka, A.T.,Okoli, I., Okea, R.A.,Makava,F., Ugbogulu, N., Oladele, S., Namara, G., Muwanguzi,E.N. Naidoo, D., Mutbam,S.K., Okudo,I., Woldetsadik,S.F.,Clement LP Lasuba,C.L.P.,and Chikwe ihekweazuc.I.,(2019). Measures to control protracted large Lassa fever outbreak in Nigeria, 1 January to 28 April 2019 Euro Surveill.16; 24(20): 1900272.

Nigeria Centre for Disease Control (2016). Lassa fever outbreak in Nigeria: Daily Situation Report.2016; 16: 24

Olowookere, S.A, Adegbenro, C.A, Idowu, A., Omisore, A.G., Shabi, O.M., Ikem, U..R.,

(2017) Knowledge, attitude and practices toward Lassa fever control and prevention among residents of Ile-Ife, Southwest Nigeria. International quarterly of community health education. 37(2):107112. Available:https://doi.org/10.1177/0272684 X17701261.

Olowookere, S.A, Fatiregun, A.A. Gbolahan, O.O.and Adepoju, E.G. (2014). Diagnostic

proficiency and reporting of Lassa fever by physicians in Osun State of Nigeria BMC Infectious Diseases, 14, (344)

Ilesanmi, O.S.. Omotosho, B., Ajele, F. and Adewuyi P. (2015). Awareness of Lassa Fever

in an Rural Community in South West Nigeria https://www.researchgate.net/publication/2945810 62.

Oluyemi, J., Abubakar, M., Adejoke. J., Abdullateef, R., Kehinde, K. and Akindele, I. (2016)

Knowledge beliefs and sources of information on Lassa Fever among residents of a community in Ilorin Nigeria. Romanian Journal of Sociological Studies. 2016;2:153-166

Otemuyiwa, I.O. and Adewusi SR. Food choice and meal consumption pattern among

Undergraduate students in two universities in Southwestern Nigeria. Nutrition and Health; 2012; 21: 233-245.

Tobin, E.A., Asogun, D.A., Isah, E.C., Ugege, O.G., Ebhodaghe, P. (2012). Assessment

of Knowledge and Attitude towards Lassa fever among Primary Care Providers in an Endemic Suburban Community of Edo State: Implication for Control. Journal of Medicine and Medical Science. Vol. 4 (8) pp. 311–318.

Usifoh, S.., Ighedosa, S.U., Aighewi, I.T., Asemota, O.D., Odigie, E.A.,, Faboya,T.(2018). Impact of Lassa Fever on the Practice and Consumption of Stored Food by University of Benin Community, in Benin City, Nigeria journal of Community Medicine and Primary Health Care Vol. 30(1), March 2018

World Health Organisation (2016).Lassa fever: Nigeria. http://www.who.int/csr/don/27-january-2016-Lassa-fever-nigeria/en/ Accessed on 24/04/2017.

World Health Organization (2012): Lassa fever in Nigeria. Excerpt: Nigeria: 3 doctors, 4

nurses die in Lassa fever outbreak April 4, 2012

World Health Organization. (2000) Lassa fever fact sheet, No. 179, April 2000. WHO Newsletter, Geneva.

Yun, N. E., & Walker, D. H. (2012). Pathogenesis of Lassa fever. Viruses, 4(10), 2031–2048. https://doi.org/10.3390/v4102031   . https://www.ncbi.nlm.nih.gov/ng.