
**KNOWLEDGE AND HYGIENE PRACTICE AMONG TRADERS TOWARDS
ERADICATION OF LASSA FEVER IN LAPAI LOCAL GOVERNMENT AREA OF
NIGER STATE, NIGERIA**

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ABSTRACT: *The study was designed to investigate the knowledge and hygiene practice among the traders in Lapai local government of Niger State. Descriptive survey research design was adopted for the study. Instrument for the study was structured questionnaire developed to carry out the investigation on knowledge and hygiene practice of the traders towards eradication of the virus. The population of the study comprised 250 respondents (traders) sampled from all the daily markets and shops in the Lapai local government. The data collected were analyzed using frequency counts, simple percentage and Analysis of Variance (ANOVA). It was established that 52.8% of traders had good knowledge of Lassa fever; however, findings revealed that hygienic practice and behaviours was negative among 71.6% of traders. Education level was found to be the only socio-economic factor associated with hygienic practice among traders towards eradication of Lassa fever ($F = 28.701$; $p < 0.05$). Recommendations were made amongst others that traders should be educated on the risk of exposure to rats inducing Lassa fever. Good personal hygiene must be maintained, all the fruits seller must keep all their fruits from the reach of the rat, same vain to all the people selling drinks in Can. Garri and other food items must be well protected with rodent proof and keep away from the reach of rats. Moreover, all hands must be on deck for the eradication of rats from the community.*

KEYWORDS: lassafever, multimammate rat, traders, knowledge, hygiene practice.

INTRODUCTION

Lassa fever is an acute, virulent hemorrhagic disease that has no vaccine against its victim to date. The virus is transmitted by multimammate rat found mostly in sub-Saharan Africa. Obicha (2016) stated that in every society, especially, the developed and the developing countries are exposed to health challenges, one of them is issue of Lassa fever in Nigeria which is a great concern to the stake holders in the country.

Bakare, Are, Abolarin, Osayinlusi, Ngwu and Ubaka (2020) reported that Lassa fever is an acute viral hemorrhagic illness that is common in West Africa is caused by Lassa virus, a single stranded RNA virus belonging to the family Arenaviridae. They confirmed that Lassa fever first discovered in 1969 when two missionary nurses died and named after the Lassa town in Borno State, where the first cases occurred and the disease is now endemic in many parts of West African countries including Nigeria, Sierra Leone, Liberia, and Guinea. The sporadic outbreaks of Lassa fever have

been documented since 1969 as an endemic in several states in Nigeria including Edo, Ebonyi, Onitsha, Jos, Taraba, Nasarawa, Yobe, Rivers, Ondo, Oyo, Delta, Ekiti, Kogi, Lagos, Osun, FCT, Taraba, Kano, Plateau, Bauchi and Niger States. Lassa fever is one of the health issues being tackled in Nigeria as an endemic health problem which needs urgent attention. Lassa fever is a hemorrhagic fever that is highly contagious with a high mortality rate. The infection is accompanied by severe hemorrhagic fever, general weakness, headache, sore throat, muscle pain, cough, chest pain, nausea, vomiting, diarrhea, abdominal pain with bleeding. Abdulkarim, Bashoron, Usman, Balogun, Babale, Umeokonkwo and Bangboye (2018) lamented that Lassa fever has become a highly fatal disease in Nigeria and there should be no delay in seeking care after onset of bleeding. Lassa fever has some common early symptoms similar to that of malaria including fever, headache, sore throat, vomiting, diarrhea and muscle pains and those of other febrile diseases, frequently encountered in most Lassa fever endemic settings. Lassa fever is spread through contact with urine, feces, saliva, blood of infected rats or with the body fluids of an infected person. Bakare et al confirmed that the outbreak of Lassa fever is highest in humans during the dry season, following multimammate rodent reservoir breeding during the raining season. According to Nigeria Centre for Disease Control (2019) cases of Lassa fever outbreak in the country is alarming which needs urgent attention. Abdulkarim et al lamented that in recent years, Lassa fever outbreak in Nigeria have become more frequent and larger in magnitude. Obicha (2016) stressed that Lassa fever is a major public health concern as many fatalities recorded across the country, a delay in seeking care has been established as causes of many deaths. Therefore, this study sought to find out the knowledge and hygiene practice among Traders in eradication of Lassa fever from Lapai local government area of Niger State, Nigeria.

Statement of the Problem

The recent outbreak of Lassa fever in many states in the country is worrisome and spreading fast towards other states that have not witnessed the infection. Majority of the students and staff of Ibrahim Badamasi Babangida University buy what they consume from the traders in the local government where the university is situated, especially their food stuffs, fruits and Can drinks. There is urgent need of health educators to find out the hygienic practice of the traders in preventing and making the virus free from Lapai Local Government of Niger State, Nigeria.

Purpose of the Study

The purpose of this study was to investigate the current position of knowledge and hygienic practice of the traders in daily markets, selling consumable items to the people in the community, especially students and staff of Ibrahim Badamasi Babangida University Lapai, Niger State.

Research Questions

In order to achieve the purpose in this study, the following research questions were embarked upon to provide a direction to the investigation:

1. What is the nature of knowledge of Lassa fever among traders in Lapai local government of Niger State?
2. What is the nature of hygienic behaviours among traders towards eradication of Lassa fever in Lapai Local government area of Niger State?

3. What are the socio-economic factors associated with traders' behaviours towards eradication of Lassa fever in Lapai Local Government Area of Niger State?

METHODOLOGY

The research design employed for this study is the descriptive research design. The sample for this study consisted of 250 respondents (140 males and 110 females) which were purposively sampled for the study that comprises the Traders selling Daily in the main road towards Badegi, Bida and Minna roads in Lapai local government area of Niger State.

Research Design, Instrument and Procedure for Data Collection

A descriptive survey research design was used for the study. Modified Likert type was adopted and ranged from Strongly Agree (SA), Agree (A), Disagree (D) and (Strongly Disagree (SD) was used to gather information from the respondents. The items on the structured questionnaire inventory were framed to adhere information based on the three research questions. The structured questionnaire was validated by experts in field of Health Education. Pilot study was carried out in Gulu Daily market to fine tune the administration process such as familiarization with data collection procedure, which was not part of the study. The validated questionnaire was distributed to the respondents in their various shops located in Lapai Daily markets, Badegi Bida and Minna roads within Lapai local government axis. Because of the literacy level of people in Lapai community and its environs, the inventory was interpreted by two research assistants to the respondents in their local dialects.

Method of Data Analysis

The data collected were sorted and coded and analyzed using descriptive statistics of frequency counts, percentages and inferential statistics of Analysis of Variance (ANOVA) at 0.05 level of significance.

RESULTS

The following results were obtained in the study.

Socio-Economic Characteristics of Traders in Lapai Local Government Area

Table 1 showed that the majority of the respondents were male representing 56.0%, and about 44.0% were female. The mean age of the respondents was 31.50. More than 50% of the respondents were aged between 20 and 40 years, about 30.4% were less than 20 years old, while only 19.2% of the respondents were above the age of 40. Majority (65.2%) of the respondents were married, 27.6% of traders were single, and only 7.2% were divorced/separated. At least 69.6% out of the respondents sampled were illiterate or uneducated, 19.6% completed primary education or were secondary school dropout, 7.2% had secondary school level education, and only 3.6% were graduates. Most of the respondents were moderate and low income levels representing 23.6% and 68.0% respectively, and about 8.4% respondents were high income earners with average monthly income of over one hundred thousand naira (₦100, 000.00).

Table 1

Socio-Demographic Characteristics of Respondents (250)

Variable	Categories	Frequency	Percentage (%)
Sex	Male	140	56.0
	Female	110	44.0
Age (years)	Less than 20	76	30.4
	20-40	126	50.4
	40 and above	48	19.2
Marital status	Single	69	27.6
	Married	163	65.2
	Divorced/Separated	18	7.2
Education level	No formal education	174	69.6
	Primary	49	19.6
	Secondary	18	7.2
	Tertiary	09	3.6
Income level (average earning per month)	Less than ₦30,000	170	68.0
	₦30,000- ₦100,000	59	23.6
	Above ₦100,000	21	8.4

Knowledge on Lassa Fever

Table 2 showed the scores of the respondents' knowledge on Lassa fever. The average percentage response scores of 52.8 indicated that only 52.8% of traders had good knowledge on Lassa fever in Lapai Local government area of Niger State. The majority (52.8%) of the respondents possessed good knowledge of Lassa fever. However, a significant proportion (47.2%) of the respondents had poor knowledge of Lassa fever. The implication of this result is that the majority of traders possessed adequate knowledge on the mode of transmission and symptoms of Lassa Fever. About 27.6% of traders were not aware that Lassa fever is caused by Multimammate rat, and about 66.8% of the respondents identified headache, chest pain, and diarrhea as one of the major symptoms of Lassa fever. Thus, the nature of knowledge of traders on Lassa fever was good.

Table 2

Knowledge of Lassa Fever Among Traders

Knowledge of Lassa Fever	N	% Response	
		Yes	No
Lassa fever is caused by Multimammate rat	250	181 (72.4)	69 (27.6)
Urine of rat in unprotected food harbour Lassa fever virus	250	140 (56.0)	110 (44.0)
Uncovered fruits eaten by rat and consumed by human being can transmit Lassa fever	250	116 (46.4)	134 (53.6)
Exposed food such as (Garri) to rat and later drink can infect one with Lassa fever	250	123 (49.2)	127 (50.8)
The virus of Lassa fever can be transmitted through direct contact with rat	250	100 (40.0)	150 (60.0)
Can drinks that are exposed to rat (urine or saliva) can infect human being	250	90 (36.0)	160 (64.0)
Lassa fever virus can be contracted through ingestion of food contaminated through infected urine of rat or the feces	250	153 (61.2)	97 (38.8)
I know that someone infected with Lassa fever could have headache, chest pain, and diarrhea	250	167 (66.8)	83 (33.2)
I know that someone infected with Lassa fever may cough and vomit	250	121 (48.4)	129 (51.6)
Average	250	132 (52.8)	118 (47.2)

Note. Numbers in parentheses, (), are percentages

Hygienic Behaviours Towards Eradication of Lassa Fever

Table 3 showed the scores of the respondents on hygienic behaviours towards eradication of Lassa fever in Lapai Local government area of Niger State. The average percentage response scores of 28.4 indicated that only 28.4% of traders practiced good hygiene for eradicating Lassa fever in Lapai Local government area of Niger State. The majority (71.6%) of the respondents practiced poor hygiene in eradicating Lassa fever in Lapai Local government area of Niger State. The implication of this result is that only a handful of traders possessed positive behaviours on hygienic practices for preventing the transmission and control of Lassa fever. About 80.0% of traders did not put regular cleaning of shops and drainages into practice to avoid Lassa virus infection, and only a few (18.0%) strongly agreed or agreed that positive behaviour such as proper refuse disposal will help eradicate Lassa infection. Thus, there was negative response from traders in an effort to eradicate Lassa fever from their hygienic practices.

Table 3

Hygienic Practice of Traders Towards Eradication of Lassa Fever

Hygienic Behaviours	N	% Responses	
		Strongly Agree or Positive (+) Behaviour	Strongly Disagree or Negative (-) Behaviour
I clean my shop and the drainages regularly to avoid infection or harbour rat	250	51 (20.4)	199 (79.6)
All the items in my store are protracted from the reach of rat by storing in rodent proof containers	250	94 (37.6)	156 (62.4)
I usually do not leave the rats found in my shop to continue staying in the vicinity	250	76 (30.4)	174 (69.6)
I wash my hands regularly and always emptied my dust bin before closing the shop daily	250	66 (26.4)	184 (73.6)
Any leftover foods are not usually left in the shop	250	110 (44.0)	140 (56.0)
I cut the grasses in my surrounding and disposes all garbage far from my shop to control or prevent rat from entering my shop	250	74 (29.6)	176 (70.4)
Clearing home of rats will help eradicate Lassa fever	250	82 (32.8)	168 (67.2)
Proper refuse disposal will help eradicate Lassa fever	250	45 (18.0)	205 (82.0)
Bush burning will help eradicate Lassa fever	250	38 (15.2)	212 (84.8)
Average	250	71 (28.4)	179 (71.6)

Note. Numbers in parentheses, (), are percentages

Socio-Economic Factors Associated Hygienic Practice Towards Lassa Fever Eradication

The analysis on Table 4 showed there was a significant association between socio-economic factor of education level of traders and practice of hygienic behaviours in Lapai Local government area of Niger State ($F = 28.701$; $p < 0.05$). Results showed that socio-economic factors such as sex ($F = 28.701$; $p > 0.05$), age ($F = 28.701$; $p > 0.05$), marital status ($F = 28.701$; $p > 0.05$), and income level ($F = 28.701$; $p > 0.05$) were not significantly associated with traders' good practice of hygienic behaviours in Lapai Local government area of Niger State. Respondents with higher level of education, tertiary education (28.18 ± 6.44) had more positive behaviour or good hygienic practices than respondents who had no formal education (15.93 ± 5.35). Ogboghodo et al (2017) and Olowookere et al (2017) also revealed similar findings that determinants of knowledge of Lassa fever include having higher education, being in civil service and earning higher income. The researchers remarked that it is necessary to increase public education and improve hygienic practices.

Table 4

Socio-Economic Variables Predicting Traders Behaviours Towards Eradication of Lassa Fever

Variable	Categories	$\bar{X} \pm S.D$	F-Ratio	p-value
Sex	Male	15.62 $\pm$ 5.71	2.152	.109
	Female	17.88 $\pm$ 5.25		
Age (years)	Less than 20	20.46 $\pm$ 8.11	1.556	.223
	20-40	17.61 $\pm$ 7.35		
	40 and above	19.40 $\pm$ 8.06		
Marital status	Single	17.21 $\pm$ 7.10	1.608	.246
	Married	16.68 $\pm$ 6.29		
	Divorced/Separated	15.28 $\pm$ 7.15		
Education level	No formal education	15.93 $\pm$ 5.35	28.701	.001
	Primary	16.01 $\pm$ 4.81		
	Secondary	19.43 $\pm$ 5.20		
Income level (average earning per month)	Tertiary	28.18 $\pm$ 6.44	1.444	.247
	Less than ₦30,000	16.47 $\pm$ 4.72		
	₦30,000-₦100,000	17.19 $\pm$ 5.51		
	Above ₦100,000	17.36 $\pm$ 6.60		

Note: F-value is significant at 0.05 level.

CONCLUSION

This study revealed that the Traders of Daily market in Lapai Local government were aware that rat is the main curse of Lassa fever, and the feces of the rat in consumed food can infect one with the virus but they needed to be educated on the mode of transmission of the virus through vehicle such as urine, saliva and direct contact with an infected rat. They displayed negative health behaviours in their hygienic practices which may probably influence another case of future Lassa fever endemic in the Northern region of Nigeria.

Recommendations

Based on the responses of traders in the daily markets in Lapai Local Government Area of Niger State, the following recommendations were made.

1. Government should educate traders on the risk of exposure to rats inducing Lassa fever.
2. Public health personnel should sensitize the Traders and the entire people in the Local Government on mode of transmission of the virus through saliva, urine faeces and direct contact.
3. Hand bills must be distributed to the entire population on how to control and prevent outbreak of Lassa fever.
4. People should be sensitized the importance of sanitation and personal hygiene that it cannot be substituted in prevention and control of Lassa fever.
5. The Traders and the residents of Lapai Local Government should be encourage to always store their food stuff in rodent proof containers.
6. Homes and shops must always be kept clean to prevent entrance of rodents that can contaminate any consuming items.

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