

Scourge of Lassa fever pandemic in Nigeria: The roles of library and information professionals in mitigating the spread of the disease

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Abstract

The paper explored the Lassa fever pandemic which is currently the most deadly disease ravaging most part of Nigeria. While it is disturbing that adequate environmental cautions were not been taken to inhibit its seasonal outbreak, it is more worried that 54 years after discovery of Lassa fever disease in Nigeria, stakeholders have failed to produce vaccines against the disease making it the worst in the history of the country. The disease has also spread rapidly in some part of West African countries. Literatures revealed that in the first quarter of 2023, Lassa fever have killed 203 persons across the 26 states in Nigeria. Also, 869 Lassa fever cases were confirmed between March and April, 2023 with predominant age 21-30 years mostly affected. Lassa fever has also 16.7% fatality rates which indicated a serious health challenges across the country. Lassa fever infections became a scourge in Edo, (115 cases), with 113 deaths, Ondo (90 cases), with 48 deaths and Bauchi, (71 cases), with 24 deaths. This necessitated the reason for the paper in creating platform for public enlightenment and education. The role of library and information professionals in raising awareness through public health education, information literacy in Nigeria became a key to mitigate the spread of the disease. The paper advocated strategies with the provision Internet services and social media as a means of providing useful sources of information that would help the general public to be aware on the danger of Lassa fever pandemic. The paper emphasized that proper information awareness through advocacy programmes to mitigate increase in Lassa fever cases by library and information professionals have become a gateway to stop the spread of the disease. The paper concluded that library services were impediment for improving health awareness of the users through education, information and public enlightenment. It is recommended that library and information professionals should serve as a catalyst in the promotion of public health through information awareness and dissemination.

Keywords: Lassa fever, global health information; library services, Internet, social media, digital reference service

Introduction

Lassa fever is a neglected tropical disease that is endemic in West Africa. It has global health implications that is currently regarded as the most exported of all the viral hemorrhagic fevers (VHFs), including Ebola (World Health Organization, 2023). The causative agent of this zoonotic acute VHF is a single-stranded ribonucleic acid (RNA) virus belonging to the Arenaviridae family. The major reservoir of Lassa virus is the multimammate rat of the genus *Mastomys* discovered in other rodents. It accounts for an estimated two million infections, 300,000–500,000 clinical infections, and 10,000 deaths yearly among inhabitants of the West African sub-region, where it

remains endemic (Daily Trust, 2023). It confers a serious burden in endemic areas where it accounts for 6.0% of fevers, 0.7% of hospital admissions, with 40% case fatality, and almost a quarter of maternal mortality during peak periods. Infection occurs following exposure to food or household items contaminated with the excreta or urine from infected rodents, or via person-to-person transmission through unprotected contact with body fluids, a common cause of healthcare workers (HCWs) infection. Identified local practices that fuels Lassa fever infection and further transmission includes exposure to food or surfaces contaminated with droppings or urine of infected rodents—often the result of open drying of grains,

processing of infected rats for consumption, and direct human to human transmission through close contact in community settings with prevailing poor infection, prevention and control (IPC) measures.

Libraries are essential to learning, research, generation and preservation of knowledge as well as dissemination of information. Information professionals are the custodian of information. The scourge of Lassa fever is considered as most deadly disease in tropical Africa which requires constant and continuous education to combat. Library and information professionals has a role to play to foster new thinking and strategies towards information service delivery through advocacy, public health awareness and the provision of up to date information to the general public. It is believed that library services ranging information literacy, public enlightenment, current awareness services, references services and virtual information services helped to close gaps in information dissemination on various diseases including Lassa fever pandemic (Raju, 2017).

Experts in the field of disease control maintained that the spread of Lassa fever pandemic can be minimized through massive information awareness (Hollander & Carr, 2020). For example, Google trends, Internet services, social media services and online reference services are useful library services for creating awareness to the general public about public health information on Lassa fever (Hu & et, al, 2020).

In Nigeria, Lassa fever virus was first discovered in 1969 from a case of diagnosed in Lassa, a town in Borno State of Nigeria. Lassa fever also known as Lassa hemorrhagic fever (LHF) is a type of virus hemorrhagic fever caused by the Lassa virus. Rats and rodents are the natural carriers of the virus. It is transmitted to humans through contact with food or household items contaminated by infected rodents. Person-

to-person transmission can also occur been in hospitals environment if infection control measures are inadequate.

Although, many of those infected by the virus do not develop symptoms, Lassa fever initially presents like other common place illness accompanied by a fever. Other symptoms include: headache, general body weakness, cough, nausea, vomiting, diarrhea, muscle pain, chest pain, sore throat, and in severe cases, bleeding from ears, nose, eyes, mouth and other body openings.

The Lassa fever has killed 203 persons across the 26 states between January to April, 2023 (NCDC, 2023). Premium Times (2023) reports that the in a situation report of NCDC, a total of 869 cases were confirmed and 4,555 suspected cases of the diseases were recorded within the period. The state include Ondo, Edo, Bauchi, Taraba, Plateau,, Ebonyi, Nasarawa,, Kogi, Gombe,, Enugu, Kano, Jigawa, Katsina, Kebbi, Borno, Adamawa, Oyo, Ogun, Osun, Ekiti, Benue, Kebbi, Zamfara, Abia, Delta, Niger, Kwara, Kaduna and FCT. The report said commutatively from 1 to week 14, 2023, 151 deaths were recorded with a case fatality rate (CFR) of 17% which was lower than the (CFR) for the same period in 2022 that redorded 19.3%. However, the figure might slightly go to 21. % by December, 2023 (World Health Organization, 2023).

Reports by NCDC (2023) indicated that 203 deaths were recorded nationwide with 16.7% fatality rates. The states where Lasa fever infections became a scourge in recent time include Edo, (115 cases), with 133 deaths Ondo (90 cases), with 58 deaths Bauchi, (71 cases), with 34 deaths while other states has only cases without deaths such as Taraba, (2 cases), Plateau, (2 cases), Ebonyi, (1 case), Nasarawa, (1 case), Kogi, (2 cases), Gombe, (1 case), Enugu, (1 case), Kano, (2 cases), Jigawa, (1 case), Katsina, (case), Kebbi, (1 case),Borno, (3 cases), Adamawa, (2 cases),Oyo, (1 case),Ogun, (2 cases),

Osun, (1 case), Ekiti, (1 case), Benue, (3 cases), Kebbi, (1 case), Zamfara, (1 case), Abia, (2 cases), Delta, (3 cases), Niger, (1 case), Kwara, (1 cases), Kaduna (1case), and FCT (3 cases).

In total, 26 states have been recorded at least one confirmed cases across 101 local government in the country. Report by Okoh (2023) also indicated that 71% of all confirmed Lassa fever cases were reported from three states of Ondo, Edo and Bauchi respectively, while 29% were reported from other states. The report stated that the number of new confirmed cases in week 14 was 24. Similarly, NCDC (2023) maintained that of the 869 Lassa fever cases confirmed between February to April, 2023, the predominant age group affected was 21-30 years. The number of suspected cases increased compared to that reported for the same period in 2022. It is said healthcare workers were also affected.

The objectives of this paper are to identify various challenges of handling Lassa fever pandemic in Nigeria, determine the ways towards mitigating Lassa pandemic fever in Nigeria, identify roles of library and information professionals in combating Lassa fever Pandemic and determine Services needed for libraries and information professionals to educate the public on Lassa fever pandemic.

Challenges of handling Lassa fever pandemic in Nigeria

The following are among of the challenges of handling Lassa fever pandemic in Nigeria.

- i. *Illiteracy and ignorance:* Illiteracy and ignorance still remain a big challenge on the fight against Lassa fever pandemic in Gombe State, Nigeria. Despites government pronouncement on prevention mechanism such as constant cleanliness of the environment, covering of plates and other

utensils after meals, discouragement of bush burning, and host of other activities that attract rats and rodents in our homes, people still ignore this order because of high rates of illiteracy and ignorance which makes it difficult to curtail the wide spread of Lassa fever. The high level of illiteracy, especially among the rural dwellers have also undermined the call to mitigate Lassa fever pandemic, which is seen as one of the major steps to curb the spread of diseases among the people.

- ii. *Unhealthy surroundings:* Despite the efforts of the government in the enlightenment of the people to maintain healthy environment through cleanliness of the surroundings, many cities across the countries are surrounded with refuse dumb which attract rats and other rodents. The inability of the government at various levels to maintain constants cleanliness is still a big challenge. Lassa fever become more severe and pandemic when the environment became dirty with refuse dumbs everywhere. Heaps of refuse dumbs are found at both cities and rural areas which makes it difficult to control the wide soared of the Lassa fever across the states and local government on the country.
- iii. *Lack of vaccines:* One of the greatest challenges currently contributing the wide spread of the Lassa fever pandemic in the country is lack of production of vaccines to mitigate the disease. Production of vaccines against Lassa fever is still not available five decades after it was discovered. This is despite all the Pharmaceutical Research Institutes in the country and the Lassa fever Specialist Teaching Hospital

(ISTH) treatments centres at Irrua in Edo State were established by the government to design mechanism to curtail the spread of the virus in different parts of the country.

Ways of mitigating Lassa fever in Nigeria

Knowing that Lassa fever is a seasonal disease with no vaccine yet preventing infection is key to mitigating the spread of the virus. Public health institutions should embark on enlightenment campaign to educate the public on preventive measures against the disease well before the dry season set in; the usual period of its outbreak.

Nigerians should be educated to keep their homes clean as rodents are attracted to dirty environment. Drying foodstuff along the roads should be avoided to avert contamination. Bush burning which could displace rats from the bushes to human dwelling should be discouraged. While household should be advised to cover dustbins, communities should set up dump sites which are common habitats for rats far from homes. To achieve all these, public health workers should be empowered and strengthened to effectively implement the measures.

While it is cheering that the Usman Danfodio University (UDUS), Sokoto has provided the COVID-19 vaccines, it is still a challenge that vaccines against Lassa fever is still not available five decades after it was discovered. This is despite all the Pharmaceutical Research Institutes in the country and the Lassa fever Specialist Teaching Hospital (ISTH) treatments centres at Irrua in Edo State. To avert the huge annual loss of lives from the disease, the government should show commitment in supporting relevant research effort at producing Lassa fever vaccines. NCDC needs to collaborate with states

Roles of library and information professionals in combating Lassa fever Pandemic

With the advancement in library services and the proactive of information professionals in the delivery of information especially with the emergence of virtual /digital technologies, Internet services and social media platforms, creating awareness on Lassa fever to the general public on health safety is important to intellectual development. Literature identifies some of the ways libraries can provide effective information services to the public as follows:

- i. *Promote public health awareness regarding Lassa fever:* To succeed public health strategies, it requires general acceptance of the people especially market men and women to monitor the hygienic environment where they sell because some food stuffs are attracted by the rodents online health consultations (Heymann & Shindo, 2023). There are various topics which need to be embedded in awareness campaigns about Lassa fever – for example the steps individuals can take to prevent transmission - general instructions on protecting food by covering it all the time especially at night, general cleaning of the items in which the food stuff are kept. It is responsibility of library and information professionals to disseminate evidence-based information about Lassa fever and its health implications to the general public.
- ii. *Environmental safety:* The safety of the environment is fundamental to protect Lassa fever infection. As part of library services, information literacy and education are essentials to reduce transmission of Lassa fever pandemic in the communities. Dirt and unhygienic

environment attract rodents. The environment needs to be clean on a regular basis. The plates and wash hand basin needs to be clean continuously. In most part of Nigeria, lack of cleaning the surrounding especially bushes attract rats and rodents in our homes which led to spread of the Lassa fever virus. Presently, 26 states were affected and more states are likely to be infected due to poor hygienic nature of our environment. Bush burning should be discouraged as some of the rats. Therefore, library and information professionals have a big role to play in sensitizing the general public on the danger of adhering to Lassa fever pandemic through sensitization on the need to enhance safety of the environment. It is important for libraries to educate the public on the importance of environmental safety as a measure to enhance safety of the people against quarantine as a major safety to help in the spread of the virus. Any person suspected to be having symptoms of Lassa fever as indicated by WHO and NCDC should isolate and quarantine himself/herself for safety of others especially the old age, children and people with severe cases of illness such as diabetics, heart related diseases and other communicable diseases. Although, experts indicate that Lassa fever transmit through excretes of rats droplets, however, providing adequate information to the public and adhering to preventive measures like environmental safety through awareness would help in the spread of the disease.

- iii. *Cleanliness and fumigation:* Cleanliness and constant fumigation of the community

reduce the level of infection of virus caused by Lassa fever. It is evidence from the literature that lack of fumigation and cleanliness contributes to the wide spread of the virus. NCDC (2023) emphasize that public health workers should ensure that market place; houses, schools and other public buildings are fumigated against rodents in order to prevent the spread of Lassa fever in the community. The community leaders should endeavour to empower and strengthen community cleanliness which can be done weekly to prevent the safety of the people from Lassa fever infection. These measures would assist greatly and effectively in tackling the wide spread of the Lassa fever pandemic in Nigeria. Libraries are essential to learning, research, generation and preservation of knowledge as well as dissemination of information. Provisions of information that would safeguard the lives of the people are critical components of librarianship and information service. Information professionals are the custodian of information and knowledge in the libraries. Librarians as professionals are critical stakeholders in ensuring that libraries achieve their mandate information dissemination through awareness, sensitization and education.

Services needed for libraries and information professionals to educate the public on Lassa fever pandemic

The use of television and radio programmes has assisted in closing the gaps in providing information, learning and education on preventive mechanism of Lassa fever in the country. However, the library and information professionals have strategies to educate public which include:

Virtual/ digital services: Virtual awareness service is one of the library services offered to develop new thinking and information about Lassa fever pandemic in the country. Effective virtual awareness services of the general public especially library users on the danger of Lassa fever pandemic through massive awareness with the use of information resources in the library such as electronic resources, computer, database, electronic books, electronic journals, electronic dictionaries, electronic encyclopedias and other digital resources would assist in the spread of the virus. Reynolds (2016) maintains that understanding virtual services involves using emerging digital technologies to create awareness across various digital resources, language, social, cultural and intellectual barriers on the effects of the Lassa fever pandemic. Virtual awareness services needs to be imbedded into the library activities to ensure that preventive mechanism are disseminated to users on a daily basis. This can be achieved through the following:

- a. Ability to identify: This has to do with the library and information professionals to create awareness of various digital resources and its importance to facilitate search for online information services on Lassa fever pandemic.
- b. Ability to access: Library and information professionals to find and retrieve digital technologies from a variety of sources that would assist the general public about Lassa fever.
- c. Ability to manage: Library services in providing awareness to organize digital resources for information retrieval that would be readily available to the general public about Lassa fever pandemic.
- d. Ability to Integrate: the services of creating awareness to synthesize digital technologies from a variety

of sources that would assist users about Lassa fever pandemic.

- e. Ability to create: Library services to build digital technologies to express and support information service delivery to the general public about Lassa fever.
- f. Ability to communicate: This entails services to connect and interconnect digital technologies for delivery via a different medium such as email, presentation software, word documents, and spreadsheets that would enrich the mind of the public about Lassa fever pandemic.
- g. Ability to make impact: This entails services to understand the power of digital technologies for library operations and services on the importance of guiding the public on preventive mechanism of Lassa fever epidemic.

Social media services: The importance of social media as tools for creating awareness in preventing the spread of Lassa fever in libraries cannot be overemphasized. This is because it has become a pivot in which libraries depends around the world to provide fast and up-to-date information. Ali (2020) list some examples of the social media to include:

- a. Facebook: Most modern libraries and information professionals are popular in using Facebook because it is librarian- friendly, with many applications like JSTOR search, World Cat, and much more. Librarians can interact with users to know their information need. Libraries try to link some of these specialized library applications to Facebook. Interesting, the digital library section and the National Library of Nigeria recently open a Facebook platform to educate the general public about Lassa fever. It is expected that other libraries would use this media to enlighten

- the public about Lassa fever pandemic.
- b. Myspace: Libraries and information professionals have taken advantage of this site to improve their presence and marketing their information services to the general public. For example, opening a site that would educate the public on Lassa fever pandemic would assist in the spread about the virus.
 - c. Ning: Libraries have also taken the benefits of Ning platform to connect to its users, library associations, and the general public. Many worlds' leading library association like International Federation of Librarianship (IFLA), American Library Association (ALA), African library Association, and the Nigerian Library Association utilizes this platform to discuss important topical issues about Lassa fever among its members and the public.
 - d. Wikis: This is a free online encyclopaedia that gives background knowledge and definition of concepts. It offers a platform for users to access, edit and contribute to content. This is a collaborative web page for developing web content. This platform assists libraries institutions and stakeholders such as WHO, NCDC in sharing information about Lassa fever.
 - e. Twitter: This means a micro blogging application that assist to keep staff and patrons updated on daily activities, like frequently updated collections. Librarians can utilize this platform to type in short messages or status update on the daily information about Lassa fever. Libraries can use this platform to give users current information on the preventive mechanism of Lassa fever. Users can also send Instant Messages (IM) on complaints or ask questions on issues regarding Lassa fever and gets feedback on the spot using twitter.
 - f. YouTube: The services of utilizing You Tube platform by libraries to showcase events such as lectures, conferences and workshops on Lassa fever. This is a good platform that shows health information on Lassa fever and its implications to the health of the people as part of public health awareness.

Conclusion

The scourge of Lassa fever pandemic and rise in numbers of cases as well as risen in numbers of death among the populace is worrisome. This can be attributed to illiteracy and ignorance, poverty and hunger, low level of information awareness and poor hygienic environment. Despites efforts by the government to mitigate the widespread of Lassa fever pandemic, the effects of Lassa fever pandemic is still a scourge among the people with death weekly ravaging. Therefore, Nigerian libraries has a greater role to play in bridging the prevailing information gaps through advocacy and awareness in information literacy, health information system through virtual/digital technology services, Internet, social media services and digital references services as a strategies to combat Lassa fever pandemic in Gombe, Nigeria.

Based on what has been presented in the paper, it is recommended that:

1. Information literacy and education on public health awareness campaign should be sustained by libraries and information professionals to support the health institutions through health

awareness on preventive mechanism of Lassa fever.

2. Digital technology app should be develop through social media tools for creating information dissemination on Lassa fever pandemic and its implications to the general public as a means of mitigating the spread of the virus among the people

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