



## Knowledge, Attitude, and Preventive Measures of Lassa Fever among Healthcare Professionals in Health Facilities in Nsukka Local Government Area, Enugu State

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### Abstract

Lassa fever (LF) has become an endemic disease of public health concern, in West African countries, Nigeria inclusive. This study investigated knowledge, attitude and preventive measures of Lassa fever among healthcare professionals in health facilities in Nsukka LGA, Enugu State. Four research questions and one null hypothesis guided the study. The cross-sectional research design was adopted for the study. The population for the study consisted of 1,434 healthcare professionals in all the 44 primary health centres in Nsukka LGA, Enugu State. The sample size used in the study consisted of 480 healthcare professionals drawn using a multi-stage sampling procedure. Knowledge, Attitude and Preventive Measures of Lassa Fever Questionnaire (KAPMLFQ) was used for data collection. Frequency, percentage, mean and standard deviation were used to answer the research questions. The null hypothesis was tested using Chi-Square at 0.05 level of significance. The study concluded that overall, a high proportion of health professionals possessed knowledge of Lassa fever, had positive attitude towards Lassa fever and a high proportion adopted preventive measures of Lassa fever. There was no significant difference in the proportion of healthcare professionals that possess knowledge of Lassa fever in health facilities in Nsukka LGA, Enugu State based on age. However, the authors recommended that the Ministry of Health, in collaboration with local government health departments, should organize regular outreach programmes in rural and underserved communities. These programmes should focus on Lassa fever prevention, targeting healthcare professionals who may have limited access to ongoing training.

**Keywords:** Lassa fever, Knowledge, Attitude, Preventive measures, Healthcare professionals, Health facilities

### Introduction

Lassa fever (LF) has become an endemic disease of public health concern, in Nigeria inclusive. The World Health Organization (WHO, 2018) listed Lassa fever as one of the diseases that pose the greatest public health risk to its susceptible hosts. Annually, about 100,000 to 300,000 infections of Lassa fever occur globally with the record of about 5,000 deaths (Center for Disease Control and Prevention [CDC], 2022). Also, Gonzales (2020) reported that in the West African region, about 10-16 percent of people infected with Lassa fever are admitted to hospitals annually. According to WHO (2017), Lassa fever is endemic in countries like Benin, Ghana, Guinea, Liberia, Mali, Sierra Leone, and Nigeria. Nigeria seems to be among the African countries that promote the preventive measures of Lassa fever in order to avert fatality. A study has shown that the case fatality rates (CFR) of 3-42 percent have been reported in Nigeria. Also the incidence of Lassa fever is usually highest during the



dry season (November to April) with outbreaks occurring often during this period (Usuwa et al., 2020). Between 2012 and 2013, more than 2,900 cases were reported in widespread outbreaks that occurred across many states in Nigeria (Ogundipe, 2016). A recent study revealed that between January and November 2024, there were a total of 1,047 confirmed cases of LF, with 174 deaths and 35 healthcare professionals affected across 28 states in Nigeria (Nigeria Centre for Disease Control [NCDC], 2024). According to WHO (2019) report, 327 cases of Lassa fever with 72 deaths with a case fatality rate (CFR) of 22 per cent across 20 states and the Federal Capital Territory were recorded. In another report, Enugu State Ministry of Health (2020) reported two mortality cases of Lassa fever. This implied that Enugu State was among the States in Nigeria that had cases of LF. Lassa fever is a communicable disease that is; it can be transmitted from one person to another.

Lassa fever is an animal-borne viral disease transmitted by particular species of rodents and mostly found among West Africa countries, (Nigeria inclusive). The WHO (2017) defined Lassa fever as an acute viral haemorrhagic illness with an incubation period of 2 days – 21 days and occurs predominantly in West Africa, the virus is transmitted to humans by means of contact with food or household items contaminated with rodent urine or faeces, it also involves person-to-person infections and laboratory transmission, particularly in hospitals lacking adequate infection prevention and control measures

Lassa fever may present mild symptoms at its early stages. These symptoms include malaise, generalized weakness, sore throat, flu-like illness such as fever, severe headache, chest pain (especially behind the breastbone), back pain, ringing ears, nausea, vomiting, abdominal pain, and diarrhea (Gompf, 2020). While in severe cases, Gompf stated that it may present symptoms such as facial swelling, bleeding from the mouth, nose, vagina or gastrointestinal tract, fluid in the lung cavity and low blood pressure. While in even more complicated cases may lead to shock, seizures, tremor, disorientation, and coma (WHO, 2020).

The spread of Lassa fever or its transmission risk can be reduced or stopped if there is sufficient knowledge about the disease, positive attitude towards LF and adoption of effective preventive measures among healthcare professionals (HCPs). World Health Organization (2022) stated that HCPs team includes doctors, nurses, midwives, public health professionals, laboratory technicians, health technicians, medical and non-medical technicians, personal care workers, community health workers, healers and traditional medicine practitioners. Healthplan (2022) also defined healthcare professionals as trained individuals who work in various healthcare or health-related fields. The socio-demographic variable considered in this study is age of HCPs in health facilities. World Health Organization (2024) defined health facility as an organized health institution that complement and amplify the effectiveness of many other parts of the health system, providing continuous availability of services for acute and complex conditions. Therefore, a high knowledge about LF among HCPs is likely to foster a positive attitude towards its control and prevention thereby increasing their adoption of effective preventive measures. This study therefore investigated the knowledge, attitude and preventive measures of LF among HCPs in health facilities in Nsukka LGA, Enugu State.

Healthcare professionals are expected to have robust knowledge of Lassa fever (LF), maintain positive attitudes toward its control and prevention, and adopt effective infection preventive measures to reduce transmission, morbidity, and mortality risks. Unfortunately, many HCPs exhibit poor knowledge, negative attitudes, and inadequate preventive measures, increasing their vulnerability to LF and hindering early diagnosis and treatment. Consequently, health facilities are often unprepared for LF outbreaks, endangering both HCPs and patients. The lack of research on how socio-demographic factor (age) influence HCPs' knowledge, attitudes, and preventive measures regarding LF in Nsukka LGA



highlights a critical gap. This motivates the researcher to investigate these variables, aiming to inform targeted interventions and policies to enhance LF control and prevention, ultimately reducing associated risks.

### **Purpose of the Study**

The purpose of this study was to investigate the knowledge, attitude and preventive measures of Lassa fever among healthcare professionals in health facilities in Nsukka Local Government Area, Enugu State. Specifically, this study determined the:

1. proportion of healthcare professionals that possess knowledge of Lassa fever in health facilities in Nsukka LGA, Enugu State;
2. attitude of healthcare professionals towards Lassa fever in health facilities in Nsukka LGA, Enugu State;
3. proportion of healthcare professionals that adopt preventive measures of Lassa fever in health facilities in Nsukka LGA, Enugu State; and
4. proportion of healthcare professionals that possess knowledge of Lassa fever in health facilities in Nsukka LGA, Enugu State based on age.

### **Research Questions**

The following research questions were posed to guide the study:

1. What is the proportion of healthcare professionals that possess knowledge of Lassa fever in health facilities in Nsukka LGA, Enugu State?
2. What is the attitude of healthcare professionals towards Lassa fever in health facilities in Nsukka LGA, Enugu State?
3. What is the proportion of healthcare professionals that adopt preventive measures of Lassa fever in health facilities in Nsukka LGA, Enugu State?
4. What is the proportion of healthcare professionals that possess knowledge of Lassa fever in health facilities in Nsukka LGA, Enugu State based on age.

### **Hypothesis**

1. There is no significant difference in the proportion of healthcare professionals that possess knowledge of Lassa fever in health facilities in Nsukka LGA, Enugu State based on age ( $p \leq 0.05$ ).

### **Methods**

A cross-sectional research design was adopted for the study. The study was carried out in Nsukka Local Government Area, Enugu State. Nsukka LGA falls within Enugu North Senatorial Zone alongside Igbo Etiti, Igbo Eze North, Igbo Eze South, Udenu and Uzo Uwani LGA. Nsukka LGA also forms a Federal Constituency alongside Igbo Eze South LGA. Nsukka LGA covers an area of 484km<sup>2</sup>. With a population of 417,700 according to the 2016 National Bureau of Statistics, Nsukka LGA is the largest LGA by population in Enugu State. The researcher's choice of area was informed by the expanding geographic distribution of Lassa fever in Nigeria, where the disease has progressed from historically highly endemic regions to affecting an increasing number of states, including Enugu. Despite LF not being common in Nsukka LGA, Enugu, there is a chance that it could spread because of things like businesses, human movement and environmental changes that could spread the illness to areas that have never been impacted. Although, healthcare professionals (HCPs) play a pivotal role as frontline responders in early detection, case management and prevention of Lassa fever, studies across Nigeria have consistently revealed gaps in knowledge, attitudes, and adherence to standard IPC practices among HCPs. These deficiencies can facilitate rapid



spread within health facilities and communities, particularly in areas with limited specialized treatment centers. The researcher's preliminary observations in Nsukka LGA facilities suggested suboptimal preventive measures, underscoring the need to assess and address these gaps to strengthen local preparedness and contribute to national efforts in controlling Lassa fever transmission. The population for the study consisted of 1,434 healthcare professionals in all the 44 primary health centres in Nsukka LGA, Enugu State. The sample size used in the study consisted of 480 healthcare professionals drawn using a multi-stage sampling procedure. The retrieved copies of the KAPMLFQ were cross checked for completeness of response before analysis. Copies that are not properly filled out were discarded.

The International Business Machine Statistical Package for Social Sciences (IBM-SPSS) version 22 was used for data analysis. Frequencies and percentages were used to answer the research question one, three and four while mean and standard deviation were used to answer the research questions two. To determine the proportion of HCPs that possess knowledge of LF and proportion of HCPs that adopt preventive measures of LF a scoring system a correct answer was assigned 1 while an incorrect answer was assigned 0. The overall knowledge of LF score was determined based on the sum of correct answers to the 15-item knowledge-based questions on LF and 10-item preventive measure questions respectively. Research question two was answered using mean value and standard deviation. A four-point scale was adopted using the criterion mean of 2.50. Therefore, any item that scored 2.50 and above signified positive attitude towards Lassa fever while items below 2.50 were considered negative attitude towards Lassa fever. Chi-square statistics was used to test the null hypothesis one. The hypothesis was tested at 0.05 level of significance and appropriate degrees of freedom. The null hypothesis was rejected when the probability value ( $p$ -value) is less than or equal to the alpha level, but where the  $\rho$  value is greater than the alpha value, the null hypothesis is not rejected.

## Results

Table 1

### Proportion of Healthcare Professionals that Possess Knowledge of Lassa Fever in Health Facilities in Nsukka LGA, Enugu State (n=442)

s/n	Items	Correct f(%)	Incorrect f(%)
1	Lassa fever (LF) is caused by Lassa virus	419(94.8)	23(5.2)
2	Mastomysrat is the vector that causes LF	384(86.9)	58(13.1)
3	LF can be transmitted through consumption of mastomysrat	343(77.6)	99(22.4)
4	LF can be transmitted through contact with urine/feaces of infected mastomysrat	321(72.6)	121(27.4)
5	Direct contact with infected person cannot lead to LF infection?	216(48.9)	226(51.1)
6	Direct contact with infected persons' blood, urine/feaces, and other bodily secretion cannot lead to LF infection	270(61.1)	172(38.9)
7	Fatigue, fever, chest pain, sore throat, swelling face, vomiting, and diarrhea are not the symptoms of LF	261(59.0)	181(41.0)
8	The incubation period of LF ranges from 2-21days	315(71.3)	127(28.7)
9	LF infected persons often do not show any noticeable symptoms in the early stages of the infection	322(72.9)	120(27.1)
10	There is currently no licensed vaccine for LF	298(67.4)	144(32.6)
11	Antiviral drug ribavirin is been used as a therapeutic agent to treat	341(77.1)	101(22.9)



12	LF can lead to death if not treated on time	389(88.0)	53(12.0)
13	LF can be prevented	398(90.0)	44(10.0)
14	Laboratory tests are used to confirm a diagnosis of Lassa fever in suspected patients	399(90.3)	43(9.7)
15	Healthcare professionals should wear personal protective equipment (PPE) when collecting blood samples from patients suspected of having LF	405(91.6)	37(8.4)
<b>Overall %</b>		<b>85.3</b>	<b>14.7</b>

Key: 0-39%= Low proportion; 40-69%= Moderate proportion; 70% and above= High proportion

Table 1 shows that overall, a high proportion (85.3%) of health professionals possessed knowledge of Lassa fever in health facilities in Nsukka LGA, Enugu State. However, a low proportion (14.7%) did not possess knowledge of Lassa fever.

Table 2

#### Attitude of Healthcare Professionals towards Lassa Fever in Health Facilities in Nsukka LGA, Enugu State (n=442)

s/n	Items	$\bar{x}$	SD
1	I believe that effective control measures can significantly reduce the incidence of LF in our community	3.63	0.60
2	As a HCPs, I have a role to play in the prevention and spread of LF my community	3.46	0.62
3	I feel confident in my ability to educate patients about LF prevention strategies	3.38	0.67
4	I prioritize LF prevention in my daily healthcare practices	3.31	0.64
5	I believe that the healthcare system adequately supports LF control initiatives	3.18	0.84
6	I think that recent public health campaigns on LF are sufficient to inform HCPs	2.97	0.89
7	I think that community involvement is essential for effective LF control	3.21	0.79
8	I believe that personal protective equipment (PPE) is important for preventing LF transmission in healthcare settings.	3.24	0.80
9	I feel that resources for LF prevention (such as funding and educational materials) are readily available in my health facility	2.67	0.98
10	I believe that the government is doing enough to support LF prevention and control initiatives	2.66	0.99
11	I believe that training of HCPs on infection prevention and control (IPC) regarding LF will improve the IPC practices of HCPs	3.25	0.79
12	I think that good patient education concerning LF can prevent the spread of LF in the community	3.36	0.70
13	I believe that effective observation systems are important for early detection of Lassa fever outbreaks.	3.44	0.62
14	I think that timely reporting of suspected Lassa fever cases is crucial for effective prevention	3.46	0.64
15	I believe that improving environmental sanitation can significantly limit the spread of LF	3.48	0.61



<b>Overall <math>\bar{x}</math></b>	<b>3.25</b>	<b>0.37</b>
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Key: Positive attitude,  $\bar{x} \geq 2.50$ ; Negative attitude,  $\bar{x} \leq 2.50$

Table 2 shows that overall, healthcare professionals in health facilities in Nsukka LGA, Enugu State had positive attitude towards Lassa fever ( $\bar{x}=3.25$ ;  $SD=0.37$ ).

Table 3

**Proportion of Healthcare Professionals that Adopt Preventive Measures of Lassa Fever in Health Facilities in Nsukka LGA, Enugu State (n=442)**

s/n	Items	Yes f(%)	No f(%)
1	Do you make use of hand glove regularly?	355(80.3)	87(19.7)
2	Do you wash your hand often with soap and water before and after all procedures?	359(81.2)	83(18.8)
3	Do you make frequent use of gowns and boots in procedures that generate splashes?	298(67.4)	144(32.6)
4	Do you always ensure proper isolation of infected patents (LF patient)?	327(74.0)	115(26.0)
5	Do you often dispose sharp objects in a safety box?	328(74.2)	114(25.8)
6	Do you make use of facemask and eye protection during procedures that generate splashes?	319(72.2)	123(27.8)
7	Do you dispose medical waste/refuse item properly?	341(77.1)	101(22.9)
8	Do you always take standard precaution before and after contact with patient's environment?	329(74.4)	113(25.6)
9	Do you ensure regular disinfection of all patient environments before admission and after discharge?	353(79.9)	89(20.1)
10	Do you engage in early identification or treatment to improve outcome in case of management of infectious disease such as LF?	348(78.7)	94(21.3)
<b>Overall %</b>		<b>74.2</b>	<b>25.8</b>

Key: 0-39%= Low proportion; 40-60%= Moderate proportion; 70% and above= High proportion

Table 3 shows that overall, a high proportion (74.2%) of healthcare professionals in health facilities in Nsukka LGA, Enugu State adopted preventive measures of Lassa fever. Specifically, a high proportion adopted washing hands often with soap and water before and after all procedures (81.2%), and making use of hand glove regularly (80.3%).

Table 4

**Proportion of Healthcare Professionals that Possess Knowledge of Lassa Fever in Health Facilities in Nsukka LGA, Enugu State Based on Age (n=442)**

s/n	Items	20–34 years (n=261)	35–44 years (n=124)	45 years + (n=57)
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		Correct f(%)	Correct f(%)	Correct f(%)
1	Lassa fever (LF) is caused by Lassa virus	251(96.2)	116(93.5)	52(91.2)
2	Mastomysrat is the vector that causes LF	236(90.4)	100(80.6)	48(84.2)
3	LF can be transmitted through consumption of mastomysrat	208(79.7)	94(75.8)	41(71.9)
4	LF can be transmitted through contact with urine/feaces of infected mastomysrat	200(76.6)	81(65.3)	40(70.2)
5	Direct contact with infected person cannot lead to LF infection?	137(52.5)	56(45.2)	23(40.4)
6	Direct contact with infected persons' blood, urine/feaces, and other bodily secretion cannot lead to LF infection	166(63.6)	77(62.1)	27(47.4)
7	Fatigue, fever, chest pain, sore throat, swelling face, vomiting, and diarrhea are not the symptoms of LF	154(59.0)	78(62.9)	29(50.9)
8	The incubation period of LF ranges from 2-21days	203(77.8)	82(66.1)	30(52.6)
9	LF infected persons often do not show any noticeable symptoms in the early stages of the infection	191(73.2)	90(72.6)	41(71.9)
10	There is currently no licensed vaccine for LF	178(68.2)	80(64.5)	40(70.2)
11	Antiviral drug ribavirin is been used as a therapeutic agent to treat LF	212(81.2)	91(73.4)	38(66.7)
12	LF can lead to death if not treated on time	235(90.0)	100(80.6)	54(94.7)
13	LF can be prevented	234(89.7)	110(88.7)	54(94.7)
14	Laboratory tests are used to confirm a diagnosis of Lassa fever in suspected patients	240(92.0)	106(85.5)	53(93.0)
15	Healthcare professionals should wear personal protective equipment (PPE) when collecting blood samples from patients suspected of having LF	243(93.1)	107(86.3)	55(96.5)
<b>Overall %</b>		<b>83.5</b>	<b>86.3</b>	<b>91.2</b>

Key: 0-39%= Low proportion; 40-69%= Moderate proportion; 70% and above= High proportion

Table 4 shows that overall, health professionals aged 45 years and above (91.2%) possessed knowledge of Lassa fever more than those aged 35–44 years (86.3%) and 20–34 years (83.5%) in health facilities in Nsukka LGA, Enugu State.

Table 5

**Chi-square Test of No Significant Difference in the Proportion of Healthcare Professionals that Possess Knowledge of Lassa Fever in Health Facilities in Nsukka LGA, Enugu State Based on Age (n=442)**

Variable	N	Correct O(E)	Incorrect O(E)	$\chi^2$	df	p-value
Age						



20 – 34 years	261	218(222.6)	43(38.4)			
35 – 44 years	124	107(105.8)	17(18.2)	2.350	2	0.31
45 years and above	57	52(48.6)	5(8.4)			

\* Significant at  $p \leq 0.05$  level of significance;  $O(E)$  = Observed frequency (Expected frequency)

Table 5 shows that there is no significant difference in the proportion of healthcare professionals that possess knowledge of Lassa fever in health facilities in Nsukka LGA, Enugu State based on age ( $\chi^2 = 2.350$ ,  $p = 0.31 > 0.05$ ). Since the p-value of 0.31 is greater than 0.05 level of significance, the null hypothesis was not rejected. This implies that health professionals did not differ in their knowledge of Lassa fever based on age.

## Discussion

The findings in Table 1 showed that overall, a high proportion (85.3%) of healthcare professionals possessed knowledge of Lassa fever in health facilities in Nsukka LGA, Enugu State. This finding was expected, as healthcare professionals are generally exposed to medical education, continuous training, and public health awareness campaigns on infectious diseases like Lassa fever. The result aligns with the study by Mbuk (2018), who reported high knowledge Lassa fever among respondents in Kaduna State. Similarly, Nwonwu et al. (2018) found that a high percentage of respondents in South-East Nigeria were knowledgeable about Lassa fever. However, the finding contrasts with the study of Ndu et al. (2019) in Enugu State, which reported fair knowledge of Lassa fever. The discrepancy may be attributed to variations in exposure to training programs, the prevalence of Lassa fever in different regions, and differences in institutional policies regarding infectious disease management. The high level of knowledge found in the present study may have been influenced by frequent government-led sensitization programs, the integration of Lassa fever education into professional training, and the presence of previous outbreaks in the region, which may have heightened awareness among healthcare workers in Nsukka LGA. These factors likely contributed to the dissemination of relevant knowledge and preparedness among health professionals in the area.

The findings in Table 2 revealed that overall, healthcare professionals in health facilities in Nsukka LGA, Enugu State had positive attitude towards Lassa fever. This finding is expected, as healthcare workers are often at the forefront of infectious disease management and are likely influenced by professional ethics, continuous medical education, and workplace training on disease prevention and control. The positive attitude observed in this study may be attributed to regular sensitization programs, institutional policies promoting infectious disease management, and the perceived occupational risk associated with Lassa fever. Similar findings were reported by Ogboghodo et al. (2019), who found that respondents in Southern Nigeria exhibited a positive attitude towards Lassa fever. Likewise, Egenti et al. (2019) observed positive attitude among residents of University of Abuja Staff Quarters Giri, Gwagwalada Abuja, attributing it to government-led awareness campaigns and increased media coverage of Lassa fever outbreaks. However, contrasting findings by Olowookere et al. (2017) in Ile-Ife, Southwest Nigeria revealed a negative attitude among respondents, which was attributed to inadequate training opportunities, lack of institutional support, and low risk perception of the disease. The disparity in findings may stem from differences in access to professional development programs, past outbreak experiences, and variations in public health policies across regions. The positive attitude observed in this study





may have been reinforced by consistent health education efforts, institutional preparedness for disease outbreaks, and the emphasis on personal and workplace safety measures in Nsukka LGA health facilities. These factors likely contributed to the heightened sense of responsibility and commitment among healthcare professionals in tackling Lassa fever.

The findings in Table 3 indicated that overall, a high proportion of healthcare professionals in health facilities in Nsukka LGA, Enugu State adopted preventive measures of Lassa fever. This finding is encouraging and somewhat expected, given that healthcare professionals are often required to follow standard infection prevention and control measures in clinical settings. The high adoption rate may be attributed to workplace policies, regular training on infectious disease prevention, and heightened awareness of the risks associated with Lassa fever transmission in healthcare environments. Similar findings have been reported by Ighedosa et al. (2016), who observed high compliance with Lassa fever preventive measures among respondents in University of Benin, citing institutional enforcement of standard precautions and availability of protective equipment. Likewise, Ekanem et al. (2018) found that frequent exposure to Lassa fever outbreaks in some parts of Nigeria increased adherence to preventive measures, as healthcare professionals became more conscious of personal and occupational safety. Conversely, Oglewu et al. (2022) reported lower adoption rates of Lassa fever preventive practices among health workers in a tertiary health facility in a Southern Nigeria, attributing the disparity to inadequate supply of personal protective equipment (PPE), lack of proper training, and weak institutional enforcement of infection control policies. The contrast in findings may arise from differences in healthcare infrastructure, availability of preventive resources, and levels of professional training across regions. The high adoption rate observed in this study may be linked to proactive institutional measures in Nsukka LGA, such as periodic training sessions, reinforcement of infection control guidelines, and the presence of past outbreak experiences that heightened risk perception among healthcare professionals. Additionally, government and non-governmental health interventions may have contributed to strengthening preventive efforts within the health facilities in the area.

The findings in Table 4 showed that overall, health professionals aged 45 years and above possessed knowledge of Lassa fever more than those aged 35–44 years and 20–34 years in health facilities in Nsukka LGA, Enugu State. This finding is expected, as older healthcare professionals are likely to have had more years of experience, exposure to health education programs, and multiple training sessions on infectious disease control. Their extensive professional experience may have also contributed to their higher level of knowledge on Lassa fever compared to their younger counterparts. However, the corresponding hypothesis in Table 5, which shows that there was no significant difference in the proportion of healthcare professionals who possessed knowledge of Lassa fever based on age, is somewhat surprising. One would expect the variations in knowledge across age groups to be statistically significant, given the differences in years of practice and exposure to past Lassa fever outbreaks. Similar findings in literature include a study by Umoke et al. (2021), which found that age had no significant association with knowledge of Lassa fever among respondents in Ebonyi State University, suggesting that continuous professional training plays a crucial role in maintaining high knowledge levels across all age groups. Conversely, Nwonwu et al. (2018) reported that older respondents had significantly lower knowledge of Lassa fever than their younger counterparts, attributing the difference to generational gaps in access to updated medical information and training opportunities. The lack of significant differences in this study may be due to uniform access to professional development programs and institutional training across all age groups, ensuring that knowledge gaps are minimized. This highlights the effectiveness of continuous medical education and workplace-based



health education efforts in Nsukka LGA, which likely provide equal learning opportunities for healthcare professionals, regardless of age.

## Conclusion

The findings of this study indicate that healthcare professionals in Nsukka LGA, Enugu State demonstrate a high level of knowledge and a positive attitude towards Lassa fever, with a significant proportion adopting preventive measures. Knowledge of Lassa fever was notably higher among HCPs aged 45 years and above. Age is an important factor considered in knowledge of Lassa fever among healthcare professionals. These findings suggest that while there is a commendable level of awareness and practice regarding Lassa fever prevention, certain demographic factors, such as age, may require targeted health education interventions to enhance uniform knowledge and practices. In light of these results, it is crucial for health authorities in Nsukka LGA to focus on tailored interventions, especially for groups with lower levels of knowledge and preventive practices. Strategies such as continuous training and educational programs targeting specific demographic groups would further strengthen the overall response to Lassa fever in health facilities and improve the overall preparedness of healthcare professionals in the region. The Ministry of Health, in collaboration with local government health departments, should organize regular outreach programmes in rural and underserved communities. These programmes should focus on Lassa fever prevention, targeting healthcare professionals who may have limited access to ongoing training. Public health educators should design and implement capacity-building programmes that specifically target healthcare professionals who exhibit lower engagement in preventive measures. Local government health authorities and research institutions should conduct periodic evaluations of Lassa fever education and prevention programmes to assess their effectiveness. These evaluations should include feedback from healthcare professionals at all levels to identify gaps in knowledge, attitudes, and preventive measures. Professional training institutions and the Ministry of Health should ensure that Lassa fever education is integrated into the regular curriculum for healthcare professionals. This should include both theoretical knowledge and practical training on preventive measures, emphasizing the importance of timely detection, reporting, and prevention in high-risk environments.

## References

- Centers for Disease Control and Prevention (CDC, 2022). *Lassa fever*. Retrieved online from <https://www.cdc.gov/vhf/Lassa/index.html>
- Egenti, N. B., Adelaiye, R. S., Sani, I. M., & Adogu, P. O. U. (2019). Knowledge, attitude and preventive measures regarding Lassa fever among residents of University of Abuja Staff Quarters Giri, Gwagwalada Abuja. *American Journal of Medicine and Medical Sciences*, 9(3), 90-95. doi: 10.5923/j.ajmms.20190903.05
- Ekanem, A. M., Ekwere, T. A., Akwaowo, C. D., Akpanekpo, E. I., Mbaba, E. M., Anietie, M. H., ...Akwaowo, U. S. (2018). Knowledge and prevention of Lassa fever among adults in a rural community in Southern Nigeria. *Saudi Journal of Medicine (SJM)*, 3(7), 393-399.
- Enugu State Ministry of Health: Enugu Confirms Second Death. (2020, February 1). Lassa fever. *Thisday*. <https://www.thisdaylive.com/index.php/2020/02/01/Lassa-fever-enugu-confirms-second-death/>



- Gompf, S. G. (2020). *Lassa fever. Lassa fever/symptoms, treatment, contagious, & vaccine.* html MedicineNet.
- Healthplan. (2022). *What is a healthcare professional: roles & responsibilities?* <https://healthplan.co.uk/blog/explaining-the-role-of-healthcare-professionals/>
- Ighedosa, S. U., Amienwanlen, E. O., Usifoh, S. F., Osadolor, A., Asemota, D. O., & Aighewi, I. T. (2017). Knowledge, attitude and practice of Lassa fever prevention by students of the University of Benin. *Journal of Science and Practice of Pharmacy*, 3(1), 75-83.
- Malikova, L., & Yakovleva, N. (2020). Attitude to health among athletes with extremities injuries. *BIO Web of Conferences* 26, 00024. <https://doi.org/10.1051/bioconf/20202600024>
- Mbuk, E. U. (2018). Knowledge, attitude and practice to Lassa fever virus among Shop owners in 4 community markets in a military barrack in Kaduna State, Nigeria. *EC Veterinary Science*, 3(3), 379-387.
- Ndu, A. C., Kassy, W. C., Ochie, C. N., Arinze-Onyia, S. U., Okeke, T. A., Aguwa, E. N., Okwor, T. J., & Chinawa, A. (2019). Knowledge, misperceptions, preparedness, and barriers towards Lassa fever control among health care workers in a Tertiary Institution in Enugu, Nigeria. *Journal Health Care Poor Underserved*, 30(3), 1151-1164. doi: 10.1353/hpu.2019.0079.
- Nigerian Centre for Disease Control and Prevention (NCDC, 2024). An Update of Lassa Fever Outbreak in Nigeria. *An Update of Lassa Fever Situation Report in Nigeria for Week 42, 2024.* <https://ncdc.gov.ng/diseases/sitreps/?cat=5&name=An%20update%20of%20Lassa%20fever%20outbreak%20in%20Nigeria>
- Nwonwu, E. U., Alo, C., Una, A. F., Madubueze, U. C., Eze, I., Eze, N. C., ...Akamike, I. C. (2018). Knowledge of Lassa fever and its determinants among traders in izzi community in south-east Nigeria. *Archives of Current Research International*, 13(4), 1-9.
- Ogboghodo, E. O., Adam, V. Y., Omuemu, V. O., & Okojie, O. H. (2019). Knowledge, attitude and preventive practices against Lassa fever among residents in a rural community in southern Nigeria. *West African Journal of Medicine*, 36(2), 165-171.
- Oglewu, J., Asibong, U., & Akpan, U. (2022). Awareness and practice of Lassa fever prevention among health workers in a Tertiary Health Facility in a Southern Nigerian City. *Journal of Education and Practice*, 13, 2222 - 1735. doi:10.7176/JEP/13-7-08.
- Ogundipe, S. (2016, January 17). What you should know about Lassa fever. *Vanguard Newspaper*. Lagos: Vanguard Media Ltd, Nigeria.
- Olowookere, S. A., Adegbenro, C. A., Idowu, A., Omisore, A. G., Shabi, O. M., Ikem, U. R., & Oderinde, I. F. (2017). Knowledge Attitude and Practices Toward Lassa Fever Control and Prevention Among Residents of Ile-Ife, Southwest Nigeria. *International Community Health Education*, 37(2), 107-112. doi: 10.1177/0272684X17701261
- Umoke, M. J., Umoke, P. C. I., Nwalieji, C. A., Onwe, R. N., Nwafor, I. E., Agbaje, S. O., & Nwimo, I. O. (2021). Assessment of knowledge and sources of information on Lassa



- fever infection among the undergraduate students of Ebonyi State University, Nigeria. *Sage Open Journal*, 1-10. doi: 10.1177/21582440211006382
- Usuwa, I. S., Akpa, C. O., Umeokonkwo, C. D., Umoke, M., Oguanuo, C. S., Olorukooba, A. A., ...Muhammad, S. B. (2020). Knowledge and risk perception towards Lassa fever infection among residents of affected communities in Ebonyi State, Nigeria: implications for risk communication. *BMC Public Health*, 20, 217. <https://doi.org/10.1186/s12889-020-8299-3>.
- World Health Organization. (WHO, 2017). *Lassa fever*. Geneva. <https://www.who.int/en/news-room/fact-sheets/detail/Lassa-fever>
- World Health Organization. (WHO, 2018). *Lassa fever research and development (R&D) roadmap*. [https://www.who.int/publications/m/item/Lassa-fever-research-and-development-\(r-d\)-roadmap](https://www.who.int/publications/m/item/Lassa-fever-research-and-development-(r-d)-roadmap)
- World Health Organization. (WHO, 2019). *Lassa Fever – Nigeria*. Factsheet. <https://www.who.int/news-room/fact-sheets/detail/Lassa-fever>
- World Health Organization. (WHO, 2020). *Lassa fever – Nigeria*. Factsheet. Geneva Switzerland.
- World Health Organization (WHO, 2022). *Occupational health: health workers*. <https://www.who.int/news-room/fact-sheets/detail/occupational-health--health-workers>
- World Health Organization. (WHO, 2024). *Hospitals*. [https://www.who.int/health-topics/hospitals/#tab=tab\\_3](https://www.who.int/health-topics/hospitals/#tab=tab_3)