



KNOWLEDGE, ATTITUDE, AND PRACTICE OF LASSA FEVER PREVENTION AMONG HEALTHCARE WORKERS IN MAKURDI

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ABSTRACT: *Introduction: Lassa fever (LF) is a severe viral haemorrhagic disease that requires prompt reporting to local, state, and national health authorities. It presents initially with nonspecific symptoms but may progress to multi-organ failure if treatment is delayed. This study assessed the knowledge, attitude, and infection prevention and control (IPC) practices regarding LF among healthcare workers (HCWs) in Makurdi, Benue State. Methodology: A descriptive cross-sectional study was conducted among 230 HCWs selected through a multistage sampling technique. Data were collected using self-administered, semi-structured questionnaires and analyzed with SPSS version 26.0. Chi-square tests were applied to test associations at a 0.05 level of significance. Results: The majority of respondents demonstrated good knowledge of LF and its preventive measures (79.6%) and reported positive attitudes towards prevention (86.5%). However, only 52.2% exhibited good IPC practices. Significant variations were observed across professional cadres. Conclusion: Although HCWs demonstrated adequate knowledge and favourable attitudes towards LF prevention, gaps remain in IPC practices. Addressing these gaps requires targeted interventions, including consistent provision of personal protective equipment (PPE), dissemination of information, education and communication (IEC) materials within healthcare facilities, and strengthening IPC committees to ensure adherence to standard protocols at both facility and community levels.*

KEYWORDS: Lassa fever, Healthcare workers, Knowledge, attitude, and practices (KAP), Infection prevention and control (IPC).



INTRODUCTION

Lassa fever is one of the Viral Haemorrhagic Fevers (VHF) and is caused by the Lassa virus (Yaro et al., 2021). Cases of Lassa fever have been reported to be endemic in other African countries like Benin, Ghana, Guinea, Togo, Sierra Leone, and Mali (Okokhere et al., 2018; NCDC, 2019). About 20% of those who get infected become symptomatic, while 80% are asymptomatic and do not become sick or present for treatment (Umoke et al., 2021). The incubation period is usually 1-3 weeks (Dolopei et al., 2021).

Most patients present with prodromal symptoms such as progressive fever, headache and general feeling of ill health. Multiple organ damage and neurological symptoms such as sensorineural hearing loss, tremors and encephalitis are some complications associated with Lassa fever. Studies have shown CFR as high as 31.7% amongst healthcare workers (HCWs) (Saleh et al., 2019).

Lassa Fever is estimated to infect 3 to 5 million individuals yearly and often results in death. The West African sub-region records about 100,000 to 300,000 cases annually, with approximately 5,000 deaths (Africa CDC, 2020). Several studies were carried out to ascertain the level of Knowledge, Attitude and preventive practices regarding Lassa Fever. An assessment of the knowledge of Lassa fever and its preventive practices among University of Nigeria Nsukka (UNN) students from medical faculties by Akunne et al. (2018) using a self-administered questionnaire showed an overall low level of insight on the subject matter among the students. However, Osahon et al. (2018) assessed the knowledge and perception of Lassa fever and its preventive practices among clinical students of the University of Benin, Benin City, Nigeria, using a cross-sectional descriptive study with a self-administered questionnaire. The study revealed a good level of knowledge of Lassa fever among the students.

A survey done by Fidelis et al. in 2018 showed that 56 of the respondents felt they had enough knowledge to safely and effectively manage a patient; 126 showed a burning desire to know more about the subject matter. Another survey done in Liberia showed that, overall, 29% of the 858 respondents had a positive attitude toward Lassa Fever (Dolopei et al., 2021). The majority of healthcare providers in a study carried out in Sabongari, Kaduna state also had an excellent attitude score of 84.0% with respect to the prevention and control of Lassa fever.

Concerning Lassa fever prevention practices, part of the measures put in place towards prevention of transmission of the virus in hospital settings include the wearing of protective equipment such as face masks, latex or surgical gloves, surgical gowns, and splash-preventing goggles, among other hygienic techniques (Adebimpe et al., 2020). A study carried out by Ibidolapo et al. (2018) sampled one hundred and ninety HCWs from 59 healthcare facilities. It was discovered that only 151 respondents practiced hand washing before contact with patients, 188 washed their hands after and 183 wore gloves while making contact with patients. While the study could not establish an association between the availability of gloves and their utilisation, there was a significant association between knowledge improvement on standard precautions and using gloves and having washed hands after the last patient contact. This correlation is key, as lack of training and re-training of healthcare workers on IPC knowledge and practices is deemed a factor in poor preventive practice results. All the healthcare facilities in the study by Ibidolapo et al. did not meet the basic standard for infection prevention and control.



In Nigeria, about 3369 people have been infected with Lassa fever from 1st January, 2023 to date, according to the Nigerian Centre for Disease Control. About 589 deaths have been recorded, with a CFR of 17.4%. An assessment of the annual situation reports for the last three years shows a progressive increase in confirmed cases (NCDC Lassa Fever Sitreps, 2025). Benue state has recorded a total of 82 cases of Lassa Fever since 1st January, 2024 till date, including 13 healthcare workers. Unfortunately, 14 deaths were recorded with a CFR of 22.9% in 2024, and 6 deaths in 2025 (Benue Lassa Fever Sitrep, 2025). This has led to increased mortality and morbidity with attendant complications in survivors, among whom are healthcare workers.

METHODOLOGY

Research Design

A cross-sectional descriptive study design was employed for this study. A quantitative data method was used, and 230 respondents were selected for this study via systematic random sampling.

Research Instrument and Data Collection

A pre-tested structured interviewer-administered questionnaire was used for the study with a Cronbach's alpha score of 0.95 (Ireye et al., 2020). The tool was divided into sections: socio-demographic characteristics of the respondents, knowledge, attitude and preventive practices. Knowledge of Lassa fever was measured using a scoring system of twenty points which covered common knowledge of disease causality, vector of disease, mode of transmission, clinical presentation, case management and Lassa fever preventive measures. Any score below 10 indicated poor knowledge; 10-14 was measured as fair knowledge, while good knowledge attracted a score of ≥ 15 .

The attitude and perception on preventive practices of Lassa fever were measured on a 5-point Likert scale using a 30-point scoring system consisting of graded responses to targeted precautionary and preventive measures (Box 2). The responses were measured using the following scoring scale: strongly agree – 2.5, agree – 2.0, not sure – 1.5, disagree – 1.0, and strongly disagree – 0.5 in ten out of twelve attitude/perception parameters, while for the last two of the parameters, the coding was reversed (that is, 0.5 = strongly agree – 0.5, agree – 1.0, not sure – 1.5, disagree – 2.0 and strongly disagree – 2.5). An aggregate score less than 15 indicated poor attitude/perception; 15–22.49 was assessed as fair attitude/perception, while a score of ≥ 22.5 was assessed as good attitude.

Using an 11-point scoring system, the practices of IPC measures among respondents were measured, with a point assigned to each question asked. Any score below 6 represented poor practice of IPC; fair IPC practice was graded 6 – 8, while good IPC practice was assigned a score of 9 – 11.



Method of Data Analysis

The collated data from respondents were sorted using the scoring algorithm designed for the study. Results were then exported to SPSS (Statistical Package for Social Sciences version 26) and analysed. Subsequent results of the data analysis were represented in tables and bar charts. Results obtained were displayed in frequencies, proportions and percentages. Associations between variables were assessed for statistical significance using Chi-square test with the significance interval set at $p < 0.05$.

RESULT

Table 1: Summary of Socio-demographic Characteristics of Respondents

Variables	Percentage	Frequency
Sex (n = 230)		
Male	34.35	79
Female	65.65	151
Age group (n = 230)		
25-34	46.96	108
35-44	33.91	78
45-54	10.43	24
55-64	6.52	15
65-70	2.17	5
Respondents Facility (n = 230)		
Public	66.52	153
Private	33.48	77
Facility Tier (n = 230)		
Tertiary	26.52	61
Secondary	73.48	169
Cadre		
Doctor	15.7	36
Nurse	28.3	65
Midwife	20	8.7
Lab science	11.3	26
CHO	2.2	5
CHEW	15.7	36
Other	18.3	42

A total of 230 healthcare workers participated in the survey, with a 100% response rate. The number of female respondents was higher (65.65%) than that of the males (34.35%). The age brackets of 25-34 years and 35-44 years had the most respondents, with percentages of 46.96 and 33.91, respectively. Healthcare workers from public health facilities represented 66.52% of the respondents, with private facilities accounting for 33.48% of the respondents. The majority of the respondents (73.48%) worked in secondary healthcare facilities, while 26.52% of the HCWs worked in a tertiary facility. Nurses, CHEWs, and doctors accounted for higher numbers of respondents compared to other cadres: 28.3%, 15.7%, and 15.7%, respectively.



Result of assessment of knowledge on Lassa prevention among respondents

Assessment of overall knowledge of respondents on Lassa preventive measures showed that 7.4% had poor knowledge, 13% had fair knowledge, and 79.6% had good knowledge (Tables 3, 4 and 5). Over 90% of the respondents in both private and public healthcare facilities demonstrated fair knowledge of Lassa fever and its preventive measures. The difference in knowledge between public and privately owned healthcare facilities and between secondary and tertiary healthcare facilities was found not to be statistically significant ($X^2=1.855$, $X^2=1.738$, respectively), while that between the different cadres of healthcare workers was significant ($X^2=24.818$, $p\text{-value}=0.016$).

Table 5: Knowledge Scores among Cadres of HCWs in Makurdi

		1-9 (POOR)	10-14 (FAIR)	15-20 (GOOD)	Total
CADRE	DOCTOR	2(5.6)	5(13.9)	29 (80.5)	36
	NURSE	0(0.0)	6(9.2)	59 (90.8)	65
	MIDWIFE	2(10.0)	3(15.0)	15 (75.0)	20
	LAB	0(0.0)	2(7.7)	24(92.3)	26
	SCIENCE				
	CHO	0(0.0)	0(0.0)	5 (100.0)	5
	CHEW	6(16.7)	5(13.9)	25 (69.4)	36
	OTHERS	7 (16.7)	9(21.4)	26 (61.9)	42
		17(7.4)	30 (13.0)	183 (79.6)	230

$X^2=24.818$, $p\text{-value}=0.016$

Table 5 shows that nurses recorded the highest percentage (90.8%) of respondents with good knowledge of Lassa fever preventive measures, even though they also contributed the highest demography of respondents to the study (28.2%), followed by doctors (80.5%) despite contributing 15.65% to the total population of respondents. The other cadre of healthcare workers not specified, accounting for 18.26% of the respondents, demonstrated good knowledge in only 61.9%

Result of assessment of attitude to Lassa fever prevention among respondents

Assessment of the overall attitude of respondents to Lassa fever preventive measures showed that 2.2% had a poor attitude, 11.3% had a fair attitude, and 86.5% had a good attitude (Tables 6, 7 and 8). Over 90% of the respondents in both private and public healthcare facilities demonstrated at least a fair attitude towards Lassa fever preventive measures. The difference in attitude between public and privately owned healthcare facilities, between secondary and tertiary tiers of facilities, and between the different cadres of healthcare workers was found not to be statistically significant ($x^2=0.445$, $x^2=1.845$, and $x^2=10.149$, $p\text{-value}=0.603$, respectively).

Table 8: Showing Attitude scores among the different cadres of HCWs in Makurdi

SCORE OF ATTITUDES					
15-22.45					
		<15(POOR)	(FAIR)	>22.5(GOOD)	Total
CADRE	DOCTOR	1(2.8)	1(2.8)	34 (98.4)	36
	NURSE	0(0.0)	8(12.3)	57(87.7)	65
	MIDWIFE	0(0.0)	3(15.0)	17 (85.0)	20



LAB	0(0.0)	4(15.4)	22 (84.6)	26
SCIENCE				
CHO	0(0.0)	0(0.0)	5 (100.0)	5
CHEW	2(5.6)	5(13.9)		36
OTHERS	2(4.8)	5(11.9)	35 (83.3)	42
Total	5(2.2)	26(11.3)	199 (86.5)	230

$\chi^2=10.149$, p-value=0.600

Data captured in Table 8 shows that Community Health Officers (CHO) demonstrated a high percentage (100%) of good attitude towards Lassa prevention, although they contributed just 2.17% to the total number of respondents. Doctors scored 98.4%, followed by nurses with a percentage of 87.7%, which is good but worrisome considering the fact that they make up 28.2% of the population of respondents.

Result of assessment of Lassa fever infection prevention and control measures among respondents

Assessment of overall IPC practice of respondents to Lassa fever preventive measures showed that 17.4% demonstrated poor practice of Lassa fever preventive measures, 30.4% showed fair practice, and 52.2% practiced good Lassa fever preventive measures (Table 9, 10 and 11). Over 80 but less than 90% of the respondents in both private and public healthcare facilities demonstrated fair IPC practice of Lassa fever preventive measures and above. The difference in IPC practice between public and privately-owned healthcare facilities was found not to be significant, while between secondary and tertiary tiers of facilities, and between the different cadres of Health care workers was found to be statistically significant ($\chi^2=0.055$, p-value=0.973; $\chi^2=7.100$, p-value=0.029; and $\chi^2=27.769$, p-value=0.006 respectively)

		SCORE OF IPC			Total
		<6(POOR)	6-8(FAIR)	9-11(GOOD)	
CADRE	DOCTOR	11(30.6)	18(50.0)	7(19.4)	36
	NURSE	11(16.9)	17(26.2)	37(56.9)	65
	MID WIFE	2(10.0)	3(15.0)	15(75.0)	20
	LAB	3(11.5)	6(23.1)	17(65.40)	26
	SCIENCE				
	CHO	1(20.0)	2(40.0)	2(40.0)	5
	CHEW	5(13.9)	7(19.4)	24(66.7)	36
	OTHERS	7(16.7)	17(40.5)	18(42.8)	42
Total		40(17.4)	70(30.4)	120(52.2)	230

$\chi^2=27.769$, p-value=0.006

Table 11 shows that 75.0% of Midwives recorded good practice of Lassa fever IPC measures, Community Health Officers recorded 66.7%, while 65.4% of laboratory scientists demonstrated good practice of IPC measures. While only 56.9% of nurses demonstrated good IPC practices, Doctors had 50% of their respondent population demonstrate fair IPC practices, and only 19.4% showed mastery of Lassa fever IPC measures.

Table 12: Cadre Knowledge Scores on Lassa Fever Causative Organism

		SCORE OF LASSA FEVER ORGANISM		Total
		POOR	GOOD	
CADRE	DOCTOR	0 (0.0)	36 (100.0)	36
	NURSE	1 (1.5)	64 (98.5)	65
	MIDWIFE	3 (15.0)	17 (85.0)	20
	LAB SCIENCE	0 (0.0)	26 (100.0)	26
	CHO	0 (0.0)	5 (100.0)	5
	CHEW	6 (16.7)	30 (83.3)	36
	OTHERS	10 (23.8)	32 (76.2)	42
Total		20 (8.7)	210 (91.3)	230

Table 13: Cadre Knowledge Scores on Lassa Fever Vector

		SCORE OF VECTOR OF LASSA FEVER			Total
		POOR	FAIR	GOOD	
CADRE	DOCTOR	0(0.0)	1(2.8)	35 (97.2)	36
	NURSE	0(0.0)	3(4.6)	62 (95.4)	65
	MIDWIFE	2(10.0)	1 (5.0)	17 (85.0)	20
	LAB SCIENCE	0(0.0)	1(3.8)	25 (96.2)	26
	CHO	0(0.0)	0(0.0)	5 (100.0)	5
	CHEW	3(8.3)	3(8.3)	30 (83.4)	36
	OTHERS	7 (16.7)	2(4.8)	33(78.5)	42
Total		12(5.2)	11 (4.8)	207(90.0)	230

Table 14: showing Cadre Knowledge scores on Lassa fever transmission

		SCORE OF KNOWLEDGE OF CONTACTING LASSA FEVER			Total
		POOR	FAIR	GOOD	
CADRE	DOCTOR	2(5.6)	0(0.0)	34(94.4)	36
	NURSE	0(0.0)	3(4.6)	62 (95.4)	65
	MID WIFE	2(10.0)	0(0.0)	18(90.0)	20
	LAB SCIENCE	0(0.0)	0(0.0)	26(100.0)	26
	CHO	0(0.0)	0(0.0)	5(100.0)	5
	CHEW	2(5.6)	4(11.1)	30(83.3)	36
	OTHERS	4(9.5)	4(9.5)	34(81.0)	42
Total		10(4.3)	11(4.8)	209(90.9)	230

Table 15: Cadre Knowledge of Lassa Fever Incubation Period

		SCORE OF KNOWLEDGE OF INCUBATION PERIOD FOR LASSA FEVER			Total
		POOR	FAIR	GOOD	
CADRE	DOCTOR	0(0.0)	10(27.8)	26(72.2)	36
	NURSE	0(0.0)	17(26.2)	48(73.8)	65
	MID WIFE	3(15.0)	4(20.0)	13(65.0)	20
	LAB SCIENCE	0(0.0)	5(19.2)	21(80.0)	26
	CHO	0(0.0)	0(0.0)	5(0.0)	5
	CHEW	7(19.4)	7(19.4)	22(61.2)	36
	OTHERS	13(31.0)	11(26.2)	18(42.8)	42
Total		23(10.0)	56(24.3)	151(65.7)	230

Table 16: Cadre Knowledge of Lassa Fever Clinical Features

		SCORE OF KNOWLEDGE OF CLINICAL FEATURES OF LASSA FEVER		Total
		POOR	GOOD	
CADRE	DOCTOR	1(2.8)	35(97.2)	36
	NURSE	0(0.0)	65(100.00)	65
	MID WIFE	2(10.0)	18(90.0)	20
	LAB SCIENCE	0(0.0)	26(100.0)	26
	CHO	0(0.0)	5(100.0)	5
	CHEW	4(11.1)	32(88.9)	36
	OTHERS	8(19.0)	34(81.0)	42
Total		15(6.5)	215(93.5)	230

Table 17: Cadre Knowledge of Drug of Choice for Lassa Fever Treatment

		SCORE OF KNOWLEDGE OF DRUGS FOR LASSA FEVER			Total
		POOR	FAIR	GOOD	
CADRE	DOCTOR	3(8.3)	2(5.6)	31(86.1)	36
	NURSE	9(13.8)	8(12.4)	48(73.8)	65
	MID WIFE	5(25.0)	2(10.0)	13(65.0)	20
	LAB SCIENCE	5(19.2)	1(3.8)	20(76.0)	26
	CHO	1(20.0)	2(40.0)	2(40.0)	5
	CHEW	9(25.0)	4(11.1)	23(63.9)	36
	OTHERS	17(40.5)	3(7.1)	22(52.4)	42
Total		49(21.3)	22(9.6)	159(69.1)	230

**Table 18: Cadre Knowledge of Lassa Fever Preventive Measures**

		SCORE OF KNOWLEDGE OF PREVENTION OF LASSA FEVER			Total
		POOR	FAIR	GOOD	
CADRE	DOCTOR	2(5.6)	14(38.9)	20(55.5)	36
	NURSE	0(0.0)	6(9.2)	59(90.8)	65
	MID WIFE	2(10.0)	2(10.0)	16(80.0)	20
	LAB SCIENCE	0(0.0)	5(19.2)	21(80.8)	26
	CHO	0(0.0)	1(20.0)	4(80.0)	5
	CHEW	3(8.3)	4(11.1)	29(80.6)	36
	OTHERS	6(14.3)	1(2.4)	35(83.3)	42
Total		13(5.7)	33(14.3)	184(80.0)	230

Table 19: Lassa Fever Is a Preventable Disease with A Positive Health-Seeking Behaviour

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	143	62.2	62.2	62.2
	AGREE	76	33.0	33.0	95.2
	DISAGREE	5	2.2	2.2	97.4
	STRONGLY DISAGREE	1	.4	.4	97.8
	NO CLUE	5	2.2	2.2	100.0
	Total	230	100.0	100.0	

Table 20: Hospital-Associated Lassa Fever Is Preventable Through the Good Practice of IPC Techniques

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	143	62.2	62.2	62.2
	AGREE	77	33.5	33.5	95.7
	DISAGREE	5	2.2	2.2	97.8
	NO CLUE	5	2.2	2.2	100.0
	Total	230	100.0	100.0	

Table 21: Training of HCW on IPC Regarding Lassa Fever Will Improve the IPC Practice of HCW

		Frequency	Percent	valid percent	Cumulative Percent
Valid	STRONGLY AGREE	120	52.2	52.2	52.2
	AGREE	100	43.5	43.5	95.7
	DISAGREE	3	1.3	1.3	97.0
	STRONGLY DISAGREE	2	.9	.9	97.8
	NO CLUE	5	2.2	2.2	100.0
	Total	230	100.0	100.0	

**Table 22: HCWs Have a Role to Play in the Prevention and Spread of Lassa Fever in the Community**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	126	54.8	54.8	54.8
	AGREE	93	40.4	40.4	95.2
	DISAGREE	3	1.3	1.3	96.5
	STRONGLY DISAGREE	1	.4	.4	97.0
	NO CLUE	7	3.0	3.0	100.0
	Total	230	100.0	100.0	

Table 23: Good IPC Practice at all Times Irrespective of Patient Status is Ideal in Health Facilities

		frequency	percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	136	59.1	59.1	59.1
	AGREE	81	35.2	35.2	94.3
	DISAGREE	6	2.6	2.6	97.0
	STRONGLY DISAGREE	3	1.3	1.3	98.3
	NO CLUE	4	1.7	1.7	100.0
	Total	230	100.0	100.0	

Table 24: Good Patient Education Regarding Lassa Fever Can Mitigate The Spread In the Community

		frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	128	55.7	55.7	55.7
	AGREE	88	38.3	38.3	93.9
	DISAGREE	4	1.7	1.7	95.7
	STRONGLY DISAGREE	6	2.6	2.6	98.3
	NO CLUE	4	1.7	1.7	100.0
	Total	230	100.0	100.0	

Table 25: Good Food and Environmental Hygiene Can Prevent the Spread of Lassa Fever

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	140	60.9	60.9	60.9
	AGREE	78	33.9	33.9	94.8
	DISAGREE	5	2.2	2.2	97.0
	STRONGLY DISAGREE	3	1.3	1.3	98.3
	NO CLUE	4	1.7	1.7	100.0
	Total	230	100.0	100.0	

**Table 26: Good Rodent Control Measures Can Limit The Spread Of Lassa Fever**

		frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	145	63.0	63.0	63.0
	AGREE	76	33.0	33.0	96.1
	DISAGREE	2	.9	.9	97.0
	STRONGLY DISAGREE	3	1.3	1.3	98.3
	NO CLUE	4	1.7	1.7	100.0
	Total	230	100.0	100.0	

Table 27: Good Community Education regarding Lassa Fever Can Mitigate the Spread

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	134	58.3	58.3	58.3
	AGREE	85	37.0	37.0	95.2
	DISAGREE	2	.9	.9	96.1
	STRONGLY DISAGREE	3	1.3	1.3	97.4
	NO CLUE	6	2.6	2.6	100.0
	Total	230	100.0	100.0	

Table 28. Early Identification/Treatment Can Improve Outcome in The Case Management of Lassa Fever

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	142	61.7	61.7	61.7
	AGREE	79	34.3	34.3	96.1
	DISAGREE	2	.9	.9	97.0
	STRONGLY DISAGREE	2	.9	.9	97.8
	NO CLUE	5	2.2	2.2	100.0
	Total	230	100.0	100.0	

Table 29: HCW Effort Alone Can Prevent Lassa Fever In The Community

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	30	13.0	13.0	13.0
	AGREE	47	20.4	20.4	33.5
	DISAGREE	96	41.7	41.7	75.2
	STRONGLY DISAGREE	46	20.0	20.0	95.2
	NO CLUE	11	4.8	4.8	100.0
	Total	230	100.0	100.0	

**Table 30: Government Effort Alone Can Prevent Lassa Fever In The Community**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	25	10.9	10.9	10.9
	AGREE	37	16.1	16.1	27.0
	DISAGREE	107	46.5	46.5	73.5
	STRONGLY DISAGREE	53	23.0	23.0	96.5
	NO CLUE	8	3.5	3.5	100.0
	Total	230	100.0	100.0	

Table 31: Do You Regularly Use Hand Gloves?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	169	73.5	73.5	73.5
	NO	61	26.5	26.5	100.0
	Total	230	100.0	100.0	

Table 32: Do You Regularly Wash Hands With Soap And Water Before And After All Procedures?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	193	83.9	83.9	83.9
	NO	37	16.1	16.1	100.0
	Total	230	100.0	100.0	

Table 33: Do You Regularly Make Use Of Gowns And Boots In Procedures That Generate Splashes?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	147	63.9	63.9	63.9
	NO	83	36.1	36.1	100.0
	Total	230	100.0	100.0	

Table 34: Do You Ensure Proper Isolation Of Lassa Fever Patients?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	194	84.3	84.3	84.3
	NO	36	15.7	15.7	100.0
	Total	230	100.0	100.0	

Table 35: Do You Regularly Dispose Of Sharps In A Safety Box?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	209	90.9	90.9	90.9
	NO	21	9.1	9.1	100.0
	Total	230	100.0	100.0	

**Table 36: Do You Make Regular Use Of Face Masks And Eye Protection During Procedures That Generate Splashes?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	163	70.9	70.9	70.9
	NO	67	29.1	29.1	100.0
	Total	230	100.0	100.0	

Table 37: Do You Dispose of Refuse Items Properly?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	205	89.1	89.1	89.1
	NO	25	10.9	10.9	100.0
	Total	230	100.0	100.0	

Table 38: Do You Always Take Standard Precaution Before /After Contact With a Patient Environment?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	193	83.9	83.9	83.9
	NO	37	16.1	16.1	100.0
	Total	230	Disinfection	Disinfection	

Table 39: Do You Ensure Regular Disinfection of All Patient Environments Before Admission and After Discharge?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	163	70.9	70.9	70.9
	NO	67	29.1	29.1	100.0
	Total	230	100.0	100.0	

Table 40: Have You Had Any Form Of Training On IPC In The Last Year?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	114	49.6	49.6	49.6
	NO	116	50.4	50.4	100.0
	Total	230	100.0	100.0	

Table 41. Have You Had Any Form Of Training On Hospital Waste Management In The Last One Year?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	119	51.7	51.7	51.7
	NO	111	48.3	48.3	100.0
	Total	230	100.0	100.0	



SUMMARY OF FINDINGS ON LASSA FEVER PREVENTION

The assessment revealed that most healthcare workers (HCWs) had strong knowledge and positive attitudes towards Lassa fever prevention, but gaps persist in infection prevention and control (IPC) practices. Overall, 79.6% demonstrated good knowledge, particularly among nurses and laboratory scientists, with significant differences across cadres. Attitudes were largely positive, with 86.5% showing good attitudes, led by doctors and Community Health Officers, and no major differences across facility types.

IPC practices were weaker, as only 52.2% reported good adherence, while 30.4% were fair and 17.4% poor. Midwives and community health workers performed better, whereas doctors had the lowest compliance. While glove use (73.5%), handwashing (83.9%), and sharps disposal (90.9%) were encouraging, gaps remained in protective gear use and environmental disinfection.

Most respondents agreed Lassa fever is preventable through good hygiene and IPC, but few believed HCWs or the government alone could stop it, highlighting the need for shared responsibility. Training exposure was moderate, with about half having IPC or waste management training in the past year.

In summary, knowledge and attitudes towards Lassa fever prevention are strong, but IPC practices and training coverage need improvement to strengthen outbreak preparedness and reduce transmission risks.

CONCLUSION

Overall, the HCWs demonstrated good knowledge and attitude towards Lassa fever control measures. However, there was a huge gap between the knowledge and attitude of HCWs towards Lassa fever prevention and its actual practice. These gaps, if not mitigated, will ultimately put the HCWs at perpetual risk of contracting nosocomial infections, including Lassa fever, a situation which will in turn leave the patients and the entire population in dire risk of perennial Lassa fever epidemics.

RECOMMENDATION

1. The federal and State Ministries of Health, along with Heads of Healthcare facilities are to ensure regular training and re-training of HCWs in Makurdi LGA on IPC simulation practice, including that of Lassa fever.
2. Regular supply and provision of personal protective equipment should be guaranteed by the government and Heads of healthcare facilities to encourage optimal practice of IPC.
3. Information education and communication materials and protocols are provided by government and partners and placed in strategic locations within and outside the hospital environment to serve as reminders of Lassa fever prevention protocols.



4. Healthcare facilities' IPC committees in the state and LGAs (Makurdi and the rest) are encouraged to meet frequently by providing meeting and supervision support for review and enforcement of IPC protocols, especially on Lassa fever, at all levels in the state.

REFERENCES

- Adebimpe, W. O., Ogundahunsi, O. A., et al. (2020). Seasonal pattern of Lassa fever occurrence in Ondo State, Southwestern Nigeria. *Maiduguri Journal of Medicine*, 17(2), 123–131.
- Africa Centres for Disease Control and Prevention. (2020). Lassa Fever (disease information page). Addis Ababa: Africa CDC.
- Akunne, M. O., Isah, A., Anene-Okeke, C. G., & Oguejiofor, O. (2018). Assessment of knowledge of Lassa fever infection among undergraduate students at the University of Nigeria, Nsukka. *International Research Journal of Public and Medical Sciences*, 1(5), 60–66.
- Dolopei, D., Amo-Addae, M., Adewuyi, P., Wilson, H., Shannon, F., Lawubah, J., Woods, O., Gberr, O., Deodeh, V. K., Sanley, A., Kullie, M. W., Tamatia, G., Muyan, J., Gbabow, L., Bunnah, T. G., Sackie, A., Duo, H., Leyhen, D., Paye, E., & Thomas, P. (2021). Lassa fever disease among adults in endemic and non-endemic counties of Liberia, 2018: A cross-sectional study. *The Pan African Medical Journal*, 39(224). <https://doi.org/10.11604/pamj.2021.39.224.24948>
- Fidelis, O., Chidiebere, E., & Olanrewaju, O. (2018). Knowledge and attitude of Lassa fever among healthcare workers in Kogi State Specialist Hospital, Lokoja, Nigeria. *Texila International Journal of Public Health*, 6(4).
- Ireye, F., Aigbiremolen, A. O., Mutbam, K. S., Okudo, I., Famiyesin, O. E., Asogun, D., Braka, F., Irowa, O., Abubakar, A., Iretoi, G., & Ejyere, H. (2018). An assessment of Onset-to-intervention time and outcome of Lassa fever during an outbreak in Edo State, Nigeria. *International Journal of Prevention and Treatment*, 7(1), 1–5. <https://doi.org/10.5923/j.ijpt.20180701.01>
- Nigeria Centre for Disease Control and Prevention. (2025, July). Lassa Fever Situation Reports (Weeks 27–29, 2025). Abuja: NCDC.
- Okokhere, P. O., Ibekwe, T. S., Akpede, G. O., et al. (2018). Clinical and laboratory predictors of Lassa fever outcome in hospitalized patients. *PLoS Neglected Tropical Diseases*, 12(3), e0006312. <https://doi.org/10.1371/journal.pntd.0006312>
- Osahon, P. T., & Oaikhen, V. E. (2018). Clinical students' knowledge and perception of Lassa fever in Benin City, Nigeria. *Journal of Pharmacy & Bioresources*, 15(1), 12–20.
- Saleh, M., Dan-Nwafor, C., Ihekweazu, C., Ipadeola, O., Ukponu, W., et al. (2020). Exposure incidents and outcomes of Lassa fever virus infection among healthcare workers in Nigeria, 2019. *Journal of Infectious Diseases and Epidemiology*, 6, 168. <https://doi.org/10.23937/2474-3658/1510168>
- Umoke, M. J., Ede, M. O., Eze, I. R., et al. (2021). Knowledge and sources of information on Lassa fever among undergraduates in Ebonyi State University, Nigeria. *SAGE Open*, 11(2), 21582440211006382. <https://doi.org/10.1177/21582440211006382>
- Yaro, C. A., Kogi, E., Goje, M., Ungogo, M. A., Saleh, M., Arzai, A. H., ... Nas, F. S. (2021). Investigating the Lassa fever outbreak in Nigeria: Epidemiology and risk factors. *Heliyon*, 7(10), e08145. <https://doi.org/10.1016/j.heliyon.2021.e08145>