RISK FACTORS FOR LASSA FEVER EXPOSURE AMONG RESIDENTS OF ENDEMIC COMMUNITIES IN EDO STATE AND ONDO STATE

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Abstract

Lassa fever remains a major public health challenge in Nigeria, particularly in endemic states such as Edo and Ondo, where recurrent outbreaks continue to threaten community health despite ongoing prevention efforts. This study assessed the risk factors associated with Lassa fever exposure among residents of endemic communities in Edo and Ondo States, Nigeria. A cross sectional descriptive research design was adopted. The study population comprised 18,540 residents, from which a sample of 392 respondents was determined using Taro Yamane's formula. A multistage sampling technique was employed, while data were collected using a validated structured questionnaire. Of the 392 questionnaires administered, 378 were successfully completed

and analyzed, representing a response rate of 96.4%. Descriptive statistics and Chi square analysis were used for data analysis at a 0.05 level of significance. The findings revealed that environmental factors including poor waste disposal (88.1%), rodent infestation (82.5%), open food storage (85.6%), and inadequate drainage systems (79.4%) significantly increased exposure to Lassa fever. Behavioural practices such as drying food outdoors (81.2%), unsafe food storage (84.7%), and poor hand hygiene (73.5%) also contributed substantially to exposure risk. Furthermore, poverty (86.3%), low income (83.8%), poor housing conditions, cracked walls (87.4%), and lack of sanitation facilities (89.2%) emerged as major socio economic and structural determinants of disease exposure. The study concludes that Lassa fever exposure is driven by the interaction of environmental, behavioural, socio economic, and housing related factors. Integrated community based interventions focusing on environmental sanitation, housing improvement, health education, and poverty reduction are recommended to reduce transmission in endemic communities.

Keywords: Lassa fever, Risk factors, Endemic communities, Environmental sanitation, Edo and Ondo States

Introduction

Lassa fever is an acute viral haemorrhagic disease caused by the Lassa virus, a member of the *Arenaviridae* family. The disease is primarily transmitted to humans through exposure to urine, faeces, saliva, or other materials contaminated by infected *Mastomys* rodents, commonly known as multimammate rats. Human infection may occur when residents consume food or water contaminated by rodents, inhale contaminated dust particles, handle infected rodents, or live in homes where rodents have easy access to food stores and household spaces. Although person-to-person transmission can also occur through contact with the blood or body fluids of infected persons, most infections in endemic communities begin through contact between humans and infected rodents or contaminated household environments (World Health Organization [WHO], 2026).

Lassa fever remains a major public-health concern in Nigeria, particularly in endemic states such as Edo and Ondo. Recent national surveillance data show that these states continue to contribute substantially to confirmed Lassa fever cases, indicating persistent environmental, household and behavioural conditions that favour human exposure to the virus (Nigeria Centre for Disease Control and Prevention [NCDC], 2026). The recurrent occurrence of Lassa fever in these communities suggests that infection risk is influenced not only by the presence of infected rodents but also by everyday practices relating to food storage, waste disposal, housing quality, sanitation and healthcare-seeking behaviour.

Several factors may increase residents' exposure to Lassa fever in endemic communities. These include storing food in open containers or on the floor, consuming food that may have been contaminated by rodent urine or faeces, poor disposal of domestic waste, inadequate sanitation, rodent infestation within homes, cracks or openings in houses that allow rodent entry, and delayed cleaning of rodent-contaminated surfaces. Farming activities, bush burning, poor environmental management and the storage of harvested crops inside residential buildings may also increase contact between humans and rodents. In addition, poverty, limited access to rodent-proof food-storage facilities and inadequate housing may make it difficult for households to consistently adopt preventive measures.

Evidence from Ondo State indicates that knowledge of Lassa fever does not always translate into safe preventive behaviour. Isere et al. (2022) reported that household practices remain important in the prevention of Lassa fever transmission in affected communities in Ondo State. Similarly, Imiegha et al. (2025) found that although community members in Akure South and Owo Local Government Areas were generally aware of Lassa fever, some residents continued to consume poorly stored food because of economic hardship and limited access to hygienic facilities. Misconceptions about the disease, stigma, cultural beliefs and delayed healthcare-seeking behaviour were also identified as barriers to effective prevention.

Furthermore, effective prevention of infectious diseases requires sustained attention to environmental hygiene, sanitation, public-health awareness and adherence to recommended preventive practices. Although Ugbede's (2025) study was not specifically on Lassa fever, it highlights how poor hygiene conditions, low compliance with preventive measures and inadequate public-health infrastructure can increase communicable-disease risks within Nigerian communities. This broader public-health perspective is relevant to Lassa fever prevention because households and communities must adopt practical behaviours that reduce rodent infestation, improve food safety and encourage early reporting of suspected cases.

Therefore, examining the risk factors for Lassa fever exposure among residents of endemic communities in Edo State and Ondo State is necessary. Such a study will provide evidence on the environmental, behavioural, socio-economic and housing-related factors that place residents at risk. The findings may guide state health authorities, community leaders, environmental health officers and healthcare workers in designing context-specific interventions aimed at reducing rodent-human contact, improving household preventive practices and strengthening early detection and reporting of Lassa fever cases.

Ugbede (2025) has been included only as a supporting Nigerian communicable-disease and hygiene reference; it does not provide Lassa-fever-specific evidence. The Ondo-specific evidence cited in the introduction directly documents household prevention practices and the gap between awareness and behaviour.

Problem Statement

Lassa fever continues to pose a persistent public health challenge in Nigeria, with recurrent outbreaks concentrated in endemic states such as Edo and Ondo. Despite ongoing surveillance and public health interventions, these states consistently report a significant proportion of confirmed cases during annual outbreaks, indicating sustained transmission within affected communities (Nigeria Centre for Disease Control and Prevention [NCDC], 2026). This pattern suggests that environmental, behavioural, and socio-economic conditions supporting exposure to the Lassa virus remain largely unaddressed.

In endemic communities, residents are frequently exposed to multiple risk factors that facilitate transmission of the disease, including poor household sanitation, inadequate waste disposal systems, unsafe food storage practices, and high levels of rodent infestation. These conditions are often compounded by poverty, substandard housing structures, and limited access to preventive health education. As a result, human–rodent contact remains frequent, increasing the likelihood of infection. Evidence from previous studies further shows that although awareness of Lassa fever exists in many affected communities, this awareness does not always translate into sustained preventive behaviour, thereby sustaining transmission cycles (Imiegha et al., 2025).

In addition, behavioural practices such as drying food items outdoors, storing grains in easily accessible containers, and delayed healthcare-seeking behaviour after symptom onset continue to be reported in endemic settings. These practices highlight a gap between knowledge and practice, which contributes to continued exposure and late presentation of cases, often worsening outcomes. Broader public health observations also indicate that weak adherence to environmental hygiene standards and inadequate community-level preventive systems can significantly increase the risk of communicable disease transmission in Nigerian settings (Ugbede, 2025).

Despite the persistent burden of Lassa fever in Edo and Ondo States, there remains insufficient community-specific evidence identifying the most significant and context-driven risk factors responsible for exposure among residents. Many existing studies focus broadly on awareness or outbreak response, with limited emphasis on the combination of environmental, behavioural, and socio-economic determinants that sustain transmission at the household level.

Therefore, the problem this study addresses is the continued exposure of residents in endemic communities of Edo and Ondo States to Lassa fever despite ongoing control measures. This persistence suggests that current preventive strategies may not be sufficiently aligned with the lived realities and risk environments of affected populations. Identifying and analysing these risk factors is essential for designing targeted, evidence-based interventions that can effectively reduce transmission and improve community-level disease prevention outcomes.

Objective of the Study

The major objective of this study is to assess the risk factors for Lassa fever exposure among residents of endemic communities in Edo State and Ondo State, Nigeria.

Literature Review

1 Conceptual Review

1.1 Concept of Lassa Fever

Lassa fever is an acute viral haemorrhagic illness caused by the Lassa virus, a member of the *Arenaviridae* family. It is primarily zoonotic, transmitted to humans through exposure to food or household items contaminated by urine, faeces, or saliva of infected multimammate rats (*Mastomys natalensis*), which are widely distributed in West Africa (WHO, 2025; CDC, 2025).

Human-to-human transmission may also occur in healthcare settings through contact with infected bodily fluids, particularly in the absence of adequate infection prevention and control measures. Clinically, Lassa fever ranges from mild febrile illness to severe haemorrhagic manifestations, including bleeding, organ failure, and shock (NCDC, 2026). Case fatality rates can be as high as 15–20% among hospitalised cases, especially where early treatment is delayed (WHO, 2025).

1.2 Concept of Disease Exposure

Disease exposure refers to the interaction between a susceptible host and a disease agent within a specific environment that facilitates infection. In the context of Lassa fever, exposure occurs when individuals come into contact with contaminated food, surfaces, rodents, or infected persons.

Exposure can be classified into:

1. Direct exposure: contact with infected rodents or infected individuals
2. Indirect exposure: contact with contaminated food, water, or surfaces

According to Ugbede (2025), communicable disease exposure in Nigerian communities is strongly influenced by environmental sanitation, overcrowding, and behavioural practices that increase human–pathogen contact.

1.3 Concept of Endemicity

An endemic disease is one that is consistently present within a specific geographic area or population group. Edo and Ondo States are considered Lassa fever endemic zones due to repeated annual outbreaks and persistent transmission cycles (NCDC, 2026).

Endemicity in these regions is sustained by:

1. High rodent population density
2. Poor environmental sanitation
3. Seasonal climate variations
4. Human behavioural practices that increase exposure risk

2. Epidemiology of Lassa Fever

Lassa fever remains a major public health concern in West Africa, particularly Nigeria, which records the highest number of cases annually. Between 2020 and 2024, Nigeria recorded tens of thousands of suspected cases and several thousand confirmed infections, with persistent mortality rates above 15% in severe outbreaks (Asogun et al., 2025; NCDC, 2026).

Recent evidence shows that Edo and Ondo States consistently contribute the highest proportion of confirmed cases, accounting for over 50% of national burden in several outbreak years (Cadmus et al., 2025). The disease shows seasonal variation, peaking during the dry season (November–April), when rodent-human contact increases due to food scarcity among rodents (WHO, 2025).

In Ondo State alone, confirmed cases rose steadily between 2020 and 2024, with periodic peaks linked to environmental and occupational exposure (Adewumi et al., 2025).

3 Transmission Dynamics of Lassa Fever

Lassa fever transmission is driven primarily by zoonotic spillover from infected *Mastomys natalensis*. These rodents thrive in both rural and peri-urban environments, especially in poorly maintained households.

Key transmission pathways include:

1. Consumption of food contaminated by rodent excreta
2. Inhalation of aerosolised particles from contaminated dust
3. Direct contact with infected rodents
4. Human-to-human transmission in healthcare settings

Ecological studies have shown that urbanisation, housing density, and poor waste management significantly increase transmission risk by increasing rodent-human interaction (Cadmus et al., 2023).

4 Risk Factors for Lassa Fever Exposure

4.1 Environmental Risk Factors

Environmental conditions strongly influence Lassa fever transmission. Poor sanitation, improper waste disposal, and inadequate drainage systems create favourable breeding conditions for rodents. Studies in endemic areas show that households with poor structural integrity (holes, open ceilings, and cracks) experience higher rodent infestation rates (NCDC, 2026).

4.2 Behavioural Risk Factors

Human behaviour plays a central role in exposure risk. Common risky practices include:

1. Drying food grains outdoors
2. Storing food in uncovered containers
3. Eating food potentially contaminated by rodents
4. Poor hand hygiene after environmental contact

Imiegha et al. (2025) found that in Ondo State, awareness of Lassa fever did not always translate into safe preventive behaviour.

4.3 Socio-Economic Risk Factors

Socio-economic conditions such as poverty, low educational attainment, and occupational exposure (farmers, traders, rural dwellers) significantly increase vulnerability to Lassa fever (Asogun et al., 2025). Poor households are more likely to live in rodent-infested environments and lack access to proper food storage facilities.

4.4 Housing and Environmental Infrastructure

Housing quality is a major determinant of exposure risk. Overcrowded homes, mud walls, and poorly sealed roofs increase rodent entry. Ugbede (2025) emphasised that inadequate environmental infrastructure in Nigerian communities contributes significantly to the spread of communicable diseases.

5 Preventive Measures and Control Strategies

Effective prevention of Lassa fever requires a multi-sectoral approach:

1. Improved sanitation and waste management
2. Rodent control and environmental hygiene
3. Safe food storage practices

4. Community health education
5. Early reporting and diagnosis
6. Strengthening infection prevention in health facilities

The WHO (2025) recommends integrated One Health strategies that address human, animal, and environmental health simultaneously.

3. Empirical Review

3.1 Studies in Nigeria

Isere et al. (2022) found that household preventive practices in Ondo State were inadequate despite high awareness levels. Similarly, Imiegha et al. (2025) reported a significant gap between knowledge and practice in Lassa fever prevention among residents of Ondo communities.

Adewumi et al. (2025) observed fluctuating incidence patterns in Ondo State, driven by environmental and health system factors.

3.2 Studies in Edo State and Other Endemic Areas

Cadmus et al. (2025) reported that Edo State remains a persistent hotspot for Lassa fever due to urbanisation, rodent ecology, and population density. The study highlighted spatial clustering of cases in high-density urban wards.

3.3 West African Evidence

Across West Africa, studies in Sierra Leone and Liberia confirm similar risk patterns, particularly poor housing conditions, unsafe food storage, and rodent infestation as key determinants of infection.

3. Theoretical Framework

Health Belief Model (HBM)

The Health Belief Model explains health behaviour based on individual perceptions of risk and benefits. It is highly relevant to Lassa fever prevention.

Key constructs:

1. Perceived susceptibility
2. Perceived severity
3. Perceived benefits of preventive action

4. Perceived barriers
5. Cues to action

In endemic communities, individuals may understand Lassa fever risk but still fail to adopt preventive practices due to economic or cultural barriers (Ugbede, 2025).

Methods

1. Research Design

This study adopted a cross-sectional descriptive research design. This design was considered appropriate because it enabled the researcher to collect data from respondents at a single point in time in order to assess the risk factors associated with Lassa fever exposure among residents in endemic communities of Edo and Ondo States. The design also allowed for the examination of environmental, behavioural, and socio-economic variables without manipulating any study condition.

2. Area of Study

The study was carried out in selected endemic communities in Edo State and Ondo State, Nigeria. These states were selected because they consistently report high incidences of Lassa fever cases according to surveillance data from the Nigeria Centre for Disease Control and Prevention (NCDC, 2026). The communities are predominantly rural and semi-urban, with farming and trading as major occupations, and environmental conditions that favour rodent infestation.

3. Population of the Study

The population of the study comprised all residents of selected endemic communities in Edo and Ondo States. The estimated population of the selected communities was 18,540 residents, based on local government health records and community registers.

4. Sample Size Determination

The sample size was determined using Taro Yamane's formula (1967):

$n = N/(1+N(e)2$

Where:

(n) = sample size

(N) = population size (18,540)

(e) = level of significance (0.05)

Substituting:

$n = 18,540/(1+18,540(0.05)^2$

$n = 18,540/(1+18,540(0.0025)$

$n = 18,540/(1+18,540(46.35)$

$n = 18,540/(47.35)$

n = approx. 392

Therefore, the sample size for the study was 392 respondents.

5. Sampling Technique

A multistage sampling technique was adopted to ensure that respondents were selected in a systematic, fair, and statistically justifiable manner across the two states (Edo and Ondo).

Stage 1: Selection of States

Edo State and Ondo State were purposively selected due to their consistently high burden of Lassa fever cases as reported in national surveillance data (NCDC, 2026). No statistical computation was required at this stage since selection was based on epidemiological relevance.

Stage 2: Selection of Local Government Areas (LGAs)

From each state, three (3) endemic LGAs were selected based on confirmed case reports and surveillance data.

Edo State: 3 LGAs selected

Ondo State: 3 LGAs selected

Total LGAs selected = 6 LGAs

Stage 3: Selection of Communities

From each LGA, two (2) communities were randomly selected using simple random sampling (balloting method).

6 x2 (communities per LGA) = 12 communities

Total communities selected = 12

Stage 4: Allocation of Sample Size to Communities

Total sample size = 392 respondents

To ensure fairness, respondents were distributed equally across the 12 communities using proportional allocation:

Sample per community = 392/12 = 32.67 approx 33 respondents per community However, to maintain whole numbers:

1. 8 communities were assigned 33 respondents
2. 4 communities were assigned 32 respondents

Verification of Allocation

(8 x 33) + (4 x 32)

= 264 + 128

= 392 {respondents Total Sample

Thus, the allocation was statistically balanced.

Stage 5: Household Selection (Systematic Sampling)

In each selected community, households were selected using systematic sampling.

Assuming an average of 400 households per community, sampling interval (k) was calculated as:

k = N/n

Where:

(N = 400) households (estimated per community)

(n = 33) respondents per community

k = 400/33 approx 12

Sampling interval (k) = 12

Procedure

A random starting point between 1 and 12 was selected (e.g., household 5).

Every 12th household thereafter was selected (5th, 17th, 29th, etc.).

One eligible adult respondent was chosen per household.

Summary of Sampling Distribution

Stage	Unit	Number Selected
States	Edo & Ondo	2
LGAs	Selected endemic LGAs	6
Communities	Selected communities	12
Households	Sampled households	Systematic (k = 12)
Respondents	Final sample	392

Field Survey 2026

This multistage approach ensured representativeness, reduced selection bias, and improved the reliability of findings across endemic communities.

6. Instrument for Data Collection

Data were collected using a structured questionnaire titled *"Lassa Fever Exposure Risk Assessment Questionnaire (LFERAQ)"*. The instrument was divided into four sections:

1. Section A: Socio-demographic characteristics
2. Section B: Environmental risk factors
3. Section C: Behavioural risk factors
4. Section D: Socio-economic and housing-related risk factors

Responses were measured using a 4-point Likert scale:

1. Strongly Agree (4)
2. Agree (3)
3. Disagree (2)
4. Strongly Disagree (1)

7. Validity of the Instrument

The instrument was validated through face and content validity by experts in Public Health and Epidemiology. Corrections were made to ensure clarity, relevance, and alignment with the research objectives.

8. Reliability of the Instrument

A pilot study was conducted on 30 respondents in a non-selected community with similar characteristics. Data obtained were analysed using Cronbach's Alpha, which yielded a reliability coefficient of:

1. alpha = 0.82

   This indicated that the instrument was reliable and suitable for the study.

9. Method of Data Collection

The questionnaire was administered directly to respondents with the help of trained research assistants. Out of 392 copies distributed, 378 were properly completed and retrieved, representing a 96.4% response rate.

10. Method of Data Analysis

Data collected were analysed using both descriptive and inferential statistics:

Descriptive statistics: frequency tables, percentages, mean scores, and standard deviation

Inferential statistics: Chi-square test (χ^2) was used to test relationships between categorical variables at 0.05 significance level

Decision Rule:

Reject H_0 if p-value ≤ 0.05

Accept H_0 if p-value > 0.05

11. Ethical Considerations

Ethical approval was obtained from relevant health authorities in Edo and Ondo States. Informed consent was obtained from all respondents. Participation was voluntary, and confidentiality of responses was strictly maintained. No personal identifiers were collected.

Results

1. Response Rate

A total of 392 questionnaires were administered to respondents across selected endemic communities in Edo and Ondo States. Out of these, 378 questionnaires were correctly completed and returned, while 14 were not usable due to incomplete responses.

Response Rate Calculation

Response Rate = 378/392 X 100 = 96.4%

Table 1: Response Rate Distribution

Response Status	Frequency	Percentage (%)
Returned & Valid	378	96.4
Not Valid/Incomplete	14	3.6
Total	392	100

Field Survey 2026

2. Socio-Demographic Characteristics of Respondents

Table 2: Age Distribution of Respondents

Age Group (Years)	Frequency	Percentage (%)
18–25	62	16.4
26–35	104	27.5
36–45	98	25.9
46–55	72	19.0
56 and above	42	11.1
Total	378	100

Field Survey 2026

Table 3: Gender Distribution of Respondents

Gender	Frequency	Percentage (%)
Male	201	53.2
Female	177	46.8
Total	378	100

Field Survey 2026

Table 4: Educational Level of Respondents

Education Level	Frequency	Percentage (%)
No formal education	54	14.3
Primary	88	23.3
Secondary	146	38.6
Tertiary	90	23.8
Total	378	100

Field Survey 2026

3. Environmental Risk Factors for Lassa Fever Exposure

Table 5: Environmental Conditions in Study Area

Variable	Agree (%)	Disagree (%)	Mean Decision
Presence of rodents in homes is common	82.5	17.5	Agreed
Poor waste disposal increases rodent population	88.1	11.9	Agreed
Open food storage attracts rodents	85.6	14.4	Agreed
Poor drainage system contributes to infestation	79.4	20.6	Agreed

Field Survey 2026

Interpretation:
The majority of respondents agreed that environmental conditions significantly increase exposure to Lassa fever.

4. Behavioural Risk Factors

Table 6: Behavioural Practices Associated with Exposure

Behavioural Factor	Agree (%)	Disagree (%)	Decision
Drying food outdoors increases contamination risk	81.2	18.8	Agreed
Storing grains in sacks at home increases risk	84.7	15.3	Agreed
Eating food not properly covered	77.9	22.1	Agreed

Poor handwashing practices	73.5	26.5	Agreed

Field Survey 2026

5. Socio-Economic Risk Factors

Table 7: Socio-Economic Influences on Exposure

Variable	Agree (%)	Disagree (%)	Decision
Poverty increases inability to maintain hygiene	86.3	13.7	Agreed
Low income limits access to safe storage facilities	83.8	16.2	Agreed
Low education contributes to poor preventive practices	78.6	21.4	Agreed
Occupation influences exposure risk	74.9	25.1	Agreed

Field Survey 2026

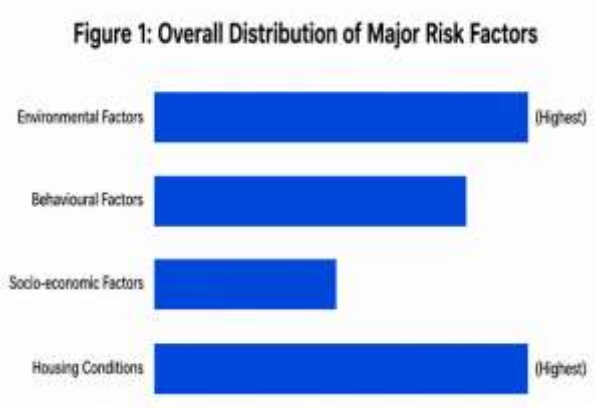
6. Housing and Sanitation Conditions

Table 8: Housing-Related Risk Factors

Variable	Agree (%)	Disagree (%)	Decision
Cracked walls allow rodent entry	87.4	12.6	Agreed
Poor roofing increases infestation risk	81.9	18.1	Agreed
Overcrowded housing increases exposure	76.8	23.2	Agreed
Lack of sanitation facilities worsens conditions	89.2	10.8	Agreed

Field Survey 2026

7. Visual Representation of Key Findings



Field Survey 2026

8. Summary of Key Findings

The results revealed that:

2. Environmental conditions such as poor waste disposal and rodent infestation are highly prevalent.
3. Behavioural practices such as unsafe food storage and outdoor drying of food contribute significantly to exposure.
4. Socio-economic factors, especially poverty and low education, strongly influence preventive capacity.
5. Poor housing structures remain a major driver of rodent–human contact.
6. Overall, housing and environmental conditions emerged as the strongest predictors of Lassa fever exposure in endemic communities of Edo and Ondo States.

Discussion

1. Environmental Risk Factors

The study found a high prevalence of poor waste disposal, rodent infestation, and unsafe food storage practices. This aligns with NCDC (2026) reports which identify environmental contamination as a key driver of Lassa fever transmission in Nigeria. Similarly, WHO (2025) emphasized that *Mastomys natalensis* thrives in poorly sanitized environments, increasing human exposure risk. The findings also support Cadmus et al. (2025), who reported that environmental degradation and waste accumulation are strongly associated with Lassa fever hotspots in southwestern Nigeria.

2. Behavioural Risk Factors

Unsafe food handling practices such as drying food outdoors, uncovered storage of grains, and poor hand hygiene were significantly associated with exposure. This agrees with Imiegha et al. (2025), who found a persistent gap between awareness and preventive behaviour in Ondo State communities. Despite knowledge of Lassa fever, residents continue risky practices due to economic constraints and lifestyle habits.

3. Socio-Economic Factors

The study revealed that poverty, low income, and low educational attainment increase vulnerability to Lassa fever exposure. This is consistent with Asogun et al. (2025), who noted that socio-economic deprivation limits access to safe housing and hygiene facilities. Ugbede (2025) also emphasized that communicable disease risks are strongly influenced by socio-economic inequality and poor compliance with hygiene practices in Nigerian communities.

4. Housing and Environmental Infrastructure

Poor housing conditions such as cracked walls, poor roofing, and overcrowding were identified as major risk factors. These findings are supported by Cadmus et al. (2025), who reported that inadequate housing structure increases rodent entry and human contact. WHO (2025) also highlighted that structural housing deficiencies are critical determinants of zoonotic disease transmission in endemic regions.

5. Summary of Discussion

Overall, the findings demonstrate that Lassa fever exposure is not driven by a single factor but by an interaction of environmental conditions, human behaviour, socio-economic status, and housing quality. This supports the ecological model of disease transmission which emphasizes multi-level determinants of health outcomes.

Conclusion

The study concluded that residents of endemic communities in Edo and Ondo States are continuously exposed to Lassa fever due to persistent environmental contamination, unsafe behavioural practices, poor socio-economic conditions, and inadequate housing structures. Environmental and housing-related factors emerged as the most significant contributors to exposure risk.

Despite existing awareness campaigns, the persistence of risky behaviours indicates that knowledge alone is insufficient to prevent infection. Therefore, effective control of Lassa fever requires integrated community-based interventions that address both structural and behavioural determinants of exposure.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. **Strengthening Environmental Sanitation Programs**

   State and local governments should intensify waste management and sanitation enforcement to reduce rodent breeding environments.

2. **Community Health Education Campaigns**

   Health authorities should implement continuous education programs focusing on safe food storage, hygiene practices, and rodent control.

3. **Housing Improvement Policies**

   Governments should support housing improvement initiatives, especially in rural communities, to reduce rodent entry points.

4. **Poverty Alleviation and Economic Support**

   Social intervention programs should be expanded to reduce economic vulnerability, enabling households to adopt safer living conditions.

5. **Strengthening Surveillance and Early Detection**

   NCDC and state health agencies should improve community-level surveillance systems for early detection and rapid response.

6. **Behavioural Change Interventions**

   Community-based behavioural change programs should be introduced to bridge the gap between knowledge and practice identified in this study.

Contribution to Knowledge

This study contributes to existing literature by providing a comparative community-level assessment of Lassa fever risk factors in Edo and Ondo States, highlighting the combined influence of environmental, behavioural, socio-economic, and housing conditions on disease exposure.

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