

The Increasing Trend of Lassa Fever and the Hopelessness of Quick Intervention: Nigeria at Focus

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Abstract

This study investigated the increasing threat of Lassa Fever in Nigeria and highlighted the urgent need for global attention due to the rising number of deaths and confirmed cases. The main purpose of the study was to call for the intervention of the international Bodies to stall the rising trend of Lassa Fever in Nigeria. Contextually, though, the study sought to ascertain whether the Lassa Fever in Nigeria is on the increase; ascertain whether efforts had been made to arrest the situation of Lassa Fever in Nigeria and to determine whether the attention of the World Health Organization is needed in Nigeria to eradicate Lassa Fever. The study adopted a qualitative Meta-Analysis approach. It was found in the study that Lassa Fever in Nigeria is on the increase, from the viewpoint of scientific observation, where, from 1981 – 1988 there was no trace of LF on the average, efforts were made by the ministry of health in conjunction with other world bodies to arrest the situation of Lassa Fever in Nigeria and the attention of the World Health Organization is needed in Nigeria to eradicate Lassa Fever.

Keywords: Confirmed Disease, Deaths, Fatality Rate, Globalization, Health Issues, Spread.

Introduction

Nigeria, with an estimated population of 213.4 million people – Worldometer [1], located in West Africa is being threatened with an increasingly increasing rate of Lassa Fever, calling for urgent global attention. As of January 2023, the Nigeria Centre for Disease Control and Prevention (NCDC) saw the urgent need to activate the National Multisectoral Emergency Operations Centre for Lassa Fever OCHA [2]. The number of deaths recorded as of January 2023 were 37 with 244 confirmed cases. The fatality rate stood at 15.1% from 16 states out of the 36 states, and Abuja, the Federal Capital. NCDC, the relevant Ministries, Departments, and Agencies (MDAs), stakeholders and major partners in Nigeria termed the situation as ‘very high risk of increased Lassa Fever transmission’. The sole aim of this program was to stall its spread and successfully treat the infected persons. This was

not achieved. Things went south as the number of deaths increased to 188 and confirmed cases of 1,095. As of December 2023, the confirmed cases have been pushed up to 1,623. Correspondingly, the case-fatality ratio of the outbreak has moved up to 17.2% - Lara [3] in 113 Local Government Areas in 28 states.

This article aims to emphasize the deplorable and the increasing trend of Lassa Fever in Nigeria, as highlighted on the theme of this article. The situation calls for urgent global attention as the number of deaths and confirmed cases continue to rise. The author emphasizes the need for quick intervention to prevent further spread of the disease, especially with the dry season and other contributing factors such as poverty, bushfires, poor medical facilities, defective emergency response plans, and weak budgets for the health sector. It is important for the relevant authorities to take necessary measures to address this malaise and prevent

more deaths.

This article touched substantially on the anatomy, etiology, pathogenic, communicability, geographical scope, vector, symptomatology, cytomegalovirus, therapy, and the morbidity of Lassa Fever.

The Purpose and Objectives of the Study

The primary and overall purpose of this study is to attract the attention of the World Health Organization for a quick intervention into the quagmire of Lassa Fever in Nigeria. The sub-objectives in carrying out this study is tied to the real health situation in Nigeria as it relates to Lassa Fever. Contextually, therefore, in a smaller and more explicitly, this study tries to:

1. Ascertain whether the Lassa Fever in Nigeria is on the increase.
2. Ascertain whether efforts had been made to arrest the situation of Lassa Fever in Nigeria.
3. Whether the attention of the World Health Organization is needed in Nigeria to eradicate Lassa Fever.

What is Lassa Fever? The Virology

The nomenclature Lassa Fever is defined differently by different authorities, but on the principle of agreement reality, sound contextually the same. According to the World Health Organization (WHO) [4], Lassa Fever is an 'acute viral hemorrhagic illness caused by Lassa virus.' W.H.O went on to explain that Lassa virus is a member of the arenavirus family of viruses. Humans ultimately fall victims through the infection of Lassa virus when exposed to food or household items contaminated with urine or feces of infected Mastomys rats. On their part, the CDC [5] defined Lassa Fever as an acute viral illness spread by the common African rat. According to Cleveland Clinic [6], Lassa Fever is a type of viral hemorrhagic illness one gets from humans or rats infected with Lassa virus. They added that it is a type of Viral Hemorrhagic Fever

(VHF), a group of viruses that can cause uncontrolled bleeding. In a different form, MSD MANUAL Professional Version [7] define Lassa Fever as a disease from Lassa virus, which is a single stranded RNA virus in the Arenaviridae family.

Evan [8] stipulated a simple definition of Lassa Fever as a viral disease that is spread by rats. On their part, Richmond & Deborah [9] defined Lassa Fever as a viral hemorrhagic fever transmitted by rats. According to Jill [10], Lassa Fever is an acute viral disease carried by a type of rat that is common in West Africa. Adding the voices of six authorities in one sweep - Idris, Abubakar, Peter, Nkechi, Dele & Matthew [11] in the implied definition of Lassa Fever, they said in one voice that Lassa Fever is a viral hemorrhagic fever disease caused by Lassa mammarenavirus (LASV). These definitions point to a single agreement reality that Lassa Fever is a disease of bleeding in humans, caused by the urine and feces of rats.

The Pictorial Structure of Lassamammarena Virus (LASV) – The Anatomy

The author includes two figures to enhance the reader's understanding of Lassa Fever and its causative virus. The first figure provides a visual representation of the Lassa mammarenavirus (LASV), offering insight into its appearance. The second figure, titled *Lassa_mammarenavirus#Pathogenesis*, illustrates the pathogenesis of the virus, highlighting the processes involved in its progression.

Lassamammarena Virus (LASV)



Figure 1. The Structure of Lassamammarena Virus (LASV)

(adapted from CDC, 2025)

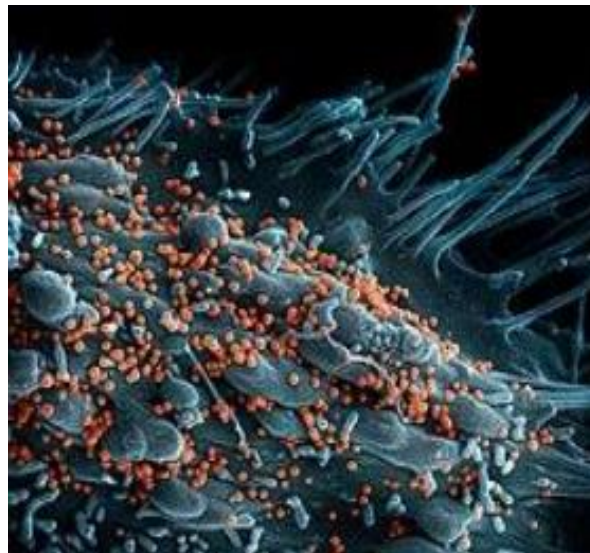


Figure 2. An adapted Image of the Pathogenesis

(adapted from Wikiwand (n.d.))

Where did Lassa Fever Start? The Etiology

Lassa Fever is named after the small town of Lassa, located in present-day Southern Borno State, Nigeria. According to Ibrahim [12], a native of Lassa, the origins of the disease trace back to 1969. Mrs. Laura Wine, a missionary with the Church of the Brethren in the USA, was assigned to the Lassa Mission Hospital, where she served as the head of obstetrics after retiring from her nursing career in Chicago.

Ibrahim [12] recounts that upon returning from a leave in the USA, Mrs. Wine developed

a persistent and severe fever after resuming her duties. Her illness was initially managed by Hamidu Gadzama, a nurse at the hospital and Ibrahim's father's cousin, who suspected malaria and treated her with conventional fever remedies. However, when her condition did not improve, Gadzama contacted the missionary headquarters in Jos for assistance. They arranged for her transport, sending an airplane to Mubi airstrip to take her to Jos. From there, she was transferred to SIM/ECWA Evangelist Hospital, Jan Kwano (now Bingham University Teaching Hospital), a better-equipped medical facility.

Mrs. Wine's condition deteriorated further at Jan Kwano. Medical samples were sent to the United States for testing, and her travel history was reviewed. It was revealed that she had traveled through another West African country, likely Sierra Leone, entered Nigeria via Lagos, and stopped in Jos before reaching Borno State. Tragically, Mrs. Wine succumbed to the illness. Shortly after her death, the doctor and nurse who treated her in Jos also fell ill and died. It became evident that they were dealing with a previously unknown and highly contagious illness. Further investigations revealed that the cause of death was a novel arenavirus. The U.S. Centers for Disease Control (CDC) identified and confirmed this discovery. The new virus was subsequently named "Lassa Fever" in honor of Lassa town, where the outbreak began.

How Fast Does Lassa Fever Spread? – The Pathogenesis

Records show that about 300,000 people get Lassa fever, and over 7,000 deaths in countries of West Africa every year. The spread of the infection occurs primarily through direct contact with the urine, feces, saliva, or blood of infected rats. Additionally, it can spread through contact with objects, household items, and surfaces that have been contaminated with these bodily fluids from infected rats. Consumable food or water can also become contaminated in this manner. Person-to-person transmission is possible through contact with the blood, urine, feces, vomit, and other bodily fluids of an infected individual. At the incipient stage, Lassa fever presents, like many common illnesses that involve a fever, such as malaria. Other symptoms may include headache, overall body weakness, cough, nausea, vomiting, diarrhea, muscle aches, chest pain, sore throat,

and in severe cases, bleeding from the ears, eyes, nose, mouth, and other bodily openings. The incubation period for the disease ranges from 3 to 21 days before symptoms manifest.

The Spread of Lassa Fever in Nigeria

From the onset of Lassa Fever in 1969 until 2020 in Nigeria, all four-year periods showed an increase in the number of deaths, except for the periods 1973–1976, 1977–1980, and 1993–1996, as reported by Dennis, George, Christian, & Oyewale [13] (see Table 2). A time series analysis, using the same secondary data from Table 1, projected that the total number of deaths for the 2021–2024 period would reach 478, as calculated in the equation below. This downward trend could be as a result of underreporting, especially in northern Nigeria - David, Rory Gibb, Chioma, Elsie, Rimamdeyati, Saliu, Michael, Akanimo, Lauren, Christl, Ibrahim, Kate & Chikwe [14]. Even as this figure is 349 deaths less than the penultimate figure, it is still premature to conclude that the death rate has started declining. This is so because from 1985 – 1988, no record of any case of Lassa Fever. This is the researcher's benchmark. According to Dennis, George, Christian, & Oyewale [13], in the late fourth decade, spanning from the 10th 4- year period (2005–2008) to 2020, there was a notable increase in the number of affected states and geopolitical zones. Specifically, in 2016—prior to the subsequent surge in 2020—28 states, constituting 78% of the total 36 states in the country, experienced widespread outbreaks. Dennis, George, Christian, & Oyewale [13] added that the spikes in caseload relating to Lassa Fever, emphasize the urgent and necessity to source and implement more effective countermeasures.

Table 1. Data Summary

Group of 4 Years (x)	Number of Deaths (y)	xy	x ²
-6	25	-150	36
-5	2	-10	25
-4	1	-4	16

-3	0	0	9
-2	0	0	4
-1	27	-27	1
0	21	0	0
1	26	26	1
2	86	172	4
3	213	639	9
4	307	1,228	16
5	309	1,545	25
6	827	4,962	36
Total	1,844	8,381	178

adapted from Dennis, George, Christian, & Oyewale [13]

Equation 1: Time Series Projection of Deaths (2021-2024) based on Data summary in Table 1 above.

Forecast of Deaths Between 2021-2024, Using Time Series Analysis Formula in Projection of the Number of Deaths and Estimated Years

Formula used for the Time Series Analysis:
Expected Number of Deaths

$$D = a + b(t)$$

Where:

$$a = \frac{\sum xy}{n}$$

$$b = \frac{\sum xy}{\sum x^2}$$

t = Expected Years Under Review

n = the number of items

Calculation of Constants:

$$a: a = \frac{\sum xy}{n} = \frac{1844}{13} = 141.846 \approx 142$$

$$b: b = \frac{\sum xy}{\sum x^2} = \frac{8381}{178} = 47.08 \approx 47$$

Forecast for 2021–2024:

The projected group of years $t = 7$ (as the midpoint of 2021–2024 corresponds to $t=7$)

$$D = a + b(t)$$

Substituting the values:

$$D = 141.846 + (47.08 \times 7)$$

Simplify:

$$D = 141.846 + 329.56 = 478$$

Final

Forecast:

The expected number of deaths between 2021 – 2024 is approximately 478

Table 2. Caseload and Case Fatality of Lassa Fever Outbreaks in Nigeria, 1969–2020

Study Period	Average Population	Suspected Cases (No. per 1M)	Confirmed Cases (No. per 1M)	Deaths Among Suspected Cases (%)
1969–1972	56,665,493.50	54 (0.953)	23 (0.406)	25 (46.3)
1973–1976	62,596,869.50	7 (0.112)	7 (0.112)	2 (28.6)
1977–1980	70,314,952.25	1 (0.014)	1 (0.014)	1 (100.0)
1981–1984	78,432,910.75	0	0	0
1985–1988	86,943,121.75	0	0	0
1989–1992	96,457,454.75	38 (0.394)	23 (0.239)	27 (71.1)
1993–1996	106,652,895.50	159 (1.491)	2 (0.019)	21 (13.2)
1997–2000	117,830,333.80	135 (1.146)	26 (0.221)	26 (19.3)
2001–2004	130,302,793.80	175 (1.343)	73 (0.560)	86 (49.1)

2005–2008	144,503,231.00	534 (3.695)	202 (1.398)	213 (40.0)
2009–2012	160,715,500.30	4,925 (30.644)	467 (2.906)	307 (6.2)
2013–2016	178,817,109.80	4,721 (26.401)	437 (2.444)	309 (6.6)
2017–2020	198,462,788.80	17,262 (86.979)	2,893 (14.577)	827 (4.8)
Total (1969–2020)	114,515,035.40	28,011 (244.605)	4,154 (36.275)	1,844 (6.6)

(adapted from Agbonlahor et al., 2021)

The Transportation of Lassa Fever (Communicability)

Figure 3 below illustrates the transportation and communicability of Lassa Fever, showing how the virus spreads from one individual to another.

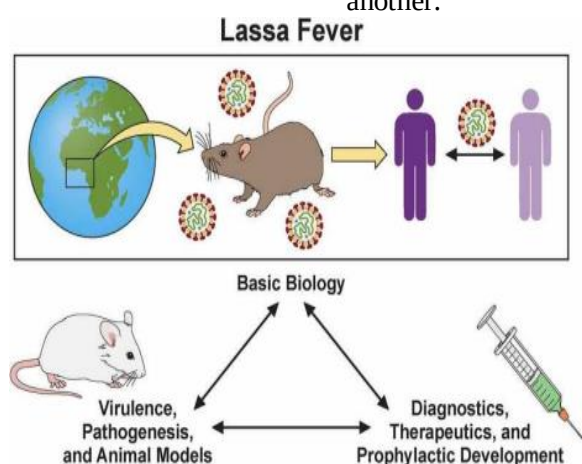


Figure 3. The Communicability of Lassa Fever

Adapted from Murphy, H. L., & Ly, H. (2021).

Geographical Scope of Lassa Fever

Lassa Fever is currently confined to the West African region, affecting eight countries: Benin, Ghana, Guinea, Burkina Faso, Liberia, Mali, Sierra Leone, Côte d'Ivoire, Togo, and

Nigeria. Recently, it has also been reported in the Central African Republic, Guinea, and the Democratic Republic of the Congo. This is further illustrated in Figures 4 and 5, which show maps depicting the countries where Lassa Fever is present.

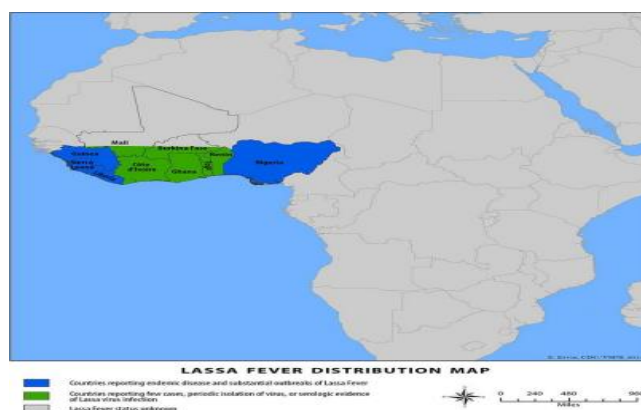


Figure 4. Maps depicting the countries where Lassa Fever is present

Source: adapted from CDC, 2025



Figure 5. Maps depicting the countries where Lassa Fever is present

Source: adapted from CDC, 2025

The Lassa Fever Reservoir (Vector)

This section addresses how the infectious agent lives and multiplies. According to OCHA [2] The virus's natural reservoir is the *Mastomys natalensis* rodent, commonly known as the multimammate rat or African rat. OCHA noted that other rodents can also carry the virus. Added to OCHA's view on reservoir of Lassa Fever agent, on their part, MSD MANUAL Professional Version [7] put it that the reservoir is the rats *mastomys natalensis*, *M. erythroleucus*, and *Hylomyscus pamfi*. They added that pygmy mouse, *mus baoulei* has recently been implicated as a reservoir species in Lassa Fever infested areas. In most cases, Lassa Fever results from contamination of food with rodent urine, saliva, or feces, but human-to-human transmission can also occur through exposure to the urine, feces, saliva, vomitus, or blood of infected people. Nosocomial, which is transmission from human-to-human in the hospital, is also common when either the nurses or other persons or doctors are not protected. From serological information, people living around places of high population density are

prone to a very high rate of infection, much higher than their rate of hospitalization for Lassa Fever. According to CDC [5], an estimated 80% of infected people have mild disease and about 20% have severe, multisystem disease. According to WHO [4], the multimammate rat, the main reservoir of the Lassa virus, is common.

Methodology

The researcher adopted a qualitative desk Meta-Analysis design, in which, various medical reports from WHO, government ministries of health, and individual medical researchers were rigorously examined. The findings and conclusion were drawn from the reports and materials. However, a Time Series Analysis was carried out on the secondary data.

Dennis, George, Christian, & Oyewale [13], and applied the computation of the expected number of deaths from 2021 – 2014, which was not captured in the analysis given as shown in table 2 above.

Symptoms of Lassa Fever (Symptomatology)

Table 3. Serological Data of Lassa Fever

Category	Guinea	Nigeria	Sierra Leone	Overall
Estimated rural population	5,544,720	64,787,478	2,823,605	73,155,803
Seronegative in general population (%)				
- Lowest	45.0	NA	48.0	
- Highest	96.0	78.7	92.0	

Population “at risk” (seronegative)				
- Lowest	2,495,124	NA	1,355,330	
- Highest	5,322,931	50,987,745	2,597,717	58,908,393
Seroconversions per year				
- Lowest (5%)	124,756	NA	67,767	
- Highest (22%)	1,171,045	11,217,304	571,498	12,959,847
Seroconversion plus illness per year				
- Lowest (9%)	11,228	NA	6,099	
- Highest (26%)	304,472	2,916,499	148,589	3,369,560
Ratio of fatality to infection per year				
- Lowest (1%)	112	NA	61	
- Highest (2%)	6,089	58,330	2,972	67,391
Estimated seropositivity (%)				
- Lowest	4%	NA	8%	
- Highest	55%	21.3%	52%	
Estimated numbers seropositive				
- Lowest	221,789	NA	225,888	
- Highest	3,049,596	13,799,733	1,468,275	18,317,604
Estimates of annual reinfection				
- Lowest (1%)	2,218	NA	2,259	
- Highest (18%)	548,927	2,483,952	264,289	3,297,168

Source: adapted from Richmond, J. K., & Baglole, D. J. (2003).

The signs of Lassa fever begin with mild fever that gradually progresses into a more tense fever. Weakness of the body, a general feeling of discomfort, and gastrointestinal issues like nausea, vomiting, diarrhea, dysphagia, stomach ache, etc., signs of hepatitis may also occur. Richmond & Deborah [9] stipulated that it has an incubation period of 5 to 16 days, after which symptoms may progress to health prostration with sore throat, cough, chest pain, and vomiting. The sore throat becomes more severe within the first week. Patches of white or yellow tissues may appear alongside the exudate from the tonsils, often creates coalesce, which transmutes into a pseudomembrane in the conjunctiva. According to WHO [4], in advanced situations, facial swelling, fluid in the lung cavity, bleeding from the mouth, nose, vagina or

gastrointestinal tract, and low blood pressure may develop. Occasionally, however, patients have tinnitus, epistaxis, maculopapular rash, cough, and dizziness. Often, pericarditis occurs in patients. Sensorineural Hearing Loss (SNHL) comes up to 20 to 30% becomes permanent. The level of fever and the degree of aminotransferases in an infected person is a function of the severity of the disease in the patient. Note also that progression to severe illness results in shock, delirium, rales, pleural effusion, and, occasionally, generalized seizures. Defervescence may take place within 4 to 7 days in patients who receive early treatment.

Lassa Fever is not without sequelae consequences, which include alopecia, iridocyclitis, and transient blindness. The possibility of its transmission through is

uncertain yet. Conventionally, distinguishing Lassa Fever disease from other viral hemorrhagic fever and from febrile illness such as malaria, typhoid fever, shigellosis, leptospirosis, rickettsial disease, and relapsing fever are difficult. An estimate of 80% of people with Lassa fever manifest mild symptoms like Fever, Tiredness, Cough, Sore throat, Headache. In extreme cases, about 20% have severe symptoms like chest pain or neck pain or stomach pain, difficulty in breathing, severe vomiting or diarrhea, bleeding from the mouth, nose, eyes or other and seizures and confusion.

Effect of Lassa Fever on Pregnancy (Cytomegalovirus)

In women, there could be pregnancy loss or miscarriage. Pregnant women need special care when infected with Lassa Fever. Most times, the fetus in the womb does not survive a Lassa Fever infection by the mother. An estimated 75% of pregnancies end up in the loss of the fetus. In ideal situations, early delivery is recommended to increase the chances of saving the mother and the child.

Other Effects of Lassa Fever on the Infected Victim (Anaphylaxis)

Victims of Lassa Fever suffer from pericarditis. That is the inflammation of the lining around your heart. They also suffer from pleural effusion. That is accumulation of fluid around the chest and the lungs due to poor pumping by the heart. Hepatitis is another health challenge suffered by the Lassa Fever infected person. This is a serious liver problem. Thrombocytopenia is another illness that is suffered by a Lassa Fever infected person. This is the health challenge of platelets deficiency in the blood. In this case, blood clotting to stop bleeding is a challenge. On the contrary, there could be severe blood clotting disorders referred to as Disseminated Intravascular Coagulation (DIC). Encephalopathy is another health challenge in the body of the Lassa Fever

infected person. This is an infection that hampers the proper function of the brain. There is also this problem of insufficient blood supply that causes poor respiration. It is referred to as Acute Respiratory Distress Syndrome (ARDS). Septicemia is another health challenge that is a life-threatening complication. This is the release of chemicals in the bloodstream, resulting in inflammation in the blood. The use of Dialysis cannot be ruled out as a remedy to kidney malfunction because of the effect of Lassa Fever in an infected person.

Prevention (Prophylaxis)

Prevention, they say, is better than cure. Though the author would put forth a few means to prevent contacting Lassa Fever, it is almost impossible to prevent the presence of rats in our environment. WHO stipulated that the mastomys rat is so widespread that it cannot realistically be eradicated in the affected African Areas. The following steps, however, can be taken to prevent Lassa Fever as suggested by Evan [8]:

1. Store food in rat-proof containers.
2. Keep the place where you're staying clean, so critters are less tempted to wander in.
3. If you spot rats inside, either stay somewhere else or set up rat traps.
4. Never try to cook or eat rats.

Jill [10] also suggested that Lassa Fever can be prevented in the following ways:

1. Regular handwashing
2. Storing foods in rodent-proof containers
3. Keeping garbage away from the home
4. Keeping pet cats
5. Avoiding blood and other bodily fluids when caring for sick relatives
6. Following safe burial procedures
7. Using protective equipment in a healthcare setting, including masks and eyewear

Aside from the precautionary measures opined by Jill and Evan, global preventive measures include the use of personal preventive equipment like safety goggles, high-efficiency masks, a negative-pressure room, positive-

pressure filtered air respirators. Avoidance of physical contact with an infected person is highly recommended as a preventive measure. Avoidance of food, water, and environment contaminated by infected rodents is highly necessary. Cleaning up materials contaminated by rat excreta is very necessary. Keeping living areas clean and sanitized, with food in closed containers to discourage attracting rats are unavoidable, if Lassa Fever is to be prevented. Isolation of infected persons is also recommended. Community hygiene lifestyle approach is another means of preventing Lassa Fever.

Deforestation and bush burning should be avoided as it is a major man-made activity that has encouraged the migration of dangerous small rodents from the jungle to human settlements in villages, communities, and towns. Proper legislation and enforcement of the same should be encouraged to discourage the practices of bush burning and deforestation. Prevention of Lassa Fever is simply by keeping rats away from homes and isolation of infected persons from the rest.

Treatment (Therapy)

Treatment of Lassa Fever is usually with the Antiviral Medication Ribavirin, first pioneered in 1979 by Joe McCormick. He however proposed that early administration of Ribavirin was advised for success. Other treatments could be administered, though, depending on the condition of the patient. An initial supportive care could be administered with the intention of rehydrating the patient cum symptomatic treatment, which would improve survival of the patient. The mortality rate of the patient would be jerked up by 90% if ribavirin is administered within the first six days. It is very important to administer supportive treatment, which includes correction of fluid and electrolyte imbalance. Administering drugs to Lassa Fever patients through Intravenous (IV) is twice more result oriented than oral. Obviously, when a patient goes to the hospital in the Lassa Fever

case, oxygen may be given to the patient and the blood pressure would be kept under check, and such other services.

The Quagmire in Lassa Fever (Morbidity)

The author, having epidemiologically considered the spatiotemporal of Lassa Fever, some of the quagmire observed, that would need urgent attention are as follows:

1. No vaccine for Lassa fever is available.
2. Although Anti-Lassa Fever Plasma has been tried in every Lassa Fever patient, however, nothing beneficial has been shown, and it's not currently recommended.
3. Up till now, only production of a combined, single dose vaccine against yellow fever and Lassa fever has been proposed, but not produced.
4. Although several compounds have shown in vitro efficacy, only the guanosine analogue ribavirin has practical application.
5. It is important to note that not many people are likely to go to hospital for Lassa Fever treatment, as the cost of treatment is expensive and can only be afforded by the rich.
6. The antiviral ribavirin has been used to treat Lassa Fever, but its efficacy is unproven.
7. Lassa Fever can be used as a biological weapon.
8. According to Adewuyi, Fowotade, & Adewuyi [15], failure to effectively control Lassa Fever would make the attainment of the millennium development goals of reducing maternal and infant mortality rates impossible.
9. Current overall risk at the national level is considered high.
10. According to UTMB News [16] As many as 500,000 people are infected each year in West Africa.
11. There are no vaccines currently licensed

- for the prevention of Lassa Fever.
12. In the words of NLM [17], there are probably several thousand people each year.
 13. W.H.O [18] asserted that humans usually become infected with Lassa virus through exposure to food or household items contaminated with urine or feces of infected *Mastomys* rats. They added that the disease is endemic in the rodent population in parts of West Africa.
 14. According to Fabiyi [19], Lassa fever has nonspecific clinical symptoms which have been confused with yellow fever, constituting a public health disease in several countries in Africa.
 15. According to Hamblion, Raftery, Wendland, Dweh, Williams, George, Soro, Katawera, Clement, Gasasira, Musa & Nagbe [20], the case fatality rate in the confirmed cases was 29%.
 16. Titus [21] asserted that the high virulence and fatality rate of this disease is a major concern which is further complicated by the non-specific modes of presentation (mimicking some other fevers).
 17. Reliefweb [22] was cited as saying that despite affecting up to 300,000 people a year across West Africa, and causing more than 5,000 deaths annually, Lassa fever is a poorly understood disease that is challenging to diagnose and treat.

Findings

From the qualitative Meta-Analysis in this study, the followings were found:

1. Lassa Fever in Nigeria is on the increase, from the viewpoint of scientific observation, where, from 1981 – 1988 there was no trace of LF. It started its upward trend again from 1989. The computed outcome of deaths of 478 notwithstanding.
2. Efforts were made by the ministry of health in conjunction with other world bodies to arrest the situation of Lassa Fever in

Nigeria.

3. The attention of the World Health Organization is needed in Nigeria to eradicate Lassa Fever.

Discussion of Findings

On the finding number 1, according to W.H.O [23], Nigeria is currently experiencing a large outbreak of Lassa fever, with 4702 suspected cases, five probable cases, and 877 confirmed cases between epidemiological weeks 1 and 15 of 2023 (week ending 16 April). This seems to be in sympathy with the view of the author as he computed 478 deaths from 2021 - 2024, using time series analysis. If out of 877 confirmed cases, there were 478 deaths, then, the percentage of the death figure to the confirmed cases was high. According to Donatus [24], The Disease Centre said that 411 cases have been confirmed, and 72 deaths have been recorded from the outbreaks as of February 11, 2024. However, this figure by NCDC is in contrast with the author's computation. The 72 deaths are for only January and February 2024.

On finding number 2, the NCDC [25] had declared that: "The Federal Government of Nigeria, through the Federal Ministry of Health and Social Welfare and the Nigeria Centre for Disease Control and Prevention (NCDC's) National Lassa Fever Technical Working Group (TWG) leads on efforts to prevent, detect, and respond to cases of Lassa fever across the country." However, Monica & Erhabor [26] spotted some irregularities in the control of diseases and the administration of funds to stop the spread of diseases. They asserted that there was systemic fraud in the health sector. They describe Systemic fraud in the health sector as the vulnerability of the health system to fraud through intentional deception or false representation of health material facts that are committed either for personal gains or for the benefit of some others. The author believes that corruption could have been the bane in curbing the spread of Lassa

Fever in Nigeria.

On findings number 3, Ernest, Oluwasegun & Oluwasogo [27] stipulated that Lassa fever, a known endemic infectious disease of poverty, had emerged as a severe outbreak of public health threat and burden in Nigeria. A grievous situation as this requires the application of the Disaster Relief Emergency Fund, which was established in 1985 and is supported by contributions from donors, according to the US mission in Nigeria [28], the European Union and its Member States are the world's leading donors of humanitarian aid. They added that relief assistance is an expression of European solidarity with people in need all around the world. The assertion by the US in Nigeria

buttresses the fact that the situation of Lassa Fever in Nigeria needs an international intervention.

Lassa Fever, an acute viral hemorrhagic disease endemic to parts of West Africa, continues to pose a serious public health threat. Efforts to combat the disease have led to significant advancements, including the development of a new vaccine by researchers at the University of Texas Medical Branch (UTMB) see figure 6 below. This vaccine has recently been approved, marking a significant milestone in the fight against Lassa Fever. This vaccine is seen as a crucial tool in preventing outbreaks and saving lives, particularly in areas with frequent Lassa Fever occurrences.



Figure 6. Image: A New Lassa Fever Vaccine from the University of Texas Medical Branch

Source: adapted from UTMB News, 2023.

Conclusion

This study had as its central purpose the need for the international health players to come to the aid of Nigeria, in relation to Lassa Fever. Lassa Fever has become a quagmire in Nigeria as there is no approved vaccine, no standardized approach to its treatment and no hope of its cure in the nearest future. Currently, there are about 2000 confirmed cases and about 200 deaths yearly in Nigeria alone. It is known as an acute viral hemorrhagic illness caused by a virus from rats in West Africa. History has it that Lassa Fever originated from a town in the southern Borno State called Lassa in 1969. From one state in Nigeria in 1969 to 16 states as of January 2023. By December 2023, the affected states had moved up to 28. Today, it

has spread across the West African region to the Central African region. The spread of this disease is so fast that medical experts have termed the dreaded disease as an anti-Millennium Development Goal (MDG); saying that if it is not controlled, there would not be attainment of the MDG. The best that can be done concerning Lassa Fever is to prevent it by staying away from rats as a way of avoiding encountering the excreta and urine rats. A spatiotemporal hygienic lifestyle is the best option for now in dealing with Lassa Fever. The attention of the global health community is needed in Nigeria. It was found in the study that Lassa Fever in Nigeria is on the increase on the average, Efforts were made by the ministry of health in conjunction with other world bodies to

arrest the situation of Lassa Fever in Nigeria and the attention of the World Health Organization is needed in Nigeria to eradicate Lassa Fever.

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