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PUBLIC HEALTH | RESEARCH ARTICLE

Behind enemy lines: A perspective on Ebola from Sierra Leone. How the use of interpersonal communication made a difference in the fight against Ebola (An operational intervention)

Samuel Dilito Turay^{1*}

Abstract: The outbreak of Ebola Virus Disease (EVD) was first reported in a border town and rural community in the Kailahun district, eastern province of Sierra Leone. Any thought of the outbreak spreading to other parts and eventually engulf the country was seen as a myth. Within three months of the outbreak, the EVD was evident everywhere. Death and fear engulf the minds of everyone. The government and international partners invested lots of resources public health infrastructure and communication to end the outbreak. Mass media was mainly used to get out health messages on EVD to create a behavior change and end the transmission of the virus. While it was able to reach larger number of people, it was less successful in rural communities with high illiteracy level and culturally sensitive. Denial and resistance to prevention strategies was evident. The sick were not reported but cared for at home, the dead unsafely buried. With a team of volunteers recruited from the community, we embarked on using the interpersonal communication approach. A face-to-face interaction between staff and the people observing cultural values we reach out, educate, and support them. By creating a relationship with the people, we were welcome and our messages received. A positive impact was made in the minds and behavior of the people.

ABOUT THE AUTHOR

Samuel Dilito Turay, MEd, MPH, is Founder and Director of Hands For Life-Sierra Leone, (HFL-SL) small community based organization that worked to improve access to healthcare through resource mobilization, health education and advocacy. With the Ebola outbreak, HFL, SL undertook a public health intervention using messaging to create awareness and encourage behavior change.

Recently, I had the opportunity to serve as Policy Analyst, Strategy And Policy Unit, Office of the President, Republic of Sierra Leone. I provided technical support to the Presidential Adviser for health and social services.

Prior to this, I served as the Coordinator of Health Programs for the, African Family Health Organization, Philadelphia. We engaged in health surveys, health education, resource mobilization and advocacy.

We hope the outcomes reported in this operational paper will be useful to public health workers in future interventions.

PUBLIC INTEREST STATEMENT

The Ebola virus disease outbreak occurred in the three neighboring West African states of Guinea, Liberia and Sierra Leone. It claimed 11,284 lives in a period of 18 months, making it the greatest and most terrifying in history. The World Health Organization declared it a public health emergency of international concern.

Local governments and international partners collaborated to fight the disease. Massive mass media campaigns were launched to create public awareness about EVD, change behaviors and break the chain of transmission. However, public perception on EVD was noticeably negative, marked with denial and rejection especially in rural traditional communities where illiteracy is high.

But, having their people directly talking to them using a familiar approach, the people quickly understood the messages, and adapted the behavior change. The right communication methods can readily create awareness and motivate behavior change.

Subjects: Behavioral Sciences; Communication Studies; Education; Health and Social Care

Keywords: interpersonal communication; mass media; EVD key messages; behavior change; break transmission chain; Ebola virus

1. Background

The Ebola virus disease (EVD) is describe as an Ebola hemorrhagic fever, severe, and often fatal illness with nonspecific symptoms at the onset in humans and confirmed only through laboratory testing. Transmitted to people from wild animals (natural host), it is highly contagious and spreads through human-to-human transmission with an average case fatality rate from 25 to 90%; about 55–60% for current outbreak and considered to be one of the most lethal viral infections. Ebola is known to have an incubation period of 2 to 21 days following which the individual infected with the virus show nonspecific symptoms but maybe infectious to others who come in contact with his/her bodily fluids (Chowell & Nishiura, 2014; Joshi, 2014; Mohajan, 2014; Tinsley, 2015; World Health Organization [WHO] Media Center, n.d.).

The center for disease control and prevention first discovered in 1976 near the Ebola River in what is now the Democratic Republic of the Congo (Martinez, Salim, Hurtado, & Kilgore, 2015), outbreaks have appeared sporadically in central Africa and western African state of *Côte d'Ivoire* (Ivory Coast) in November of 1994 to a 34-year-old female ethnologist infected while conducting a necropsy on a wild chimpanzee in the Tai Forest region (Formenty et al., 1999; Goeijenbier, Kampen, Reusken, Koopmans, & Gorp, 2014). No chain of infections was reported from this case. The most recent outbreak (2014 through 2015) which occurred in Guinea, Sierra Leone, Nigeria and Liberia (Mohajan, 2014), has been unprecedented in terms, of mortality, morbidity and geographical locations spilling from rural communities to major towns and capital cities in the affected countries (Joshi, 2014). Even the affluent and professionals became victim.

While the outbreak is recorded to begin in Guinea March 2014, Liberia April 2014, and Sierra Leone May 2014, it is believed that officials at the WHO, knew of the problem two and half months before making a public pronouncement and declaring it to be a public health emergency of international concern (PHEIC). The governments of the affected countries lacking the incentives for honest and early reporting of an outbreak of this nature within their borders at first showed a state of denial. They were fearful of the domestic and international consequences of admitting the disease was raging across the region; a situation that likely cost an untold number of lives and prolong the time to eradicate the virus (Goeijenbier et al., 2014; Tinsley, 2015).

Beginning in December 2013 (Cenciarelli et al., 2015; Joshi, 2014) through 2014 and 2015, it is considered to be the largest EVD outbreak in history and affected large populations across west Africa, with a total of 27,741 EVD cases and 11,284 deaths reported across the affected countries in a period of 18 months. No wonder it has been considered to be the deadliest and largest EVD outbreak in history and in the West African region (Goeijenbier et al., 2014; Martínez et al., 2015; Mohajan, 2014).

The established means by which the Ebola virus enters the human population is through close contact with the blood, secretions, or bodily fluids, consuming undercooked infected animals of infected animals such as primates, fruit bats, forest antelopes and porcupines found ill or dead in the rainforest. It is then spread through contacts with body fluids of infected and infectious persons (sick or dead) through unsafe social interactions, caring for the sick and burying the dead. The virus is also spread via direct contact with infectious bodily fluids, on surfaces or materials. Healthcare providers, family members, friends, mourners who have unsafe and unprotected contact with infected individual and bodies are in high risk of infection of the disease (Joshi, 2014; Mohajan, 2014; WHO Media Center, n.d.). A strong relationship exists between the rates of unsafe contact with infected persons to the number of emerging new cases of infection.

With no standard treatment at present for EVD, the primary focus of healthcare workers in an EVD outbreak is to end the transmission within the shortest possible time to save the loss of life. Breaking the chain of transmission and therapeutic support prevents the emergence of new cases and deaths (Mohajan, 2014). A combination of approaches aimed at preventing further infection and managing the symptoms to prevent death have been employed in each outbreak. Some of these includes: Early detection and isolation of the sick, travel restriction to and from infected areas, sharing information about EVD and raising awareness about the risk factors using effective communication methods to promote and effect a behavior change, use of protective gears, use of infection-control measures, regular washing of hands, quarantine of infected premises, safe burial of the dead and incineration of dead animals, refrain from eating bush meat or dead animals found in the bush (Mohajan, 2014). Health communication, primarily relying on mass and mid-media was rigorously used to reach the people.

While gains were quickly made in establishing a more robust public health infrastructure and providing support to healthcare workers through increase international support, the socio-cultural factors associated with effective communication and behavior change continued to be a challenge (Chowell & Nishiura, 2014). The number of cases, deaths, denial and hostility towards healthcare workers was alarming.

2. Hypothesis

While Enormous amounts of media and other public health resources were expended to manage the symptoms of the disease, to changing deeply ingrained socio-cultural behaviors that were fueling the spread of EVD, and providing psychosocial support to the infected families and communities (Koenig, Majestic, & Burns, 2014) the incident of denial and lack of cooperation, cases and death was not only prevalent, but was on the increase.

A multi-media onslaught including television, FM radio, billboards, newspapers, mobile public address systems, cell phones, and meetings were used to spread messages throughout the country calling for an understanding of the outbreak and need for a behavior change.

Deaths associated with EVD were on the increase suggesting that these mass media approaches primarily in use were not appreciated as expected.

The CDC messages conveyed on TV, Radio, bill boards and even politicians in town hall meetings as good as they are, were not having the impact of a traditional leader speaking with trust and clarity, rather it caused panic (Tinsley, 2015). There was the indication that, people for various factors needed an approach probably, one that was more direct and interactive; a combined approach that could provide the opportunity to dialogue in a more traditional way and the personal touch to gain the confidence and resilience. This was significant in breaking the chain of transmission and ending the loss of loved ones to EVD. Without this strategic approach, ending the outbreak will become a lingering nightmare.

3. Consent

As an operational intervention involving sharing of valuable and critical information relevant to the ongoing fight against the EVD, individuals had the freedom to participate or chose not to participate in the sharing of their opinions and experiences. For this, prior consent was obtained from individuals participating in the intervention.

Approval was also obtained from the District medical, a unit in the MOHS with jurisdiction in the community of our intervention as well as the Local chieftdom authorities and family heads. The request clearly indicated the purpose of the intervention, benefits to community and individuals, what information will be shared and collected, including how it will be done and how it will be used. Participants' privacy and confidentiality was guaranteed throughout the intervention.

4. Methodology

Prior to the EVD outbreak, Hands for life worked in the community on a low scale to support access to healthcare prior to the outbreak of the EVD. Team members recruited from the community had a better and acceptable level of knowledge and understanding of the community and its socio-cultural factors.

Adult males serve as the head of households and community institutions. They are the primary decision makers, opinion leaders and could strongly influence what happens in the community including what others will consider as personal and private, such as seeking health care. Women have the responsibility of providing care for members of the family including when they fall sick. This was an important factor in the intervention.

We embarked on using the interpersonal communication approach, a face-to-face interaction between staff and the people (Interpersonal Communication Can Work in Child Survival Programs, 2017) observing cultural values to reach out, educate, and support resident of these communities. Team members recruited from the local community, trained on sharing key messages about EVD, personal safety guidelines, and in health communication skills visited people in their homes and other places in the community and at more convenient times. Being a member of the community with a better understanding of local traditions and dialects enhanced confidence and gained the trust of the people moved freely about the community.

In every community engagement, team members would greet and introduce themselves, acknowledge the presence of elders or authorities and explain the purpose of their visit. They would observe the premises or surroundings for the presence and use of hand washing supplies and whether people were touching or shaking hands.

The team members lead discussions to determine their awareness of Ebola, perceptions on the messages and their willingness to follow the recommended behaviors. Findings are noted. This assessment was then followed by a session of sharing messages and dialogue, in-depth discussions, answering questions and clarification of contradicting issues they might have heard from the TV, Radio or rumors.

Discussions and information sharing are carefully guided to support individuals in decision-making for the required behavior changes. Food and supplies were given to homes only under quarantined. Six hundred homes/households, including places of worship were visited within the intervention period.

It is important to note that, the primary objective of our intervention was to provide support within our abilities to end the EVD outbreak that was ravaging the country despite enormous effort by the government and international organizations in sharing information across the country and public health infrastructure support to break the chain of transmission.

4.1. Data collection

Two sets of qualitative data were collected from participants and healthcare workers in the community and analyzed. The first data was collected prior to the intervention to determine the existing state of awareness and the expressed behavior and attitude of the people within the community. This information served as base line to which the second data collected at after the intervention is compared to identify the impact of our intervention if any. These were obtained using collection of approaches including focus groups, observation and interviews.

5. Pre-intervention (Baseline)

Since multiple forms of media had been spreading information about Ebola for weeks by the time we started our work, we anticipated a reasonable number (>80% MOHS report) of persons in the community would demonstrate awareness, and willingness to adhere, and practice the new behaviors

such as frequent hand washing, limited touching, and promptly informing healthcare workers on the illness and death of a family member or a member of the community.

We found out the following:

- Few individuals (<45%) expressed to have received and understood the health messages on EVD communicated through television, radio or print media including bill boards. Although they all admit hearing or seeing the messages transmitted, most claim not to understand them, likely due to the language barriers or the inability or limited ability to read and make sense of the information. Message and medium appealed less to them.
- Resistance to behavior change was still evident. The sick were still been kept or treated at home, and families were washing corpses, and refusing to inform health authorities about sickness and deaths, eating of bush meat which was the main source of their protein. The behavior change needed for acceptance and cooperation was strikingly absent when compared to the time and resources that have been invested by health authorities. The traditional practice of hand shaking was very much noticeably in use.
- The people had difficulty personalizing the messages. The interaction was with the medium and not with the messenger and the message. This reduced their determination to own and commit to the required actions. A gap existed between the communicators and the clients.
- Misconceptions existed in the minds of people about the Ebola outbreak which was reinforced by rumors and theories common at the time. Some were blaming political leaders (local government), International agencies, and foreign governments, for initiating the outbreak and healthcare workers, business people, hoping to benefit from the outbreak. Others believed it was the work of witch craft. This was contrary to the messages disseminated as facts about the Ebola outbreak by the healthcare workers. With those disseminating the messages often far removed from the community, the opportunity to address their concerns, and answer their questions was absent.
- Some could not understand the healthcare workers rationale for asking them to deviate from the highly valued traditional practice of providing direct care to sick family and community members (even when not confirmed infected with virus), why they had to be taken to treatment centers away from the local community, the use of black body bags for burial as oppose to white body bags or the traditional white cotton cloth. The color black is associated with evil and bad luck and white with purity and good luck.
- The key message of “being infected with Ebola leads to death” had an absolute meaning to most of the people. They interpreted it to mean, once infected with the Ebola virus the individual will definitely die regardless the intervention. As such, they were reluctant to allow a sick family member to be taken away, only to die and be buried by unfamiliar people and away from home. The same message had different meanings to those who created it and those it is created for. There was need to adapt to bridge the social and cognitive difference between communities/ societies.

6. The intervention

- We used an interpersonal communication approach, as mentioned above, recruiting local members to join our communication team. People were more likely to listen to familiar faces in their immediate community who form part of the intended audience than to “outsiders”. They can be understood and relate to the target audience (Interpersonal Communication Can Work in Child Survival Programs, 2017).
- We worked with opinion leaders in the family and peers in the community to facilitate a behavior change diffusion process.
- The dialogue process involved sharing messages using an empathy approach to portray the messages and required change in behavior as not just for them but for all of us. Words such as

“we, us,” as opposed to “you, they, and them were often used in describing a situation.” This helped us to engage in frank conversations. Focus groups were used to facilitate in-depth and open discussions.

- We repeatedly demonstrated the steps in hand washing to ensure clarity and confidence to continue the practice. Emphasized that soap and water (available in the community) can be effectively used instead of chlorine water highly promoted in the broadcasted messages. There was the problem of getting the chlorine and preparing the right concentration of the solution.
- Help them to understand that, with early reporting and access to healthcare, lives of their beloved ones could be saved. We help them to understand the message of “being infected with the virus leads to death”. A case reported early and care sought in time does not always result to death. Efforts were also made to clarify the “Messages about don’t touch the dead, wash your hands, if somebody is sick, leave them –these were all strange instructions contrary to our tradition and culture (Sack, Fink, Belluck, & Nossiter, 2014). The messages need to be at the cognitive level of the people and culturally friendly, appearing as guidelines and not foreign commands imposed on them.
- We emphasized that the result of the behavior change would benefit them and everyone in the family and larger community – and eventually the horrors and pains of Ebola would end and life will return to normal. Sooner we adopt the desired behavior to end transmission, the better for us as a community and nation.
- We used appropriate verbal and body language as well as appropriate cultural symbols to demonstrate concepts. Tools very much familiar to our team members.
- We met them at their convenient times and locations in the community.
- We came back to reinforce the new behaviors. The presence of team members in the community also served as a constant reminder and reinforce the process.
- We provided material support, including soap, hygiene supplies as well as food, drinking water and cooking oil which was not getting past quarantine lines in some areas.
- We provided them with guide to resources available in the community.

7. Discussion

This paper explores how interpersonal communication can contribute to better understanding, acceptance and adherence of public health messages that suggest a behavior change by a rural population with fewer skills to benefit from mass communication. Two main themes are considered (Tinsley, 2015) the message and (Martínez et al., 2015) the medium or messenger, in relation to the cognitive and socio-cultural values of the target population

It is important to note that, the team shared with the people, the same messages that they have received from the TV, Radio, and Billboards prior to our intervention. The difference was in our use of a friendlier medium and techniques that the community easily relates with. It helps to provide support and reinforce the ongoing process creating awareness on EVD.

Following our intervention, community healthcare workers and leaders reported that:

Over 90% of residents stated to better understand the messages, develop trust, and confidence in the healthcare workers after we discussed them. The same indicated willingness to practice and further share what they have learnt with others in the community.

Perhaps the most important change was that people became more receptive and tolerant of having outside health workers come in. They developed confidence and began reporting more cases of relatives, friends, and members of the community who fall sick to the appropriate authorities after realizing the health benefit of saving the lives of beloved ones and preventing further infections by accepting the facts about EVD and observing the infection prevention messages. Our approach as expected during crises, unlike the heavily used mass media was to provide reliable information

about EVD, but with no panic. Our impact had something to do with our natural ability of interacting and speaking like traditional leaders, peers, friends and family members (Tinsley, 2015). We came with trust, provided the interactive platform and created the confidence significant for a successful public health campaign. The earlier held beliefs such as EVD is not real, nothing can be done to help once infected, while the traditional practice of caring for the sick, burial of the dead by family members, hand shaking, receiving strangers began to fade ... in place of the recommended behaviors conveyed in the EVD key messages. People became more vigilant and responsible for the safety of their community. The arrival of a stranger including relatives especially from infected areas was now frowned at and promptly reported to the authorities as opposed to the earlier practice of hiding them. Honest reporting on EVD was earlier opposed and considered an act of snitch or betrayal by members in the family and community.

Earlier communication failures fueled the denial and resistant displayed by the people to the facts about EVD infection prevention practices, and like the government, denial and resistant to the claims of EVD was a way of avoiding the fearful consequences (quarantine, stigma, death) of accepting the disease was raging in the community or home (Tinsley, 2015). But the EVD messages and facts were not only compounded with fearful consequences, they also created incentives for honest acceptance of the outbreak (Tinsley, 2015) such as prevention from infection and possible death from EVD (hand washing, reporting of sickness and death, safe care and safe burial, not eating bush meat, adhering to quarantine procedures), end of travel restrictions and return to economic activities and normal social living.

Like it happened in other interventions where IPC is used, the outcome shows how individuals (community) displayed a quick turnaround from their perceptions and behaviors once they understood the values in the messages and how to cope with the crisis (Tinsley, 2015). By allowing frank discussions and clarification of issues around EVD, they identified with the subject and took ownership of the process. Families, community heads, religious and social group heads, and popular opinion leaders became more involved in spreading the information about safe behaviors. This can be closely associated with the increased awareness on EVD risk factors and the resolved to engage in the social behavior required to cope with the outbreak and end the transmission in the community.

While mass media could certainly reach in a shorter time greater numbers, the traditional face-to-face method of going into the community, interact with the people and build a relationship with them, created a sustained behavior change at a grassroots level. Without this kind of intervention, it is unknown how long the rural communities such as the one in which we worked would have resisted the changes in behavior necessary to end Ebola.

In a public health outbreak of this nature, it is important for healthcare professionals and actors to employ an approach that does not only ensure that large populations are reached in shorter period of time; but one that carries ease and effectiveness to achieve the set public health goal. The focus should be placed on ensuring that the target population is able to receive, digest, accept and put into action what is required from them and for which the messages were created and communicated. Communication as an integral part of public health creates awareness and promotes behavior change essential for wellbeing. What we say, how we say it, and what we mean by it are extremely important, and can be life-changing (Vertino, 2014).

8. Conclusions

Since each of the approach (Mass Media, Mid-media and interpersonal) have significant contribution to the communication process for behavior change, it is important all three are adequately utilized. Although, mass and mid-media apparatus are able to reach much wider audience within a very short time when compared to interpersonal communication, however, it is important for the interpersonal approach to be incorporated as early as possible due to its effectiveness in setting in

behavior change at the individual level. The approach is able to reach and benefit individuals and communities who do not benefit from the Mass media and mid-media approaches resulting from their inability to use them.

However, with growth in population and advances in communication technology, the use of mass media and mid-media because of its time and number advantages is still prevalent in Public interventions. While proponents of mass media and mid-will trumpets its advantages over interpersonal method, it is proving difficult to relegate interpersonal to the past because of its effectiveness in ensuring clarity validity of accomplishing the objectives. It builds the foundation for trust and resilience building.

9. Recommendations

Where an outstanding low literacy and cognitive level of the audience is known or claimed, a characteristic feature of our intervention area, we found the more interactive IPC approach to yield better result and should be used. We realized that although the same key messages were presented to the same population, the use of a medium that is friendlier to the target population yielded more concrete results indicated by reported behavior change and an end to new infections. It is therefore, important that public health officials and other professionals such as behavior change communicators, health educators, social workers, healthcare activists employ the right medium to ensure the desired outcome obtained in time; in this case to end the transmission and save lives at the earliest time.

Because it is more rewarding to combine IPC with a mass media campaign during public health interventions, mass media campaign ought to be accompanied with IPC, suggesting the use of multiple communication and information sharing platform in interventions to raise awareness, promote behavior change is more likely to lead to greater success in practices than using one strategy alone (Menon et al., 2016) and should be promoted. While mass media is able to reach a wider audience in time, interpersonal communication ensures clarity and builds audience confidence and resilience.

Messages and technology should as much as possible be adapted to meet the cognitive level, be available, affordable and user friendly to the targeted population. The use of familiar and less complex tools and technology makes it easier for the people to understand, appreciate and relates to messages. It saves time, ensures effectiveness and acceptance. When people are able to identify with and claim ownership of the message, it is less likely that they will refuse the details in it.

Therefore, designers of message as well as planners of interventions need to have a reasonable understanding of the population for which the message is intended and should seek to address their cultural platform and cognitive level. Messages need to be designed and shared to have the impact of a traditional leader or community member speaking out (Tinsley, 2015). Health educators involved in sharing disease prevention and control messages have the responsibility to use the technology that is available and friendly not only to them, but to the communities it is intended for. There should be some room for adapting and communicating public health messages in time without losing the meaning and purpose. This, therefore, requires that health educators and communicators are adequately trained to manage the challenging communication (Hart, Yelland, Mallinson, Hussain, & Peters, 2016) associated with emerging public health issues, behavior change and disease prevention.

More researched should be made on the factors that could determine selection and use communication methods in public health interventions requiring behavior change in less developed and privileged communities marked by cultural differences, low levels of literacy and low use of modern communication technologies to address public health outbreaks.

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Competing Interest

The author declares no competing interests.

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