Ebola outbreak: Huge challenges for the humanitarian workers

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Abstract
The work aims to understand the challenges of humanitarian workers in an emergency response operation to an Ebola outbreak. A qualitative approach was conducted with humanitarians. Challenges were related to fearing risk of contamination and death, lack of information and control, delay of internal response, and reversing the decision-making process.

Keywords: Humanitarian Workers, Humanitarian Challenges, Ebola Outbreak, Empirical Research.

INTRODUCTION

"*Ebola Virus Disease (EVD) is a painful reminder that an outbreak anywhere can be a risk everywhere*"
(MOGHADAM et al. 2015, p. 266)

Globalization is an irreversible process that is already consolidated today. The political and economic boundaries around the world are not enough to protect people from diseases. Supply chains are increasingly international, this includes increase of people and goods traffic, which makes health issue an extremely important object for study.

The Ebola Virus Disease (EVD) epidemic brought over 11,200 deaths and more than 28,500 infected, as well as impacts on the local and international economies (WHO 2015). Never

in history has a bio disaster infected so many people, so quickly, in a geographical area that big and over such a long period (Leach 2015). The Ebola outbreak devastated parts of West Africa and is the most serious public health emergency of view in modern times, attracting unprecedented levels of public attention, international and media (Leach 2015; WHO 2014a). The current outbreak EVD is the largest classified by the World Health Organization (WHO) and the International Health Emergency (IHE).

This crisis was considered unprecedented and transnational simultaneously occurring in Guinea, Sierra Leone and Liberia, including cases in Nigeria, Senegal, Europe and the United States (Moghadam et al. 2015). The West Africa outbreak was the most virulent, local, regional and international agencies were challenged to contain the outbreak, reduce deaths and dispel the climate of fear (Odlum and Yoon, 2015).

The affected countries mainly export commodities (rubber, timber, cocoa and minerals) that are part of large supply chains (Leach 2015). This resulted losses on ore and diamond sector, with 40% of all global exports of iron ore comes from Sierra Leone. The border between Sierra Leone, Guinea and Liberia forms a geological ores belt, with companies such as Rio Tinto, ArcelorMittal and London Mining, supported by the World Bank and International Monetary Fund. In addition to the mineral sector, the agriculture, forestry, biofuel and carbon credit market also suffered impacts (Leach 2015). Nestlé and Hershey had its cocoa suppliers allocated in West Africa, have been directly affected by this outbreak, because Sierra Leone is responsible for 70% of world cocoa production (CNN 2014; Journal 2014).

Although in developed countries have a more advanced medicine, the likelihood of spread a virus or bacteria is higher, because we live in a world where more than 100 thousand flights take off per day with more than 3.3 billion passengers in 2014 (Frieden et al. 2014; IATA 2015). Countries affected by Ebola, leave daily flights to airports like John F. Kennedy International Airport (New York, NY), Washington Dulles International Airport (Dulles, VA), and Charles de Gaulle Airport (Roissy-en-France, France). In cities such as New York, contamination is a harsh reality due to its rodent population and its high population density, making epidemics such as Ebola outbreak possible (Odlum and Yoon, 2015).

The complexity of Ebola 2014 operation required a lot of resources, more than 1.7 billion US dollars were spent by the US Agency for International Development in 2015. This scenario was aggravated due to the large number of patients with exponential growth and lake of enough health facilities (hospitals, health centers and health professionals) (Fauci 2014; Ross et al. 2014; Yiannakis and Boswell, 2015).

At the moment that international community responded, the outbreak was already out of control, growing exponentially between September and October 2014, with 250 new cases a week in Sierra Leone, doubling the size of the outbreak in 30 days. In order to bring down this curve, international agencies, nongovernmental organizations and foreign governments - the UK leader in Sierra Leone, France in Guinea, and the United States in Liberia - poured resources into a series of emergency response activities, including construction of Ebola treatment facilities, community care centers, providing professional health volunteers, support for public health services, outreach work in the community, development of experimental pharmaceutical treatments and vaccines (Leach 2015).

Epidemiological studies reveal the high risk of infection among family members due to transmission is effected by the exchange of bodily fluids, or preparation of the bodies of dead relatives for cremation. Issues such as funeral rites are linked to local culture, because this region

has a habit to wash dead bodies before being incinerated. This was a decisive factor in the spread of the disease. (Le Guennoand Galabru, 1997; Leach 2015).

The most affected segment was the local health professionals that had a higher risk of contracting the disease (Yiannakis and Boswell, 2015). Since March 2014, more than 800 health professionals were contaminated, causing more than 500 deaths confirmed by the World Health Organization (WHO 2014b). This further aggravated the complexity of the outbreak control operation because the professionals were dying or afraid of contracting the disease.

Besides the risk of death from health professionals, for example in Sierra Leone there was only one doctor for 45,000 people, and in Liberia 1 doctor for 70,000 people, and in rural areas this lack is even much higher. In addition, health services were insufficient in numbers and infrastructure for the care of patients and poor availability of resources, for example there was 2-3 patients sharing a bed, making the control of the disease even more difficult (Ross et al. 2014).

Another issue related was the communication about the risk, as this disease happened for the first time in those countries, public awareness becoming necessary and the development of a channel for the dissemination of technical knowledge to reduce the fear of contact (Gesser-Edelsburg et al. 2015). To Coms and Slovic (1979) the media focuses on emotional topics, which can exacerbate public perception.

An actor that has been little explored in the context of Humanitarian Operations is the humanitarian professional, as they were the most venerable stakeholders in the operation.

Bearing this in mind, this research aimed to identify the main challenges faced by the humanitarian workers in an emergency response operation to a bio disaster, the study brings two important contributions to the field. First, it analyzed the challenges faced by the humanitarian workers. Second, by using an empirical research, we could evaluate how unique was this outbreak for any other in the modern history.

The present paper is structured as follows. In the next section, we provide a brief literature review about disasters and humanitarian operations and risk management. Then, we present our methodology and data collection. We conclude the paper discussing the results and providing new opportunities for research.

LITERATURE REVIEW

Disaster can be defined as events or phenomena that cause an interruption or break a system (Van Wassenhove 2006). The Center for Research in the Epidemiology of Disasters define disaster as a situation or event which prevents the continuity of operations in a region requires outside assistance and causes great destruction, damage and suffering (Guha-Sapir et al. 2014).

To UNISDR (2009), the definition of disaster is a serious disruption of the function of a community or society, involving a huge amount of people, economic resources or environmental losses. Exceeding the affected community or society's ability to solve the problem with its own resources.

Disasters can be classified by their origin as natural (i.e. are reflections of geographical, meteorological, climate, hydrological or biological weapons, as in the case of epidemics) or man-made, which are the disasters caused by technology or by human action (Guha-Sapir et al. 2014; Van Wassenhove 2006). They can also be categorized in terms of durability as sudden-onset or slow-onset.

On the above definitions, it is clear the recognition of the Ebola outbreak as a disaster, more specifically a bio disaster.

• Biological disaster belong to the class of natural disasters and define the devastating effects that can be caused by a huge spread of a certain kind of living organism - which may be the spread of a disease, a virus, an epidemic, but also a boom of population of a certain type of plants or animals, for instance a locusts.

• Bio disaster characteristics are: high intensity, low probability, high complexity (multi-factor interaction), chaotic (irregular trend) and catastrophic (CDC 2015).

Government, humanitarian organizations and also for-profit organizations need to act together during and after a disaster. According to Van Wassenhove (2006), there are four important stages of humanitarian crises: mitigation, preparedness, response and recovery. Activities related to these four phases have been termed as Humanitarian Operations or Humanitarian Logistics.

For Thomas and Mizushima (2005, p. 60), humanitarian logistics can be defined as "planning, implementation and control of the flow and effective and efficient storage in terms of cost of materials and products, from point of origin to the point consumption in order to meet the needs of the final beneficiary."

There are four features of these operations that add complexity and difficulty in managing the crisis: a) unpredictability of disaster in relation to its occurrence (where, when, what intensity); b) the emergence of an unexpected demand for products and short lead times for supplies; c) high risks involved with deliveries d) lack of human, physical and financial (Balcik and Beamon, 2008).

Humanitarian operations face different challenges. The first relates to the type of disaster. Sudden-onset disasters are more difficult to predict, while the onset disasters, such as drought and famine, are easier to plan. The second barrier refers to the different stages of humanitarian logistics, whose focus and governance vary. The collaboration and involvement of various organizations represent a third barrier, as the role of each of them during the different stages of the Humanitarian Operation are different, the four barrier refers to the different types of organizations, with different cultures, contexts and beneficiaries (Kovács and Spens, 2009; Tatham et al. 2010).

The theme of humanitarian operations has been approached by different disciplines: public administration, health administration, and geology and more recently in operations and supply cchain field. In the latter, the main studies are aimed at the optimization of the distribution system so that the relief community is faster (Scarpin and Silva, 2014).

The challenges of humanitarian health professionals were not connected only to the direct care of patients, but related to political, security, poverty and environment, i.e. were faced with a complex situation in a case of humanitarian emergency (Downes 2015). There was a break of authority resulting from internal and external conflict, requiring an international response (Downes 2015).

The risk assessment of an event should consider both their probability of occurrence and the severity of its consequences. Risk management can be defined as the process of assuming the risk exists and plan actions to avoid, reduce, transfer, share and even accept their impacts (Brindley 2004, p. 22).

Although several definitions of risk, there are three points in common in the literature: (a) the probability of occurrence of an event, (b) the consequences of this particular event and (c) the causal pathway leading in this event, namely the nature of the event and its causes (Ritchie and Brindley, 2007).

According to Quarantelli (1998, p. 18) there are 10 interrelated criteria that must be continually evaluated for a better disaster managing:

1. Recognize correctly the difference between agent and response generated needs and demands;

2. Carry out generic functions in an adequate way;
3. Mobilize personnel and resources in an effective manner;
4. Involve proper task delegation and division of labor;
5. Allow the adequate processing of information;
6. Permit the proper exercise of decision making;
7. Focus on the development of overall organizational coordination;
8. Blend emergent aspects with established ones;
9. Provide the mass communication system with appropriate information and
10. Have a well functioning Emergency Operations Center.

Assessments should consider the local culture and time of this analysis. Cultural risk are collectively built, where the society establishes what is acceptable and its change from location and culture that are modeled by values. Those settings are dynamic, so the time transform them. The scientific fact is not as relevant as we are led by the assumption, by inference and beliefs of the evaluators to be dynamic and they must be constantly revised and reassessed (Douglas 2003).

Understand better how the risk is recognized and perceived can help to better manage it. To assess the risk, should be followed in addition to quantitative conventional techniques, a qualitative approach to the question of the perceived risk, which includes a heuristic view and with the participation by experts from various fields of knowledge to better assess the situation . The evaluation of the context must be considered, beyond time and space, as each participant must respect the views and amounts given by each one at the time of evaluation (Slovic 1987; Västfjäll el al. 2014).

METHODOLOGY

This study aimed to analyze the challenges faced by the humanitarian workers in the Ebola Outbreak in West Africa. For this purpose, documents were raised related to Ebola outbreak, with intensive search of peer review articles and most large media newspapers, magazines and reports from international agencies and international nongovernmental organizations.

Data collection was performed by triangulation, i.e., they were used various sources of evidence in order to power data, providing a holistic and convergent analysis of the results. (Eisenhardt 1989; Godoy 2006; Stake 2000; Yin 2015). Key people with extensive experience in humanitarian work, including several missions in war conflict zones, nutritional crises, HIV / AIDS projects, cholera, malaria, refugee camp and victims of natural disasters. Respondents participated in humanitarian operations by the largest and most important agencies and humanitarian organizations in the world, such as Médecins Sans Frontier (MSF), Action Contre la Faim (ACF), Save the Children, Croix Rouge International (ICRC) and the World Health Organization (WHO).

This research was exploratory, focused on humanitarian workers who have been in the West Africa Ebola outbreak. The interviews are semi-structured with open questions to humanitarian workers. The use of semi-standardized interviews allows the formulation of questions in a systematic way, while allowing the respondent ask for clarification and include unanticipated topics (Berg 2004). The questions were subjective, on the perception of those involved in humanitarian operations and in response to the Ebola crisis. All interviews were recorded and documented to be transcribed and analyzed in depth by the literature. Confidentiality of the participants was maintained when required. When in doubt, respondents were contacted for clarification.

RESULTS

The data extracted from the interviews were grouped by theme: (1) challenges, (2) training, (3) differences between other humanitarian operation and Ebola operation, (4) most important points of the operation, (5) use of personal protective equipment (PPE), (6) issues related to local culture, (7) the quarantine procedure, (8) the return to the professional routine by the interviewed after an Ebola mission and (9) if they would accept to participate in a new Ebola mission.

The main contribution of the research was to identify the challenges of humanitarian workers who acted in response to the West Africa Ebola outbreak.

According to respondents, fear was the biggest challenge, that corroborates with the findings by Moghadam (2015), Odlum (2015) and Gesser-Edelsburg (2015) as this is the most feared disease known with a high mortality rate, reaching 90% as cited by one respondent. This fear occurred both among the affected population, as from health professionals and the international community. We relate this fear of perceived risk (Västfjäll et al. 2014) of contamination and the imminent fear of death. All respondents have undergone a process of quarantine that included 21 days of health surveillance (measurements of body temperature twice a day, during the day and another). In addition, respondents reported their experience with family and friends who showed to be afraid of touch because of the risk of contamination. In the case of this research, it was also identified fear of friends and family who went in contact with humanitarian workers, so those affected should be understood as communicating, they may have, at any stage, compared with the risk and not only those who had contact the direct impact. Another challenge pointed questions were related to psychological aspects of team members, such as fatigue and stress, and lack of physical contact between team members, care and hygiene, the necessity to monitor the body temperature with frequency.

Another challenge was the need for public awareness and to increase the mass communication, as there was a difficulty by the local population of the acceptance of the disease, which increased the risk of contamination. One of the issues raised by respondents was the impact of culture in the treatment and operation relief, as because it is an unknown disease for the community and some cultural practices have been needed to modify, interfering with the credibility and trust of the population towards aid workers, creating discomfort. The communication phase should be carried out and made parallel with the risk management activities since the Gesser-Edelsburg (2015), Combs and Slovic (1979) cite the importance of media in communication and thus improving the perception of the risk. Quarantelli (1997) emphasizes the importance of mass communication to better manage the risk.

Also emerge from the interviews the aspect of training. The majority of the interviews has been trained specifically to deal with the Ebola virus, some of them was also responsible to replicate this training to hundreds of health aid workers. One of the interview was trained by the CDC and the Ministry of Health (Sierra Leone). Some others was trained for Médecins Sans Frontières in Brussels where they had the opportunity to use simulation training techniques. Quarantelli (1997) states that mobilize staff and resources in an effective way is an important point to response a disaster, as identified in this research, training was available to all professionals.

The uniquest of the West Africa Ebola outbreak is the proximity of death, that is completely different than the regular humanitarian operation, (a) the high mortality rate (Ansari 2014), (b) the high risk of contamination (Groseth et al. 2007), (c) the emotional and psychological issues (there is no gap between professional and problem) and (d) the high rate of absenteeism make the operation a huge challenge. Another issue reported by the professionals was the lack of touch,

affecting team behavior, as human contact is considered a very important thing in their social relationship.

The difficult to predict the routine of work was also a challenge, according to the interviewees there was no way to plan in advance so they should be flexible working based on the daily demand, for some people working like this was very stressful.

The Ebola disease was not seen just like a medical illness, but also a "Social Disease". There was never in the humanitarian operation so many expatriates that want to quite, and come back home, that affected the planning and the design of human resources. As Burke (1996), in this kind of context it is hard to plan, and achieve the goals because it is an unprecedented situation and without actually established standards, planning must be continuous and adjusted with each new variable.

Thomas (2005) and Knemeyer (2009) emphasize the importance of planning during the humanitarian operation, but plan the unknown is more a matter of adapting to the new context and so they had the need to go through constant revisions. According to Douglas (2013), resilience is a key skill for uncertain events.

Despite having received training and biosecurity controls, aid workers identify that the use of PPE did not provide adequate comfort (related with the increase of the temperature inside the PPE), leading to a worst condition for the aid workers. For Guarner (2014), the PPE was inefficient, causing high rate of infection, but he not mentioned the difficult related to the high temperatures using the PPE nor either the difficult from the team to relate with patients and vice-versa, this emerge because patients could not see the faces of the health workers, what gave the sensation to fear and abandonment.

Another point raised was the lack of availability of PPE to all health workers in the affected countries, increasing the numbers of health workers contamination consequently the number of deaths. For Quarantelli (1998) the availability of resources is crucial point for a good disaster management.

Another important issue was the lack of knowledge about the Ebola disease, even though developed countries the Ebola was also a mystery, one of the interviews mentioned that the return back home (Switzerland), was difficult, his family and friends were afraid to touch him even after the quarantine, this was impacted by the perception of risk.

The returning to the expatriate routine, which is not mentioned in the literature, was identified as something very difficult, because during the time they were in the Ebola operation the routine backing theirs homes did not change and they mentioned that this experience changed the way they see life.

Most of the interviews said that they would make a new Ebola mission, just one said that due to family issues, he would not accept another proposal.

The main challenges cited by humanitarian workers were:

- Dealing with the delay of the international response generated a domino effect that impacted on all actions necessary to respond to a bio disaster in this dimension;

- On a regular humanitarian operation, humanitarian aid workers are seen by the local community as someone who comes to assist. In the case of Ebola operation, health professionals were often viewed with suspicion, even occurring cases of the population against this help. So the sensibilization work, using mass media was essential to clarify what was the hole and importance of this professionals;

- The Ebola operation was highly impacted by culture issues, for example, both Christians and the Muslim community have the habit of washing their dead to prepare for a funeral rituals.

Those rituals typically involves family members and religious leaders, in the case of Ebola such ritual increase the risk of contamination of the disease, so there was a need for interventions in such practices;

- The health professionals in the Ebola operation is more vulnerable to contamination than in any other humanitarian operation, this increases the complexity of personnel management;

- The risk concern is well placed when compared to other kinds of humanitarian operations, even in conflict zones the security rules can decrease a lot the risk of death, where the dangers are known and there is effective control over them, so risk management is rather different from the Ebola operation where the enemy is invisible and still little studied and

- The decision-making was also something that emerge from the interviews, normally during the humanitarian operation when this risk reaches a level of not allowing the continuation of activities, the operation is canceled. But an epidemic such as the Ebola outbreak, the end of the operation would impact the overall risk level of this disease, so do the acceptance of the risk changes?

CONCLUSIONS, RESEARCH OPPORTUNITIES AND LIMITATIONS

Given to the results of the research, we founded that a key factor in an Ebola outbreak was the belated and inadequate response of the international community, allowing to conclude that the risk has been underestimated, resulting in inefficient actions, what increase the challenges and helped the virus spread.

This neglect resulted in increased mortality and morbidity significantly caused by some factors as: (a) delay in international response, (b) limited human resources, (c) limited health infrastructures, (d) limited financial resources, (e) culture issues and (f) failure to take decision. According to the literature, there are still some gaps concerned to the humanitarian aid workers, there is still the need for more research by the management field, including disaster management and humanitarian operations.

Finally, the crux of the Ebola outbreak is that places of extreme poverty, high population density, low education and infrastructure deficit corroborated for uncontrolled outbreak.

This work does not exhaust the subject. A substantive theory should be opened and prepared to incorporate new discoveries, increasing the range of variations and therefore its explanatory power. In this sense, the continuation of this research is necessary.

To conclude, environmental where there is high demography, high poverty and low infrastructure is a risk to emerge new outbreaks. As discussed on climate change issues, we are all responsible for what is happening in our “backing yard", for the planet there is no social, economic and environmental borders, we are all ONE.

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