Knowledge and preventive practices against Lassa fever among heads of households in Abakaliki metropolis, Southeast Nigeria: A cross-sectional study

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Abstract
Background: Lassa fever is associated with high morbidity and mortality.
Objectives: This study aimed to determine the knowledge and preventive measures against Lassa fever among heads of households in Abakaliki metropolis, Southeast Nigeria.
Methods: This was a descriptive cross-sectional study. A four-stage sampling design was used to select 420 respondents from Abakaliki metropolis. A good knowledge of Lassa fever was determined by the proportion of respondents scoring $\geq 50\%$ in 15 variables. Good preventive practices against Lassa fever were determined by the proportion of respondents obtaining a score of $\geq 50\%$ in 12 variables.
Results: The mean age of respondents was $34.1 \pm 9.4$ years, and the majority (56.5\%) were males. Major sources of information included television (66.4\%) and radio (64.3\%). A minority (11.0\%) consume rats at present, while 86.7\% knew that rats could transmit Lassa fever to humans. The majority (60.0\%) had a good knowledge of Lassa fever, while 66.4\% demonstrated good preventive practices. A predictor of good knowledge included being a consumer of rats, (adjusted odds ratio (AOR)=2.3; 95\% confidence interval (CI) 1.1–4.9). Predictors of good preventive practices included being in a low socio-economic class (AOR=2.1; 95\% CI 1.3–3.6) and having a good knowledge of Lassa fever (AOR=10.2; 95\% CI 6.2–10.6).
Conclusions: The majority of respondents had a good knowledge of Lassa fever and demonstrated good preventive practices against it. A good knowledge of Lassa fever was associated with good preventive practices. There is need for a good understanding of Lassa fever among the population, as this will improve preventive practices. Health workers have an important role to play in disseminating information concerning Lassa fever.

Keywords
Knowledge, preventive practices, Lassa fever, Abakaliki metropolis, Southeast Nigeria

Introduction
Lassa fever is a zoonotic disease caused by Lassa virus, which is a single-stranded RNA virus. Even though the virus was first described in the 1950s, it was not identified until 1969 and was subsequently named after a town in the present Borno state of Nigeria where the first case of the disease was recorded. It is associated with high morbidity and mortality, and has economic and health security consequences. It is endemic in West Africa, including Nigeria where it poses a significant public-health challenge.
The primary host of Lassa virus is a rodent of the genus *Mastomys*, also referred to as ‘multimammate rat’. Once infected, *Mastomys* rats do not become ill but can shed the virus in their urine and faeces. Humans become infected from contact with the urine and faeces of infected rats. The infection can also occur in the process of hunting and processing rats for consumption. The virus is spread between humans through direct contact with blood, urine, faeces or other secretions from the infected person. It has also been reported to have been transmitted through sexual intercourse. This spread between humans can occur either in the community or during the care of infected people in healthcare settings. The disease affects humans of all ages and both sexes, even though 80% of infected people are asymptomatic.1

Lassa fever is an epidemic-prone disease recognised for immediate notification on the Integrated Disease Surveillance and Response platform in Nigeria. It has an alert threshold of a single suspected case and an epidemic threshold of a single confirmed case. Outbreaks of the disease commonly occur during the dry season. However, cases have been recorded during the rainy season. In the last few years, Ebonyi state in Southeast Nigeria has witnessed frequent outbreaks of Lassa fever, some of which have claimed the lives of health-care professionals. Perhaps based on the lessons learnt in containing the Lassa epidemic in 2012, the government of Ebonyi state built a virology centre with a reference laboratory for the diagnosis of Lassa fever in the state. The reference laboratory is one of four such laboratories in Nigeria and was operationalised in 2017.

There is, however, evidence that community knowledge of Lassa fever in Nigeria is very poor. It has been postulated that increasing health communication messages on Lassa fever may result in improved behaviour of people towards the infection. Thus, there has been a call for educational interventions to improve the knowledge of Lassa fever among community members. This is based on the expectation that good knowledge of Lassa fever and adequate preventive measures for the disease could reduce the rate and spread of Lassa virus infection. This study was designed to determine the knowledge and preventive practices against Lassa fever among heads of households in Abakaliki metropolis, Southeast Nigeria.

**Methods**

**Study setting**

Abakaliki is the capital of Ebonyi state, which is one of five states in Southeast Nigeria. It is a metropolis made up of three local government areas and comprising seven districts. The inhabitants are mainly of Igbo ethnic nationality and are predominantly Christians. Abakaliki has two tertiary health institutions. One, the Alex Ekwueme, Federal University Teaching Hospital Abakaliki (AE-FUTHA), serves as the teaching hospital for clinical medical students of Ebonyi State University Abakaliki. The town was previously the headquarters of the old Ogoja province, which is in present Cross River state. Since it became the capital of Ebonyi state, Abakaliki has grown into a large town with modern facilities and a workforce that includes a growing number of civil servants. Based on the 2006 national census, the population of Ebonyi state was 2,176,947 people, with females constituting 51% of the population. During the same period, individuals younger than 30 years of age formed 70% of the state’s population. By 2016, the population of Ebonyi state was estimated to be 2,880,400 people, and that of Abakaliki metropolis to be 679,600 people.

**Study design**

This was a descriptive cross-sectional study.

**Study population**

The study population consisted of heads of households in Abakaliki metropolis, Ebonyi state, Southeast Nigeria. A household is a group of people who live together and feed from the same pot. The head of the household is regarded as the individual responsible for leadership and financial decisions in the household.

**Sample size determination**

The minimum sample size for the study was determined using the formula for single proportions. A sample size of 420 respondents was included in the study based on a type 1 error (α) of 0.05, a tolerable margin of error of 0.05 and the proportion of 24.3% who had a good knowledge of Lassa fever.

**Sampling technique**

A four-stage sampling technique was used to select the respondents. In the first stage, a simple random-sampling technique of balloting was used to select four out of seven districts in the metropolis. In the second stage, a simple random-sampling technique of balloting was used to select three communities from each of the four selected districts. In the third stage, a systematic random-sampling technique was used to select houses in the communities. House numbering of each of the selected 12 communities was done, and this served as the sampling frame. A total of 35 respondents were proportionately allocated to each of the communities. The sampling interval was determined by dividing the sampling frame by the sample size of 35, and this determined the sequence that the houses were selected based on the numbers allocated to the houses. The index house was selected using a simple random-sampling technique of balloting. In the fourth stage, a list of households in each of the selected houses (where there was more than one household) was made, and one household was selected using a simple random-sampling technique of balloting. The head of the selected household was then included in the study.

**Study instrument**

A pretested semi-structured questionnaire which was designed by the researchers was used for the study. The questionnaire was formulated in English but was administered
to the respondents in the local language by trained research assistants who had a good command of both languages.

Data analysis

Data entry and analysis were done using IBM SPSS for Windows v22 (IBM Corp., Armonk, NY). The chi-square test and multivariate analysis using binary logistic regression were used in the analysis, and the level of statistical significance was determined by a \( p \)-value of <0.05.

The outcome measures of the study were a good knowledge of Lassa fever and good preventive practices against Lassa fever. Knowledge of Lassa fever was assessed using 15 variables. A correct answer was assigned a score of 1, while an incorrect answer attracted a score of 0. A good knowledge was determined by the proportion of respondents who scored \( \geq 50\% \) on the 15 variables.

Preventive practices against Lassa fever were assessed using 12 variables. A correct answer attracted a score of 1, while an incorrect answer was scored as 0. Good preventive practices were determined by the proportion of respondents who obtained a score of \( \geq 50\% \) on the 12 variables.

In determining the factors that affect good knowledge and good preventive practices against Lassa fever, variables that had a \( p \)-value of \( \leq 0.2 \) on bivariate analysis were entered into the logistic regression model to determine the predictors of good preventive practices. The result of logistic regression analysis was reported using adjusted odds ratios (AOR) and 95\% confidential intervals (CI), and the level of statistical significance was determined by a \( p \)-value of <0.05.

The socio-economic status index was developed using principal component analysis (PCA) in Stata v12 (StataCorp, College Station, TX). The input to the PCA was information on estimated household income, as well as ownership of 10 household items that included a gas cooker, television, refrigerator, cable television, electric fan, air conditioner, motor vehicle, generator, microwave oven and washing machine. For calculation of distribution cut points, quartiles (Q) were used. Each respondent was assigned the wealth index score of his/her household. The quartiles were Q1=poorest, Q2=the very poor, Q3=the poor, and Q4=the least poor. The quartiles were further dichotomised into low socio-economic class, comprising the poorest and very poor, and high socio-economic class, comprising the poorest and least poor groups.

Results

Table 1 shows the socio-demographic characteristics of the respondents. The mean age of the respondents was 34.1 ± 9.4 years, and the majority (56.5\%) were males. The highest proportion of respondents (65.5\%) had attained tertiary education.

Table 2 shows the awareness of Lassa fever among respondents. The majority (96.2\%) were aware of Lassa fever. The main sources of information on Lassa fever included television (66.4\%) and radio (64.3\%). A minority (11.0\%) currently consume rats.

Table 3 shows the knowledge of Lassa fever among respondents. Less than half (49.5\%) were aware that Lassa fever is caused by a virus and not by eating rats.

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that there is no relationship between bush meat and Lassa fever. A higher proportion (66.4%) demonstrated good preventive practices against Lassa fever.

Table 5 shows the factors affecting good knowledge of Lassa fever. Those respondents who were married were twice less likely to have a good knowledge of Lassa fever when compared to those who were single (AOR=0.5; 95% CI 0.3–0.6). Similarly, those respondents who were self-employed were 2.5 times less likely to have a good knowledge of Lassa fever when compared to those who were in salaried employment (AOR=0.4; 95% CI 0.3–0.7). Those respondents who consume rats were 2.3 times more likely to have good knowledge of Lassa fever when compared to those who do not consume rats (AOR=2.3; 95% CI 1.1–4.9).

Table 6 shows factors affecting good preventive practices against Lassa fever. Those respondents who were in a low socio-economic class were twice as likely to have good preventive practices against Lassa fever when compared to those in a high socio-economic class (AOR=2.1; 95% CI 1.3–3.6). Those respondents who had a good knowledge of Lassa fever were 10 times more likely to have good preventive practices against Lassa fever when compared to those who had a poor knowledge (AOR=10.2; 95% CI 6.2–17.0).

Table 3. Knowledge of Lassa fever among respondents.

| Question item                                      | Frequency (N=420) | %  |
|---------------------------------------------------|-------------------|----|
| Lassa fever is caused by a virus                   | 305               | 72.6|
| An animal can transmit Lassa fever to man (Rat)   | 364               | 86.7|
| Lassa fever is named after a town in Nigeria (Yes)| 117               | 27.9|
| Lassa fever occurs frequently in Ebony state (Yes)| 208               | 49.5|
| A drug is available for the treatment of Lassa fever (Yes) | 256               | 61.0|
| A vaccine is available for the prevention of Lassa fever (No) | 84               | 20.0|
| Lassa fever is curable (Yes)                      | 262               | 62.4|
| Blindness is the commonest complication of Lassa fever (No) | 103               | 47.5|
| Person-to-person transmission of Lassa fever is possible (Yes) | 253               | 60.2|
| Lassa fever can be treated at home (No)           | 242               | 57.6|
| All age groups are at risk of Lassa fever (Yes)   | 284               | 67.6|
| Consumption of rats can cause Lassa fever (Yes)   | 333               | 79.3|
| Consumption of bush meat can cause Lassa fever (No) | 83               | 19.8|
| Lassa fever can be transmitted by traditional handing of corpses (Yes) | 194               | 46.2|
| Lassa fever is preventable (Yes)                  | 373               | 88.8|
| Knowledge of Lassa fever                          |                   |    |
| Good                                              | 252               | 60.0|
| Poor                                              | 168               | 40.0|

Table 4. Preventive practices against Lassa fever among respondents.

| Question item                                      | Frequency (N=420) | %  |
|---------------------------------------------------|-------------------|----|
| Avoiding contact with people infected with Lassa fever is preventive (Yes) Correct | 307               | 73.1|
| Avoiding food contaminated by rats is preventive (Yes) Correct | 378               | 90.0|
| Regular hand washing can prevent transmission of Lassa fever (Yes) Correct | 319               | 76.0|
| Ensuring good environmental hygiene can prevent the transmission of Lassa fever (Yes) Correct | 349               | 83.1|
| Proper storage of food can prevent the transmission of Lassa fever (Yes) Correct | 326               | 77.6|
| Destroying all rats could prevent the transmission of Lassa fever (Yes) Correct | 217               | 51.7|
| Clearing of bushes around houses can prevent Lassa fever (Yes) Correct | 202               | 48.1|
| Proper refuse disposal can prevent Lassa fever (Yes) Correct | 242               | 57.6|
| Avoiding rat consumption can prevent Lassa fever (Yes) Correct | 317               | 75.5|
| Avoiding bush burning can prevent Lassa fever (Yes) Correct | 131               | 31.2|
| Avoiding bush-meat consumption can prevent Lassa fever (No) Correct | 76               | 18.1|
| Fixing holes in houses can prevent Lassa fever (Yes) Correct | 149               | 35.5|

Preventive practices against Lassa fever

Good 279 66.4
Poor 141 33.6

fever occurs frequently in Ebony state. One fifth (20%) of respondents knew that there is no available vaccine for Lassa fever. The majority (60.0%) had good knowledge of Lassa fever.

Table 4 shows the preventive practices against Lassa fever taken by respondents. The majority (88.8%) were aware that Lassa fever is preventable. A minority (18.1%) were aware
Table 5. Factors affecting good knowledge of Lassa fever among the respondents.

| Variable                      | Knowledge of Lassa fever (N=420) |   | AOR (95% CI) |
|-------------------------------|----------------------------------|---|--------------|
|                               | Good, n (%)                      | Poor, n (%) |   |
| Age of respondents            |                                   |             |   |
| <35 years                     | 154 (64.2)                       | 86 (35.8)   | 0.044 | 1.3 (0.8–2.0) |
| ⩾35 years                     | 98 (54.4)                        | 82 (45.6)   | 1   |
| Sex                           |                                   |             |   |
| Male                          | 145 (63.3)                       | 84 (36.7)   | 0.128 | 1.2 (0.8–1.9) |
| Female                        | 107 (56.0)                       | 84 (44.0)   | 1   |
| Marital status                |                                   |             |   |
| Married                       | 136 (52.9)                       | 121 (47.1)  | <0.001 | 0.5 (0.3–0.9) |
| Singlea                       | 116 (71.2)                       | 47 (28.8)   | 1   |
| Educational attainment        |                                   |             |   |
| Tertiary education            | 170 (62.3)                       | 103 (37.7)  | 0.195 | 1.1 (0.7–1.7) |
| Secondary education and less  | 82 (55.8)                        | 65 (44.2)   | 1   |
| Employment status of respondents|                                   |             |   |
| Unemployed                    | 37 (78.7)                        | 10 (21.3)   | <0.001 | 1.1 (0.5–2.6) |
| Self-employed                 | 103 (49.3)                       | 106 (50.7)  | 0.4 (0.3–0.7) |
| Salaried employment           | 112 (68.3)                       | 52 (31.7)   | 1   |
| Socio-economic class          |                                   |             |   |
| Low socio-economic class      | 135 (63.7)                       | 77 (36.3)   | 0.120 | 1.1 (0.7–1.7) |
| High socio-economic class     | 117 (56.3)                       | 91 (43.8)   | 1   |
| Know someone affected by Lassa fever |                       |             |   |
| Yes                           | 77 (68.1)                        | 36 (31.9)   | 0.039 | 1.6 (0.9–2.6) |
| No                            | 175 (57.0)                       | 132 (43.0)  | 1   |
| Rat as source of food         |                                   |             |   |
| Yes                           | 34 (73.9)                        | 12 (26.1)   | 0.041 | 2.3 (1.1–4.9) |
| No                            | 218 (58.3)                       | 156 (41.7)  | 1   |

aNever married, separated or divorced.

b p-Value on bivariate analysis.

AOR: adjusted odds ratio; 95% CI: 95% confidence interval.

Table 6. Factors affecting good preventive practices against Lassa fever.

| Variable                      | Preventive practice against Lassa fever (N=420) |   | AOR (95% CI) |
|-------------------------------|-----------------------------------------------|---|--------------|
|                               | Good, n (%)                                   | Poor, n (%) |   |
| Age of respondents            |                                               |             |   |
| <35 years                     | 172 (71.7)                                    | 68 (28.3)   | 0.009 | 1.3 (0.8–2.3) |
| ⩾35 years                     | 107 (59.4)                                    | 73 (40.6)   | 1   |
| Sex                           |                                               |             |   |
| Male                          | 153 (66.8)                                    | 76 (33.2)   | 0.855 | NA |
| Female                        | 126 (66.0)                                    | 65 (34.0)   | 1   |
| Marital status                |                                               |             |   |
| Married                       | 155 (60.3)                                    | 102 (39.7)  | 0.001 | 1.1 (0.6–1.8) |
| Singlea                       | 124 (76.1)                                    | 39 (23.9)   | 1   |
| Educational attainment        |                                               |             |   |
| Tertiary education            | 190 (69.6)                                    | 83 (30.4)   | 0.061 | 1.4 (0.8–2.5) |
| Secondary education and less  | 89 (60.5)                                     | 58 (39.5)   | 1   |
| Employment status of respondents|                                      |             |   |
| Unemployed                    | 40 (85.1)                                     | 7 (14.9)    | <0.001 | 1.4 (0.5–3.9) |
| Self-employed                 | 120 (57.4)                                    | 89 (42.6)   | 0.7 (0.4–1.2) |
| Salaried employment           | 119 (72.6)                                    | 45 (27.4)   | 1   |
| Socio-economic class          |                                               |             |   |
| Low socio-economic class      | 158 (74.5)                                    | 54 (25.5)   | <0.001 | 2.1 (1.3–3.6) |
| High socio-economic class     | 121 (58.2)                                    | 87 (41.8)   | 1   |

(Continued)
Table 6. (Continued)

| Variable                        | Preventive practice against Lassa fever (N=420) | p  \( ^{b} \) | AOR (95% CI) |
|---------------------------------|-----------------------------------------------|-------------|--------------|
|                                 | Good, n (%)                                  | Poor, n (%) |              |
| Know someone affected by Lassa fever |                                               |             |              |
| Yes                             | 77 (68.1)                                    | 36 (31.9)   | 0.652        | NA           |
| No                              | 202 (65.8)                                   | 105 (34.2)  |              |              |
| Rat as source of food           |                                               |             |              |
| Yes                             | 35 (76.1)                                    | 11 (23.9)   | 0.142        | 1.2 (0.5–2.8) |
| No                              | 244 (65.2)                                   | 130 (34.8)  |              | 1            |
| Knowledge of Lassa fever        |                                               |             |              |
| Good                            | 218 (86.5)                                   | 34 (13.5)   | <0.001       | 10.2 (6.2–17.0) |
| Poor                            | 61 (36.3)                                    | 107 (63.7)  |              | 1            |

\( ^{a} \) Never married, separated or divorced.
\( ^{b} \) p-Value on bivariate analysis.
NA: not applicable.

Discussion

The majority of respondents (96.2%) were aware of Lassa fever. This was expected, given there have been frequent outbreaks of Lassa fever in the state. In a study in a rural community, the majority (79.4%) were also aware of Lassa fever. A similar high proportion of respondents among members of staff and students of a tertiary institution in Nigeria and among adults in a rural community were aware of Lassa fever. Furthermore, in a study in Northeast Nigeria, 59% were aware of Lassa fever. However, in another study in a rural community in Southwest Nigeria, only 17.2% were aware of Lassa fever.

The major sources of information on Lassa fever included television (66.4%) and radio (64.3%). In a study in a rural community, radio was the major source of information. In studies in other geo-political zones of Nigeria, including South South, North Central, and Southwest Nigeria, mass media remained the major source of information on Lassa fever. This is commendable and could be attributed to the efforts of the government and other agencies in curtailing outbreaks of Lassa fever, since the disease is epidemic prone. In a study that involved clinical students, social media was the major source of information on Lassa fever. This result is unique because the respondents were undergraduates. From the results of this study, the church was the eighth leading source of information on Lassa fever among respondents. The relevance of the church in disseminating information on Lassa fever could be enhanced if they continue to emphasise the disease beyond the period of outbreaks, as is presently the case.

Health workers were the fourth major source of information on Lassa fever. It could be inferred that health workers have not been fully involved in disseminating information on Lassa fever. For example, in a study in a rural community in Ebonyi state, only 15.3% of the respondents had heard of Lassa fever from health workers compared to 61.3% from radio. A similar result was also obtained in North Central Nigeria. Even in a study among primary health-care workers, mass media was the major source of information on Lassa fever. Furthermore, in another study among health-care workers in two tertiary health facilities in Nigeria, the hospital/Ministry of Health was the least likely source of information. Thus, it may be of note that for a good understanding of Lassa fever among the population, there is the need for health-care workers to be involved in educating the public on all aspects of the disease while sustaining the current state of public enlightenment using mass media.

The major symptoms of Lassa fever included fever (87.1%), headache (73.1%) and bleeding (72.1%). A similar result, though with lower proportions, was obtained from a rural community. Suffice to say that results from other parts of Nigeria follow the same pattern. This could be attributed to the several public awareness programmes on the disease. Even though the majority knew that rats could transmit the disease (86.7%) and that consumption of rats could cause Lassa fever (79.3%), 11.0% of respondents currently consume rats. This proportion that consume rats is lower than that obtained from a rural community. In the study in a rural community, 74.6% knew that rats could transmit Lassa fever.

The majority (60.0%) had a good knowledge of Lassa fever. In a rural area, 31.4% had adequate knowledge of Lassa fever. In another rural community in Southern Nigeria, 93.9% of respondents had a good knowledge of Lassa fever. However, in other studies, a very minor proportion of respondents had a good knowledge of Lassa fever. It has been reported that community knowledge of Lassa fever in Nigeria is limited. Consequently, using educational interventions has been suggested to improve this knowledge. This was perceived as a way of decreasing the incidence of the disease. These observations may have necessitated the call for an in-depth knowledge of Lassa fever among the population, with the researchers emphasising the involvement of health workers in the exercise. This supports the view that health workers should be fully involved in educating the public about Lassa fever. An example is the good understanding of tetanus among mothers, unlike other childhood immunisable diseases, which could be attributed to information obtained during antenatal care.

The majority (66.4%) practiced good preventive measures against Lassa fever. This result is comparable to that obtained in Southwest, South South, and North Central Nigeria. In other studies, lower proportions of
respondents demonstrated good preventive practices. From the results of this study, almost equal proportions of respondents had a good knowledge of Lassa fever and showed good preventive practices. This result is different from that of other studies where proportions that demonstrated good preventive practices were higher. This may be an indication that there is a poor understanding of Lassa fever among the population. It has already been observed in Nigeria that there is a weak integration of culture and socio-behavioural prevention measures which could be effective for the prevention of Lassa fever. This was demonstrated in the results of this study, as those who consume rats were 2.3 times more likely to have a good knowledge of Lassa fever compared to those who do not consume rats. Yet, the majority of respondents (79.3%) knew that consumption of rats could cause Lassa fever.

From the results of our study, respondents in a low socio-economic class were twice as likely to demonstrate good Lassa fever preventive practices when compared to those in a high socio-economic class. Lassa fever has been described as a poverty-related infectious disease which remains a threat and burden on vulnerable populations in Nigeria. This could explain why respondents in a low socio-economic class were more likely to demonstrate good preventive practices against Lassa fever.

Those respondents who had good knowledge of Lassa fever were 10 times more likely to demonstrate good preventive practices when compared to those who had a poor knowledge. This necessitates that concerted efforts should be made to increase knowledge of Lassa fever among the population. There has been an observation that an increase in health communication messages on Lassa fever could be relevant in improving the behaviour of the people towards the disease. Thus, a study in Southwest Nigeria concluded that educational interventions should be employed to increase the knowledge of Lassa fever among the population. A study in a rural community went further by calling for an in-depth knowledge of Lassa fever among the population, including its preventive practices, through public education. In a study among students in a tertiary institution in Benin, it was found that perceived stigmatisation associated with Lassa fever was significantly higher among students who had a poor knowledge of Lassa fever when compared to those who had a good knowledge. This points to the need for better understanding of Lassa fever among the population, as this could lead to better prevention efforts. It is important to point out that health workers have a prominent role to play in realising this.

Limitations

There may be a need for a qualitative assessment of the views and impressions of the population on Lassa fever; including cause, mode of transmission and preventive practices against the disease. This will be of relevance, as the result of this study revealed that the consumption of rats is a predictor of a good knowledge of Lassa fever, and a higher proportion of respondents (79.3%) were aware that consumption of rats could cause Lassa fever. The results of such a study may be very relevant in designing interventions.

Conclusions

The majority of respondents had a good knowledge of Lassa fever and demonstrated good preventive practices against it. A good knowledge of Lassa fever was associated with good preventive practices. There is need for a good understanding of Lassa fever among the population, as this will improve preventive practices. Health workers have an important role to play in disseminating information concerning Lassa fever among the population.

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Authors’ contributions

E.N.O. and O.E.O. conceived and designed the study; N.P.O., A.L.U., T.K.E. and A.S.N. conducted the literature searches and supervised data collection. E.N.O. undertook the data analysis and wrote the initial draft. All authors reviewed and approved the final draft of the manuscript.

Availability of data and materials

The data sets generated and analysed during this study are available from the corresponding author on reasonable request.

Ethical approval

Ethical approval for the study was obtained from Research and Ethics Committee of Ebonyi State University Abakaliki, Nigeria, Ref. No. EBSU/DRIC/UREC/Vol.04/064.

Informed consent

Written informed consents were obtained from the participants.

Declaration of conflicting interests

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