

Food Handling Habits and Lassa Fever Menace in Ekpoma, Edo State, Nigeria

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Abstract

This study examined food handling habits and lassa fever menace in Ekpoma, Edo State, Nigeria. The study adopted survey research design. The area of the study was Ekpoma, Esan West Local Government Area, Edo state. The population for the study was made of all women in Edo State, Nigeria. Sample of two hundred and three women was drawn using simple random sampling techniques. The instrument consist of thirty items with four points rating scale responses options, which was developed from literature reviewed and used for data collection. The questionnaire was validated by two experts from vocational and technical Education, Ambrose Ali, University, Ekpoma. Test- retest reliability was used. Pearson moment of correlation was used to obtain reliability coefficient of 0.82. All the copies of the questionnaires were retrieved. The data collected was analyzed using standard deviation and mean score. The findings revealed that the respondents are aware of lassa fever and the causes of lassa fever; but, the respondents did not understand the effect of lassa fever in the body system. The findings also revealed the poor method of food preservation and storage of the respondents which require improvement, to prevent lassa fever in the locality. Food handling of the respondents was also revealed which also need improvement. Recommendations were made among others include that an individuals should improve on food preservatives and food storage method, that is, good food preservatives and food storage that can prevent rodents from foods.

Keywords: Lassa fever, Rodents, Mastomys rats, Food preservatives, Food storage and Food handling.

Introduction

Lassa fever is an acute viral haemorrhagic illness caused by Lassa virus, a member of the arenavirus family of viruses. It is transmitted to humans from contacts with food or household items contaminated with rodent excreta (Ehigie, 2018). Lassa fever is a zoonotic disease, meaning that humans become infected from contact with infected animals. The animal reservoir, or host, of lassa virus is a rodent of the genus mastomys, commonly known as the multimammate rat. Mastomys rats infected with lassa virus do not become ill, but they can shed the virus in their urine and faeces, (World Health Organisation (WHO), 2017). Human are infected by contact with the rats or by eating them. They are considered a delicacy and are eaten by up to 90% of people in some areas. Rats found in houses of infected people are seropositive for the virus 10 times more often than those in control houses. Virus antibodies occur after a febrile illness in twice as many people who eat rats as in those who do not, and deafness, an effect of lassa fever occurs four times more frequently (Richmond & Bagiole, 2013).

Humans usually become infected with lassa virus from exposure to urine or faeces of infected mastomys rats. Lassa

virus may also be spread between humans through direct contact with the blood, urine, faeces or other bodily secretions of a person infected with lassa fever. Lassa fever occurs in all age groups and both sexes, persons at greatest risk are those living in rural areas where Mastomys are usually found, especially in community with poor sanitation or crowded living conditions. Health workers are at risk for caring for lassa fever patients in the absence of proper barrier. WHO, 2019. Lassa virus has been associated with nosocomial out breaks with high mortality. Hence, early identification of infected individual is important. Lassa fever presents at its early stage with symptoms and signs indistinguishable from those of other viral, bacteria's or parasitic infections common in the tropic such as malaria, typhoid and other viral haemorrhagic fevers (Tobin et al., 2013). Worldwide, an estimated 2 million persons are affected every year resulting in 5,000 to 10,000 deaths. It has been estimated that 300,000 to 500,000 cases and 5000 deaths from lassa fever occur yearly across West Africa with an epidemic and high sero-prevalence rates reported in Nigeria, sierra Leone; Guinea, and Liberia. In Nigeria, while outbreaks of the infection have been reported in Edo, Ebonyi Taraba, Plateau, Anambra, Yobe and Rivers, (Aigbiremolen et al., 2012).

The virus affects several organs such as the liver, spleen and kidneys, the incubation period of lassa fever ranges from 6 – 21 days. The onset of the disease, when it is symptomatic, is usually gradual, starting with fever, general weakness, and malaise, after a few days, headache, sore throat, muscle pain, chest pain, nausea, vomiting, diarrhoea, cough, and abdominal pain may follow. In severe cases facial swelling, fluid in the lung cavity, bleeding from the mouth, nose, vagina or gastrointestinal tract and low blood pressure may develop. Protein may be noted in the urine. Shock, seizures, tremor, disorientation, and coma may be seen in the later stages. Deafness occurs in 25% of patients who survive the disease. In half of these cases, hearing returns partially after 1- 3 months. Transient hair and gait disturbance may occur during recovery. Death usually occurs within 14 days (WHO, 2017).

Food Storage is both a traditional domestic skill and is important industrially. Food is stored by almost every human society and by many animals. Storing of food has several main purposes: preparation for periods of scarcity or famine, taking advantage of short term surplus of food as at harvest time, enabling a better balanced diet throughout the year, preparing for special events and celebrations, planning for catastrophe or emergency, religious reasons (LDS Church leaders council church members to store food) and protection against predators or others]. Preservatives may be added to food to prevent the growth of fungi. Preservative food additives can be used alone or in conjunction with other methods of food preservation. Preservatives may be antimicrobial preservatives, which inhibit the growth of bacteria or fungi, including mold, or antioxidants such as oxygen absorbers, which inhibit the oxidation of food constituents (Abdulmumeen et al., 2012).

Many processes designed to preserve food involves boiling to reduce the fruits moisture content and to kill bacteria, sugaring to prevent their re-growth, and sealing within an air tight Jar to prevent recontamination. Traditional techniques such as curing, the earliest form of curing was dehydration or drying. Smoking and salting techniques improve on the drying process and add antimicrobial agents that aid in preservation, cooling preserves food by slowing down the growth and reproduction of microorganisms and the action of enzymes that causes the food to rot. Other methods are freezing, boiling, heating, sugaring, picking, canning, jelly jugging, Burial, and fermentation. Modern industrial techniques are pasteurization, vacuum packing, freeze drying, modified atmosphere, artificial food additives and irradiation (Wikipedia, 2019).

Food storage is the process in which both cooked and raw materials are stored in appropriate conditions for future use without any entry or multiplication of microorganisms. Storing of food has several main purposes such as storage of harvested and processed plant and animal food products for distribution to consumers, enabling a better balanced diet and the reducing kitchen waste by preserving unused or uneaten food for later use. It is very important to maintain proper kitchen hygiene, to reduce risks of bacteria, virus growth, food poisoning and lassa fever. (Wikipedia, 2019).The things that we do over and

over again without really thinking about them often become our habits. When it comes to food safety, we should all make a deliberate effort to follow certain practices regularly so that eventually they can become habitual. This way preparing food as safely as possible becomes a process that happens without even really thinking about it. (Michols, 2016).

Personal hygiene for food handlers is very important to prevent food poisoning when handling food, wash your hands thoroughly and often when food handler is sick he/she can contaminate food more easily. Food handlers should wash and dry their hands thoroughly before handling food, wear clean protective clothing, keep fingernails short and do not wear nail polish because it can chip into the food, never cough or sneeze over food. Preserve food properly as well as store foods properly without any contamination, never chew chewing gum, smoke, spit or change baby nappy in food handling of food storage area, completely cover all cuts and wound with a wound strip or bondage, wash your hands after going to toilet, blowing your nose, touching your eyes, mouth, nose, ear or other parts of your body (Health vic, 2018).

Purpose of the Study

The main purpose of the study was to investigate food handling habits and lassa fever menace in Ekpoma, Esan West Local Government Area Edo State.

Specially, the study sought to:

- Determine the awareness of lassa fever and its effect on human's health among women in Ekpoma.
- Determine the method of food preservation and storage by women in Ekpoma community.
- Examine the ways of food handling by women in Ekpoma.

Research Questions

The follow research questions were raised to guide the study.

- Is there an awareness on lassa fever and its effect on human's health among Ekpoma women?
- What are the methods of food preservation and food storage among Ekpoma women?
- What are the ways of food handling, among Ekpoma women?

Methodology

This study employed a survey research design. The area of the study was Ekpoma, Esan West Local Government Area, Edo State. The population for the study was made up of all women in Ekpoma, Esan West Local Government Area, Edo State. The sample for the study was two hundred and twenty three women, a random sampling techniques was used to select one hundred educated women and one hundred and three non- educated women, making a total of two hundred and three women.

Questionnaire was used for data collection. The instrument consist of (30) items with four point rating scale response options, which was developed from literature reviewed and used for data collection. The scale for the questionnaire was strongly Agree (SA) 4 Agree (A) 3 Disagree (D) 2 and strongly Disagree (SD) 1. The questionnaire was validated by two

experts from vocational and technical Education, Ambrose Alli University, Ekpoma. Their corrections and suggestions were used to develop the final copy of the questionnaire. Test-retest reliability was used. Pearson moment of correlation was used to obtain reliability coefficient of 0.82. Four research assistants helped to administer two hundred and three copies of the questionnaire to the respondents. All the copies of the questionnaire were retrieved. Mean and standard deviation were used for data analysis. A mean of 2.50 was used for decision making. Any item with a mean rating of 2.50 or above was regarded agreed. While any item with a mean less than 2.50 was regarded as disagree.

Results

Research Question 1: Is there awareness of lassa fever and its effect on human's health Ekpoma among Ekpoma women?

S/N	Variables	Mean	SD	Remark
1	Lassa fever is an illness caused by lassa fever virus	3.62	.522	Agreed
2	The rodent that transmitted lassa fever to human is multimammate rat	3.49	.629	Agreed
3	Lassa fever can also be transmitted to human being through rat excreta and urine.	2.31	.849	Disagreed
4	Human being can also be infected by eating multimammate rat	2.30	.849	Disagreed
5	Lassa virus also spread through direct contact with person blood, urine and faeces	2.34	.822	Disagreed
6	Lassa fever occurs in all ages groups and both sexes	3.46	.714	Agreed
7	Lassa fever can lead to facial swelling and partial deafness	2.40	.756	Disagreed
8	Lassa fever can cause sore throat and chest pain	2.40	.756	Disagreed
9	Lassa fever can lead to bleeding from vagina	2.30	.862	Disagreed
10	Lassa fever can lead to bleeding, from nose and mouth	2.26	.879	Disagreed

Table 1: Mean scores on the awareness of lassa fever and its effect on human's health.

Based on the table, on the awareness of lassa fever and its effect to human's health ratings item 1, 2, and 6 were above mean of 2.50. This shows that there is awareness of lassa fever, item 3, 4, 5, 7, 8, 9, 10 were below mean of 2.50. The respondents are not aware of the effect of lassa fever on human's health.

Research Question 2: What are the methods of food preservation and food storage among Ekpoma women?

S/N	Variables	Mean	SD	Remark
1	You used drying method to preserve your food	3.24	.724	Agreed
2	You normally spread vegetable on tray in the house when not used	3.14	.792	Agreed
3	You spread melon and pepper on the floor for dehydration	3.16	.896	Agreed
4	You spread fresh Okro on the tray uncovered for drying	3.15	.811	Agreed
5	Plantain Chips are being spread both inside and outside of the house	2.74	.965	Agreed
6	Sometimes, yam chips are spread on the tray in door for drying	2.96	.922	Agreed
7	Onions are sometimes spread on the floor to prevent spoilage	3.32	.855	Agreed
8	You store rice in a bag in the house	3.27	.802	Agreed
9	Corn are sometimes spread on the floor in an open space in the house for drying	3.32	.802	Agreed
10	You store beans in a bag	2.67	.109	Agreed

Table 2: Mean Score of methods of food preservatives and storage among Ekpoma women.

Based on table above, which is on the methods of food preservative storage rating from item 1 to 10 were above mean of 2.50, this shows that above methods are used.

Research question 3: What are the ways of food handling among Ekpoma women?

S/N	Variables	Mean	SD	Remark
1	You wash and dry your hands thoroughly before handling food	2.29	.960	Disagreed
2	You spit or chew chewing gum when handling food	3.44	.515	Agreed
3	You cough or sneeze where food is being prepared	3.39	.508	Agreed
4	You do not wear clean protective clothing such as apron when handling food	2.26	.662	Disagreed
5	You always keep your finger short and do not wear nail polish when handling food	2.32	.687	Disagreed
6	You always cover all cuts and wounds with a wound strip or bandage when handling food	1.64	1.611	Disagreed
7	You wash your hands after going to toilet when handling food	3.44	.515	Agreed
8	You wash your hands after blowing your nose when handling food	2.40	.758	Disagreed
9	You wash your hands after touching your ears, nose and mouth when handling food.	2.31	.615	Disagreed
10	You thoroughly dry your hands immediately after washing your hands.	1.54	.012	Disagreed

Table 3: Mean score of ways of food handling.

Based on the table, on methods of food handling, rating from item 1, 2, and 8 were above the mean of 2.50, while item 3, 4, 5, 6, 7, 9, and 10 were below the mean of 2.50. Meaning that, the respondents are not adequately practicing personal hygiene which is very importance for food handler to prevent any food contamination.

Discussion of the findings

The findings in table one revealed that there is high level of awareness of lassa fever, the causes and its effect in the body among the respondents that is lassa fever is caused by multimamate rat infected with lassa virus (WHO, 2017). The finding is supported by (Ehigie, 2018) who stated that lassa fever is transmitted to humans from contact with food or household items multimamate rat urine and faeces.

The finding is also in consonance with (Richmond & Bagiole, 2013) who stated that Humans usually become infected with lassa virus from exposure to urine or faeces of infected mastomys rat. Lassa virus may also be spread between humans through direct contact with the blood, urine, faeces, or other bodily secretions of a person infected with lassa fever. The findings is not in support of WHO, (2017) who stated that lassa fever can cause chest pain, deafness, low blood pressure, bleeding from the mouth, nose, vagina or gastrointestinal tract.

Table two revealed mean score of the respondents regards to method of food preservatives and storage. The response revealed that, the respondents use poor methods of food preservatives and storage. Therefore, there is need for the respondents to prevent lassa fever by using good methods of food preservatives and storage. Plastic storage container can be used to store food grain which includes dry kitchen ingredients such as flour, rice, millet, melon, Okro, pepper etc. can be stored in rigid sealed containers to prevent moisture contamination, insects or rodent infestation. Perishable foods should be refrigerated, frozen, dried promptly or cured <https://en.m.wikipedia.org/wiki/foodstorage>

Table three revealed that, the respondents practice food hygiene. But not adequately the ways it ought to be, therefore,

there is need to improve on food handling. The reason is because, personal hygiene for food handlers is very important to prevent food poisoning and ill-health when it comes to food safety, there is need to make a deliberate effort to follow certain practices regularly so that eventually, they can become habitual (Michols, 2016).

Conclusion

Based on the findings it has been proven that the respondents are aware of lassa fever and the causes of lassa fever, but, the respondents did not understand the effect of lassa fever in the body system. The findings also reveal the method of food preservative and storage of the respondents, which require improvement to prevent lassa fever from the locality. Food handling of the respondent was also revealed which also need improvement.

Recommendation

Based on the findings, the researchers recommend the following:

- Government should create awareness on the effect of lassa fever to the body system.
- Method of food preservation should be improved upon.
- Method of food storage should also be improved upon.
- Personal hygiene is very important, especially for food handlers. Therefore, all food handlers should improve on their personal hygiene to avoid food poisoning.
- All food storage should be properly covered. That is, food should be stored in a container that can be covered properly.

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