

Roles and strategies of international humanitarian organisations in handling the Liberia Ebola outbreak

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Research article

Keywords: Roles and strategies, international humanitarian organisations, Liberia, Ebola outbreak

Posted Date: November 26th, 2019

DOI: <https://doi.org/10.21203/rs.2.17695/v1>

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Abstract

Background In Early August 2014, the World Health Organisation declared an Ebola Virus Disease (EVD) outbreak in the region of West Africa. The West African EVD outbreak was the largest, most severe, and complex in the nearly four-decade history of this disease. The management of EVD cases in Liberia was similar to the other affected West African countries.

Methods We reviewed the method and strategies used by some of the international humanitarian organisations in handling the 2013-2016 Ebola outbreak in Liberia. This report is a collection of personal field experiences in Liberia as well as personal interviews of healthcare personnel working for some of these international organisations working on the Ebola emergency in Liberia. **Findings** Medecins Sans Frontieres (MSF) was the first humanitarian NGO to deploy medical staff to the field in Liberia during the 2013-2016 EVD outbreak. MSF staffs were already operating in Liberia even before the declaration of the outbreak in August 2014.

Conclusions The slow response by the international humanitarian organisations to lend their support in bringing the EVD outbreak to and exhibited the fear the international community have for deadly infectious diseases more than armed conflicts.

Recommendations We recommend regularly training in public health emergency preparedness for third world countries that are highly susceptible to health emergencies such as Ebola outbreak to help prepared them ahead of such outbreak.

Background

In Early August 2014, the World Health Organisation declared an Ebola Virus Disease (EVD) outbreak in the region of West Africa¹. The West African EVD outbreak was the largest, most severe, and complex in the nearly four-decade history of this disease. More than 22,000 people were infected and more than 8,810 deaths recorded in nine countries². The EVD outbreak did not only weaken the fragile health systems off the affected countries in West Africa, but had its toll on the their economy due to border closure.³

The health systems of Liberia, Sierra Leone and Guinea have been suffering because of armed conflict that occurred over a period of 10 years till 2002. This conflict made their health care services and infrastructure malfunctioned to an extent that Liberia have an availability of one doctor and Sierra Leone two doctors for every 100,000 patients^{3,4}.

Health workers in the affected countries were amongst those greatest hit by the 2013-2016 EVD outbreak; mainly because of lack of or no proper infection, prevention and control (IPC) measures. Additionally, many infected people at the time were afraid to go for EVD screen at health facilities which will see them become treated for the infection due to stigmatization.

Ebola And The Liberia Situation

The management of EVD cases in Liberia was similar to the other affected West African countries. During the peak of the EVD outbreak, Liberia health workers at one stage refused to go to work unless the country's health ministry provides them with proper IPC equipment. This non-compliance by health workers in Liberia resulted in the closure of at least 65% of the health facilities in Liberia⁴. This periodic refusal to work by healthcare workers in Liberia also resulted in more deaths of people who were suffering from preventable and treatable disease such as malaria, diarrhoea typhoid. There were some attempts by the Liberian Ministry of Health to restore basic health care services during the EVD outbreak; but this was not welcomed by many humanitarian Non-Governmental Organisation (NGOs) because they considered it as a developmental intervention rather than a direct Ebola emergency intervention^{5,6,7}.

The Humanitarian Implementation Plan (HIP) of the European Commission of Humanitarian Aid and Civil Protection (ECHO) categorized the needs of countries affected by the 2013-2016 EVD outbreak into health facility which importing staffs with medical background from non-affected countries to assist local health workers, and using "Personal Protective Equipment" (PPE); and community levels. PPEs were needed for (i) better implementation of IPC measures and (ii) during collection of dead bodies (whether for cremation or "safe burials"), and (iii) contact tracing of the infected and deceased for better identification of the infection origin⁸.

Msf Ebola Response In Liberia

Medecins Sans Frontieres (MSF) was the first humanitarian NGO to deploy medical staff to the field in Liberia during the 2013-2016 EVD outbreak. MSF staffs were already operating in Liberia even before the declaration of the outbreak in August 2014. Since March 2014, MSF started its operations in the Guinean village located on the border with Liberia and later extended their activities in Lofa County in Liberia. Using previous Ebola response experience in DRC, Sudan and Uganda, MSF was the first NGO to build an Ebola Treatment Unit (ETU) in Liberia.

Officially there is approved medication or vaccine for Ebola but standard management care, such as the use of antibiotics, anti-malarials, resuscitation by application of fluids and symptomatic treatments have proven to be effective. Additionally, several World Health Organisation (WHO) approved experimental therapies and vaccines including ZMapp⁹, brincidofovir¹⁰, TKM 130803¹¹, favipiravir¹², monoclonal antibody MAb114¹³, and convalescent plasma of EVD patients¹⁴ are currently being used during EVD outbreaks either on trial or on compassionate grounds. MSF only treated EVD symptoms as well as provide supplementary care. According to Dr. Armand Sprecher, MSF Public Health Specialist, the organisation's response was providing "symptomatic care, supportive care, presumptive care, nutritional support and psychosocial counselling". Majority of the people who were affected by the 2013-2016 EVD were healthcare workers. The lack of the necessary logistics to handle EVD cases by these healthcare workers made them to be over-exposed to the infection which greatly affected their staff strength and led to a cycle of new and more EVD cases and deaths. As a way of directly mitigating the

impact of EVD on the healthcare system, MSF updated the “clinical guidelines” for the management of Ebola affected persons, as well as provided capacity building on ways of Ebola case management. Mid into the EVD outbreak, MSF ran an Ebola diagnostic laboratory and by the end of January 2015, 62.5% (n = 5000/8000) of all those tested at the MSF Ebola diagnostic laboratory were test positive; 46% (n = 2300/5000) treated¹⁵.

Figure 1: Layout of MSF Ebola Treatment Unit in Liberia

Image showing the layout of MSF ETU that was later built by other NGOs with almost the same layout.

Who Ebola Response In Liberia

The WHO Ebola response in Liberia involves giving technical public health expert advice as well as providing field work. The WHO and the United Nations (UN) were criticized for being late or at least slow in responding to the EVD outbreak in 2013. As a first step in its intervention, the WHO created what they called Advisory Group; which was comprised of high level experts from a variety of backgrounds and disciplines with relevant experience, including Ebola treatment and care, disease control, epidemiology, medical anthropology, health systems, social and community mobilization, faith-based organizations, and human rights.¹⁶ Occasionally during the period of the EVD outbreak, the WHO organised training and provide equipment to staffs of the Liberian National Red Cross Society (LNRCS), who were responsible for handling the safe burial of Ebola victims¹⁷.

Ifrc Ebola Response In Liberia

The International Federation of the Red Cross (IFRC) was responsible mainly for supporting and providing technical advice and logistics to the Dead Body Management (DBM) operation in Liberia. The DBM was managed by the LNRCS in Monrovia, Liberia. In the first phase of the emergency, the DBM operation approach involved collecting dead bodies (regardless of the cause of death) and cremating the corpse. Due to social concerns from the community frowning at the cremation of corpses¹⁸, some families embarked secret burial of their family members^{19,20,21}. Such secret burials posed increased risk for EVD infection since family members and relative do these burials without using the protective IPC measures as well as not taking in consideration whether the deceased may have died of EVD. To reduce this increased risk of EVD infection posed by secret burials the US Center of Disease Control and Prevention (CDC) later introduced the “Oral Swab test” which subsequently used to diagnosed whether a deceased is positive or negative for Ebola²².

As the EVD outbreak progressed, a guideline specifying how a safe and dignify burial of a suspected or confirmed Ebola patient that respected the religious, cultural and traditional beliefs of both the deceased and relatives was designed by the WHO.²² The WHO later trained the LNRCs and IFRC teams on how a safe and dignified burial of suspected or confirmed Ebola patient is done.

Ebola Patient Contact Tracing And Occupational Health

Contact tracing is defined finding everyone who comes in direct contact with a sick Ebola patient. Contacts are watched for signs of illness for 21 days from the last day they came in contact with the Ebola patient. If the contact develops a fever or other Ebola symptoms, they are immediately isolated, tested, provided care and the cycle starts again – all of the new patient’s contacts are found and watched for 21 days. Even one missed contact can keep the outbreak going²³. The first contact tracing exercise relating to the 2013-2016 EVD was conducted in Guinea with the objective to identify the origin of the EVD outbreak.²⁴ EVD contact tracing was very instrumental in bringing the 2013-2016 outbreak in Liberia to an end. By March 2015 Liberia recorded no EVD case in 42 days. Other factors that led to drastic reduction of EVD cases in Liberia were the strict adherence to infection control in the Liberia’s point of entry and exit. At each border post Liberian border guards ensure that passengers entering in to the country had their temperature taken and recorded with a follow up during their period of stay. Additionally, health officials in Liberia installed hand washing points (alcohol hand gel, or chlorine solution) that served as a disinfectant²⁵. Also, WHO helped remote communities in practicing economic infection control measures by providing guideline on how to locally manufacture alcohol hand gels that was used before and after touching anything that could spread EVD²⁶. Waste management was a great burden within the Liberia Ebola context since human wastes produced from ETU were contaminated and when poorly handled resulted in the spread of the infection. To handle this risk the Occupational Safety and Health Administration (OSHA) issued a guide appropriately called termed Safe Handling, Treatment, Transport and Disposal of Ebola-Contaminated Waste²⁷. The OSHA guide, hygiene kits, and EVD health promotion campaigns which collectively came to be regarded by the term “Social Mobilization” played an important role in controlling the spread of EVD at the community level²⁸.

Challenges In Ebola Response In Liberia

Achieving zero Ebola case during an outbreak is fraught with many challenges. According to Dr. Peter Clement the field coordinator of WHO in Liberia during the 2013-2016 EVD outbreak, Liberia achieving zero Ebola case can be attributed to (i) collaboration between different humanitarian organizations in the field (ii) the presence of MSF’s ETU from the beginning of the EVD outbreak (iii) local citizen engagement and (iv) the use of local communication tools like Radio to disseminate health awareness messages about Ebola prevention, symptoms and management²⁹.

Principal amongst the challenges during the Liberia EVD response is that it was difficult for the humanitarian organizations to deploy their international staffs in the field during the early period of the outbreak due to the high virulence of Ebola. In addition, there was slim possibility of medical evacuation out of Liberia to another country for treatment. Most of the people affected by the EVD outbreak in 2013-2016 were healthcare workers. Healthcare givers including mothers, sisters and other relatives are at increased risk of being infected with Ebola in general. It's no accident that up to 75% of those afflicted with Ebola are women³⁰. It is some of these factors that made many humanitarian aid workers to reject field assignment to Liberia³¹ and hence led to the prolongation of the outbreak.

Additionally, considering the fact that humanitarian organizations most often are used to respond to armed conflicts or earthquakes for which they are usually equipped with guidelines and knowledge about how to intervene in them, global public health crisis like the 2013-2016 EVD outbreak was a new experience for them. Although MSF had published guidelines for EVD management in previous outbreaks including the one that occurred in Uganda in 2008; the 2014 EVD outbreak was more complicated hence the previous EVD management guidelines were slightly inappropriate. This implies that 2013-2016 EVD outbreak placed additional strain on humanitarian organizations in terms of training of health workers, building of ETUs to isolate the patients, and the availability of PPE materials that are usually expensive³².

The Ebola outbreak in Liberia also had political, social, security and economic ramifications. The stigma that the survivors of Ebola suffered within their communities was remarkable. Humanitarian organizations worked on spreading the messages that Ebola survivors were not carriers of Ebola virus. Great effort was required for the Liberian community to accept these messages especially with the emergence of new evidence that the seminal fluids of convalescent men can shed Ebola virus for at least 82 days after onset of symptoms³³.

Evaluation Of Ebola Response In Liberia

The evaluation of the response to the EVD outbreak in Liberia was done by specialists after the outbreak has ended. Serious criticisms were levelled against the international organisations for their slow and late response towards the outbreak in Liberia.³⁴ Three reasons were forwarded for the for the slow and late response towards the Ebola outbreak in Liberia: donor fatigue, Africa indifference factor and underestimation of the EVD outbreak.³⁵ Because of the virulence of the Ebola avirus many ETUs were built in Liberia to handle the high case load compared to Sierra Leone and Guinea. At one stage during the EVD outbreak in Liberia the emergency response became mismatched with needs.³⁶

Conclusion And Recommendations For The Future

Many lessons were learnt from the 2013-2016 EVD outbreak in West Africa. The impact of the West African EVD outbreak in terms of human lives and economic growth showed the importance of emergency preparedness plans in developing countries. The fact that the idea by the WHO to develop the Preparedness Support Teams (PSTs) which ensures that all countries are ready to effectively, safely, detect, investigate and report potential EVD cases, and to mount an effective response during the 2013-2016 EVD outbreak emphasises the significance of emergency preparedness.³⁷ The Liberia EVD outbreak shows that for preparedness to be effective basic healthcare services and facilities should be at hand in the affected countries prior to the situation becoming worst. Preparedness could also come to mean that the multinational pharmaceutical companies should be working ahead to manufacture effective vaccine and medication³⁸.

The slow response by the international humanitarian organisations to lend their support in bringing the EVD outbreak to and exhibited the fear the international community have for deadly infectious diseases more than armed conflicts. This fear was triggered when governments of neighbouring countries closed their borders and prevented their national airlines from flying through the EVD affected countries.

Declarations

Ethics approval and consent to participate

The Ethics and Scientific Review Committee of the Njala University in Sierra Leone approved this study and provided ethical clearance for conducting this study.

Consent for publication

Not Applicable

Availability of data and materials

No applicable

Competing interests

All authors declared they have no competing interest.

Funding

No part of this study received funding or compensation whatsoever during its conception, execution or for publication.

Authors' contribution

JBK and AA conceived and designed this study as well as organized the conduct of this research in the research field. JBK and AA drafted the manuscript. JBK and AA critically reviewed and revised the manuscript. JBK obtained ethical clearance.

Acknowledgements

Our sincere thanks to the health workers and healthcare personnel in Liberia who sacrificed their lives bringing the Ebola outbreak in that country to an end.

Authors' information

Not applicable.

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Figures



Figure 1

Layout of MSF Ebola Treatment Unit in Liberia