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# Kono Members' Perceptions of Burial Practices and the Spread of Ebola Virus Disease

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# Walden University

College of Health Sciences

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Comfort K. Panda

has been found to be complete and satisfactory in all respects,  
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2018

Abstract

Kono Members' Perceptions of Burial Practices and the Spread of Ebola Virus Disease

by

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MSN, South University, 2011

BSN, Columbia Union College, 2008

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Health

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November 2018

## Abstract

Sierra Leone was heavily affected by the West African Ebola virus disease (EVD) epidemic from 2013 to 2016. Ongoing EVD transmission during the epidemic was connected to several factors including unsafe traditional burial practices. This phenomenological qualitative study addressed Kono members' perceived knowledge, attitudes, and beliefs regarding how burial practices influenced EVD transmission. Rosenstock's health belief model provided the framework for the study. The participants purposefully selected from various religions and professions were interviewed individually and in focus group settings. Similar phrases and comments were identified from the interview responses which resulted in the following 5 main themes: (a) Kono community leaders and public health workers were cognizant of important EVD issues, but there was a knowledge deficit among Konos about EVD and its mode of transmission; (b) although customary burial rituals were temporarily banned from 2014 to 2016, they were practiced among the Konos to promote culture-driven dignity and respect for the dead; (c) many Konos harbored grudges and mistrusted government officials and public health workers; (d) infrastructural deficits were a barrier to health care as private and public sectors lacked training and equipment to mitigate the 2013-2016 EVD outbreak; and (e) participants were willing to adopt safer burial practices if EVD outbreaks were to reemerge. These findings indicated that EVD transmission was connected to unsafe burial practices. Findings may be used to improve community engagement and public health outreach efforts to promote safer burial practices, especially during periods of infectious disease outbreaks.

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## Dedication

This dissertation is dedicated to the memory of my loving father, Sundima Kenneth Williams, who believed in me and who had so much passion for education that he encouraged me from an early age to seek and attain my maximum potential. His last wish for me was that I never stop learning till I achieve a doctorate. To Dad, you can rest in peace, as your wish has come true. To my adopted mother, the late Pastor Shirley Jean Nicholson, you were an inspiration to me and loved me unconditionally. May you rest in perfect peace. To my beloved husband, Osman Panda; children, Solomon, Adama, Amadu, and Isata; son-in-law, Wulah Cooper; and sisters, Elizabeth Tucker and Stella Smith, I thank you all so much for your unwavering support and sacrifices. I love you all so much. I also would like to dedicate this work to my beloved mother, Madam Isata Williams, who instilled so much hard work and determination in me to pursue this degree. Mom, you are the best mom in the entire world.

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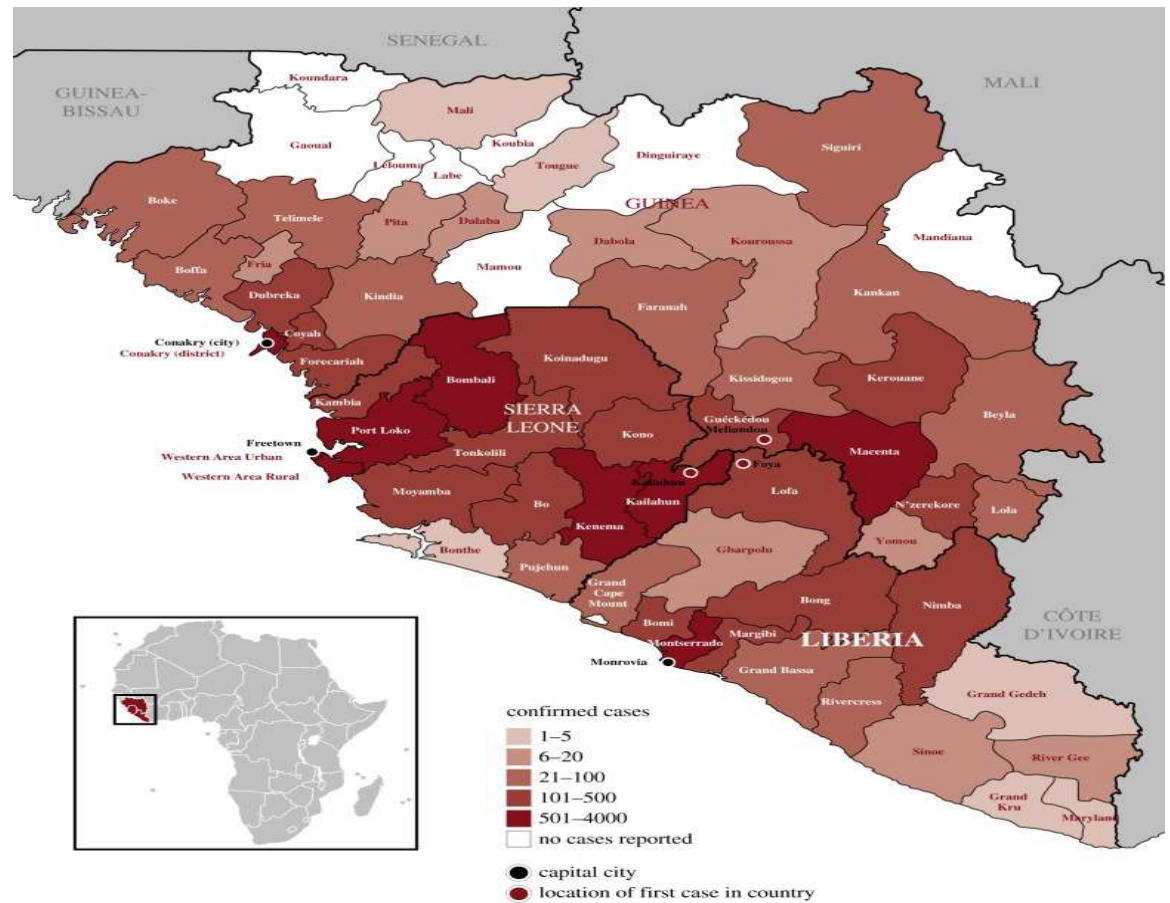
## **Chapter 1: Introduction to the Study**

Ebola virus disease (EVD) was first identified in Zaire in 1976 after an infectious viral outbreak was associated with 284 cases of severe acute febrile illnesses (Centers for Disease Control and Prevention [CDC], 2014a). The EVD outbreak resulted in deaths among more than half of those infected by the virus. After the initial outbreak in 1976, more than 20 sporadic EVD outbreaks occurred throughout sub-Saharan Africa, mostly in remote rural villages (CDC, 2014a). The largest EVD outbreak in recorded history emerged from Guinea in late 2013 (Spengler, Ervin, Towner, Rollin, & Nichol, 2016). Investigators speculated that the outbreak could have resulted from an unconfirmed animal source involving a single human contact with bats or contaminated bush meat (Spengler et al., 2016). The EVD outbreak spread within the human population through direct human contact and into the neighboring countries of Sierra Leone, Nigeria, Liberia, and others (Spengler et al., 2016). In 2014, EVD infected thousands of people causing over 28,000 EVD-related illnesses and over 11,000 deaths, including one death in the United States and six deaths in Mali (Alexander et al., 2015; CDC, 2014; World Health Organization [WHO], 2014b;). The 2013 EVD outbreak was eventually contained in 2016 (Alexander et al., 2015; CDC, 2014; WHO, 2016). In this chapter, I present the background of the study, problem statement, purpose of the study, research questions, nature of the study, and other crucial elements.

### **Background**

The Ebola virus has sporadically infected humans since 1976 (CDC, 2014; Coltart, Lindsey, Ghinai, Johnson, & Heymann, 2017; Danasekaran, Mani, & Annadurai,

2015; WHO, 2015a). The Ebola virus is a zoonotic organism with four major strains (CDC, 2014; Coltart et al., 2017; Danasekaran et al., 2015). The Zaire Ebola virus strain set off a series of casualties in West Africa and was linked to about 90% fatalities early in the outbreak (Danasekaran et al., 2015). Although the WHO initially identified the West Africa EVD event in March 2014, the origin of the outbreak was traced to an Ebola-related incident that occurred in a rural village in Guinea in December 2013 (Coltart et al., 2017). The rural village was the identified epicenter of the EVD epidemic, an area within walking distance to the borders of Liberia and Sierra Leone, and within 50 kilometers of the Kono district of Sierra Leone, as shown in Figure 1 (CDC, 2014a; Coltart et al., 2017; Feldman & Geistbert, 2011; WHO, 2016).



*Figure 1.* Geographical map of Sierra Leone, Guinea, and Liberia. Adapted from WHO, 2016.

Most Ebola virus transmission events in West Africa occurred within households through direct contact (i.e., ungloved touching, skin-to-skin interactions) with patients and family members or friends who provided direct care and support to loved ones with EVD (Alexander et al., 2015; Gray et al., 2015; Richard et al., 2015). There was high incidence of illness and death among those with unprotected exposure to patients with EVD (CDC, 2014a) and to those who had died from EVD. Due to the nature of contact transmission, health care workers and traditional healers in West Africa were heavily affected by the EVD outbreak because many health facilities lacked gloves and

disinfecting chemicals (CDC, 2014a). Occasionally unprotected sexual contact led to new EVD outbreaks many months after the major outbreak had ended (Coltart et al., 2017; Spengler et al., 2016), and infectious Ebola virus has been detected in the semen of men who survived EVD illnesses, thereby providing ongoing EVD epidemic risks to the community (Spengler et al., 2016). Unsafe burial practices were also identified as critical risk factors for the EVD outbreak in West Africa (Alexander et al., 2015; CDC, 2014a; WHO, 2015b) because corpses remained highly infectious. In some communities of the Kono district of Sierra Leone, a substantial number of people have a strong belief system about the magical powers in the water used to bathe the dead, a concept that is part of the traditional and cultural burial ceremonies (Alexander et al., 2015).

The focus of this study was the lived experiences of the community members of Kono regarding the 2013 EVD outbreak. The Kono tribe is one of the 14 major tribes in Sierra Leone (Government of Sierra Leone [GoSL], 2013). The Kono district is a diamond mining area within the Eastern Province of Sierra Leone (GoSL, 2013). The district shares a border on the east with the Republic of Guinea, on the southeast with the Kenema district, and on the northeast with the Koinadugu district (GoSL, 2013). The population of the Kono district is approximately 500,000, and the district capital is Koidu town (GoSL, 2013). There were about 119 EVD cases and deaths reported in the Kono district; however, the report did not include 87 abandoned corpses and at least 25 deaths in the local hospital (Stehling-Ariza et al., 2016). To contain the EVD epidemic, Kono district was on lockdown from December 10th through December 23rd of 2014 (WHO, 2015a).



The results of this study may provide valuable information regarding factors contributing to the lack of cooperation by the community affected with EVD epidemic in Kono in the prevention of the disease. Knowledge gaps exist about the lived experiences of people in the Kono community and health care professionals who helped contain the spread of EVD (Jain, Brown & Johnson, 2015; Levy et al., 2015; Manguvo & Mafuvadze, 2015; Spengler et al., 2016).

To prevent future EVD outbreaks, it is important to understand the cultural, socioeconomic, and health behavioral factors of the communities in question. The provision of appropriate protective tools and training to the public, local health workers, and traditional healers would be an invaluable asset in preventing another high fatality epidemic outbreak. Working with the local communities in evaluating the traditional attitudes and belief systems regarding burial ceremonies and health care improvement needs would be useful in preventing or minimizing the risks of future outbreaks (Manguvo & Mafuvadze, 2015; Phua, 2015; Piot, 2014; Roca, Afolabi, Saidu, & Kampmann, 2015). A better understanding of the knowledge, attitudes, and practices of the Kono people regarding EVD and their burial practices could help identify current EVD vulnerabilities and mitigate future EVD outbreaks in the Kono community.

### **Problem Statement**

Future EVD outbreaks may occur in Kono, Sierra Leone, if the unsafe burial practices in the area are not addressed. Improved epidemic preparedness could facilitate more effective and efficient public health efforts (CDC, 2014a; CDC, 2015; WHO, 2015a). Kono people of Sierra Leone were among the least characterized by increased

risk of EVD transmission (Nielsen et al., 2015). However, there have been several reports about the traditional burial practices of several tribes in West Africa that are at a higher risk of corpse-related EVD transmission (Nielsen et al., 2015). There are nearly 500,000 Kono people with distinctive language and culture (GoSL, 2014). This community of Kono people comprises 8% of the Sierra Leone population (GoSL, 2013). Among all of the investigations conducted on the risk factors of burial practices in the transmission of EVD, none were specific to the Kono people or the community (Nielsen et al., 2015; Manguvo & Mafuvadze, 2015; Shah, 2015).

The spread of EVD throughout West Africa, including Sierra Leone, was enhanced by factors such as the lack of or low health literacy on the issue, inadequate health systems, mistrust of unstable governmental structures, poverty, population movements through the ground transportation network systems, and certain traditional cultural practices (Alexander et al., 2015; Gray et al., 2015; Richard et al., 2015). The EVD outbreak was escalated through person-to-person contact involving exposure to the mucous membranes or bodily fluid of persons infected with EVD (Alexander et al., 2015; Coltart et al., 2017). Unsafe burial practices involving touching, kissing, and bathing of deceased persons with EVD by friends, family members, and other mourners were linked to the outbreak of the disease within communities (Coltart et al., 2017; Spengler et al., 2016). Even when an Ebola virus-infected person is pronounced dead, EVD-infected corpses remain highly infectious and the virus could be transmitted via direct skin contact for several days after death (Coltart et al., 2017; Spengler et al., 2016).

During the outbreak, the WHO, United Nations, CDC, governmental bodies, nongovernmental organizations (NGOs), and other public health agencies provided in-country technical guidance and practical assistance to countries most affected by the EVD outbreak (WHO, 2015b). For the 2013 Ebola outbreak, emergency relief and public health efforts were directed mainly toward Sierra Leone, Guinea, and Liberia (WHO, 2015b). The advanced area-specific relief efforts strengthened and supported the national health care systems in the affected countries while preventing the spread of the EVD outbreak (Curran, Gibson, Marker, Caulker, & Bomeh, 2016; Nielsen et al., 2015). The relief efforts also supported disease-specific surveillance programs, clinical assessments of acutely infected individuals, investigative measures of EVD case patients, enhanced laboratory test processes for Ebola infection and confirmation of EVD case patients, and isolation or quarantine of potentially infected individuals or contagious persons (WHO, 2014a). Exposed individuals were tested for EVD using enhanced laboratory-based surveillance approaches to prevent or minimize potential exposures to infectious corpses and to facilitate safe burial practices and the use of appropriate personal protective equipment (PPE) (WHO, 2014a, 2014b). However, the views of many individuals within the affected local communities on the new safety procedures, especially the highly regulated and supervised burial practices, were negative and the proposal was perceived as a coercive invasion of their rites and rights to privacy (WHO, 2014a). As a result, such interventions were viewed as culturally insensitive, disrespectful, and dehumanizing of the deceased and individuals infected with the virus (Nielsen et al., 2015).

Several factors may have contributed to the advent and transmission of EVD in Sierra Leone. Due to the knowledge gap about EVD and modes of prevention and transmission, the approach to identify the emergence of diseases in areas with inadequate resources and other barriers should be pursued (Alexander et al., 2015). To address this gap in the literature, I explored the lived experiences of the Kono people regarding their burial practices and the rapid spread of EVD in the area. The lived experiences of the participants during the EVD epidemic could provide meaningful information to prevent future outbreaks.

Findings from this study may provide knowledge to health workers and community leaders who could influence local burial practices in implementation of better and safer burial practices in the target community. An intervention strategy could help reduce or minimize the severity of a future Ebola outbreak and perhaps prevent other infection risks. The application of a sensitive approach to address this serious and dangerous public health issue could bridge the gap between respect for cultural traditions in local communities in Sierra Leone and safe public health practices for the common good. Evaluation of the perspectives of individuals in Sierra Leone regarding the burial practices and the transmission of EVD could positively influence the planning and treatment measures for Ebola and other future deadly infectious or communicable diseases.

### **Purpose of the Study**

The primary purpose of this study was to explore the lived experiences of the Kono people regarding their burial practices and the rapid spread of EVD in the area. I

also evaluated whether the burial practices exposed individuals and loved ones to Ebola virus transmission from an infected corpse. Based on the identified gap in the literature and the nature of the research questions, I chose a qualitative method for the study. The qualitative phenomenological design involved semi-structured, open-ended interviews and focus groups with Kono community members.

I explored the burial practices of the Kono people in detail, including how the practices may have contributed to the rapid transmission of EVD during the recent Ebola outbreak in West Africa. The findings may be used to promote health awareness and disease prevention in a culturally sensitive manner. Kono community leaders and members may use the findings to implement safer burial practices for the betterment of community health and to improve preparedness for future EVD outbreaks in Sierra Leone.

Understanding the cultural practices of the Kono community as they relate to funeral or burial ceremonies is essential (Coltart et al., 2017). The knowledge gained through the qualitative analysis of this study may help researchers identify potential health behavioral risk factors related to the burial practices of the Kono people that may increase the risk of EVD infection and transmission. Findings may also promote the need for future community engagement, an essential element that could help in the prevention and mitigation of future infectious or communicable disease risks (Hagan, Pillah, Yeoman, Gupta, & Neatherlin, 2014).

### **Research Questions**

The following were the research questions (RQs) addressed in the study:

RQ1: Based on the lived experiences of the Kono people who were purposefully surveyed, what were the Konos' traditional burial practices before the 2013 EVD epidemic in West Africa?

RQ2: Based on the lived experiences of the Kono people who were purposefully surveyed, did the burial practices influence the spread of the EVD in Kono, and how?

RQ3: Based on the lived experiences of the Kono people who were purposefully surveyed, how did the Kono burial practices change during the 2013-2016 EVD epidemic?

RQ4: Based on the lived experiences of the Kono people who were purposefully surveyed, when did the Kono burial practices change (again, if at all) after the 2013-2016 EVD outbreak?

RQ5: What, if anything, changed regarding the Kono burial practices after the 2013-2016 EVD outbreak based on the lived experiences of the Kono people who were purposefully surveyed?

RQ6: What are the future burial plans of the Kono respondents if there is another EVD epidemic in Kono based on the lived experiences of the Kono people who were purposefully surveyed?

### **Conceptual Framework for the Study**

Many aspects of the West African EVD outbreak have been characterized in the literature. There is existing information about how traditional burial practices facilitated the spread of the Ebola virus by mourners having direct bodily contact with the highly infectious corpses of deceased individuals (Alexander et al, 2014; CDC, 2014a; Coltart et

al, 2017; Fasina et al., 2014; Shah, 2015; WHO, 2015a, WHO, 2015b). In this study, the health belief model (HBM) by Rosenstock (1974) was used to explore and explain the lived experiences of participants. This framework has been applied in addressing and explaining health measures, study interventions, and health practices in the biomedical and public health fields (Conklin, 2007; Hawk, Federico, & D'Onofrio, 2015).

The HBM is commonly applied to evaluate subjects' understanding of the severity and risks of health practices, lifestyle behaviors, or an event (Creswell, 2013; Jones et al., 2015; Rosenstock, 1974). The HBM is a model commonly applied in an intervention study (Creswell, 2013; Jones et al., 2015; Rosenstock, 1974). In this study, however, the objective for applying the HBM was not for intervention purposes but rather for the assessment of the lived experiences of unsafe burial practices as they related to the spread of EVD in the Kono district. The information collected in this study provided a basic understanding of the severity and temerity of the unsafe burial practices and the associated risks of the health outcomes in the Kono district. Evidence-based information was used to provide a platform for advancing health promotion measures, health literacy, and health education awareness within the target population. Findings may be used to improve community infrastructure and financial support for disease prevention, and may support policy development, health program implementation, improved EVD preparedness, and future studies.

The operational constructs of the HBM are categorized into three sections; modifying factors, individual perceptions or beliefs, and likelihood to action or inaction (Rosenstock, 1974). Under individual perceptions, perceived susceptibility of the

seriousness of the disease is explored (Rosenstock, 1974). The modifying factors include all of the possible modifiers that influence the event or lifestyle behavior, which include age, gender, ethnicity, personality, socioeconomic status, and knowledge (Rosenstock, 1974). The individual beliefs include perceived susceptibility, perceived severity, perceived threat, perceived benefits, perceived barriers, and perceived self-efficacy (Rosenstock, 1974). The action or inaction stage includes individual behaviors and cues to action or inaction (education, symptoms, media information), as shown in Figure 2 (Rosenstock, 1974).

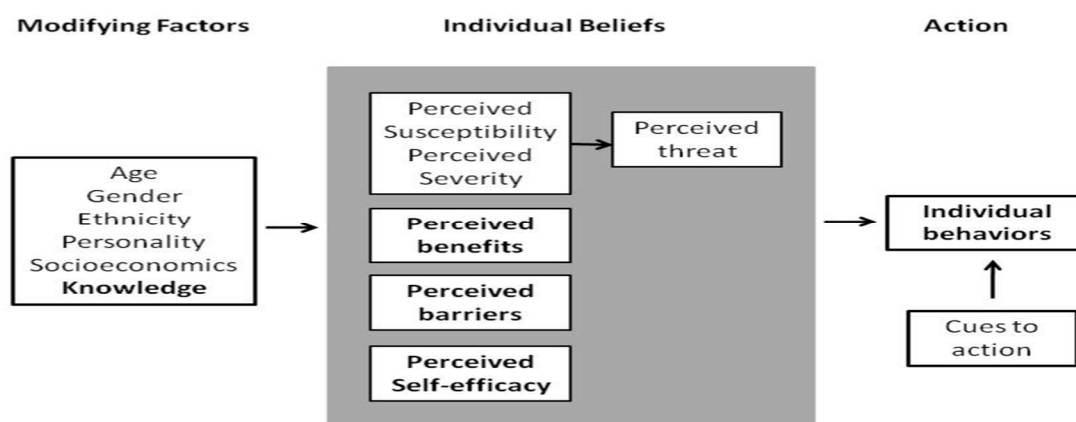


Figure 2. Health belief model. Adapted from Glanz, Rimer, and Viswanath (2008).

The constructs were intricate and relevant to this study. For instance, regarding knowledge of the risks of unsafe burial practices, an informed individual may perceive the severity and threat of the practices, and in turn may understand the benefits of avoiding such practices when the risks of communicable or transmittable or infectious disease are known and present. Such detailed information could be explained by exploring the lived experiences of the participants. The level of the individual's knowledge of the risks of direct contact with corpses infected with Ebola virus may



increase the likelihood of avoiding unsafe practices. Non-participation in the traditional burial ritual ceremonies requiring direct contact with corpses or avoiding unsafe direct contact with infected corpses during burial ceremonies could reduce the chance of infection. The action or inaction taken in terms of participation in unsafe burial practices is influenced by several factors including the knowledge of the EVD transmission process. The level of the knowledge on the principal issues could help individuals make an informed decision and achieve a positive outcome by avoiding unsafe practices or lifestyle behaviors (Rosenstock, Stretcher, & Becker, 1988). The factors (traditional beliefs, burial practices, Ebola virus, risk factors of unsafe burial practices, and the acceptability of the use of decontamination chemicals to safely bury corpses infected Ebola virus or individuals who died of EVD) were explored using the evidence-based lived experiences of the participants to promote social change among the Kono people of Sierra Leone.

### **Nature of the Study**

I used a qualitative approach with a phenomenological design. The study involved the selection of a purposeful sample of participants that included men and women. The selected men and women provided the data that allowed me to explore their lived experiences of how their burial practices might have contributed to the spread of the Ebola epidemic in the area. I used semi-structured interviews for data collection. The application of open-ended questions is designed to help an interviewer analyze and interpret the texts and languages that describe the experiences expressed by participants (Connelly, 2005; Creswell, 2013).

A phenomenological design is a useful strategy for qualitative studies (Creswell, 2013). It is mainly used in describing the personal and unique lived experiences of individuals and groups (Conklin, 2007; Creswell, 2013). Open-ended questions were used to obtain and document participants' experiences regarding their burial practices and transmission of EVD during the 2013-2016 EVD epidemic. The phenomenological design was appropriate for this study based on the nature of the study, the research questions, the research method, and the purposeful sample of 10 participants (see Creswell, 2013; Onwuegbuzie, Leech, & Collins, 2012).

The inclusion criteria for this study included individuals who either had direct involvement with the burial of persons who died from the 2013-2016 EVD or had knowledge of the burial practices of the Kono people, who held a position of authority in the community and influenced decisions about the community, who held a position of authority in the local Muslim or Christian religious communities, who were official representatives of the local or national public health departments in Sierra Leone, and who had lived in Kono district at the time of the EVD outbreak event. Those individuals who did not meet the inclusion criteria were excluded. The qualitative phenomenological design is the standard approach for data collection through observations, interviews, handwritten notes, and inductive analysis. This approach enables researchers to understand how humans behave and why each behavior occurs (Kaczynski, Salmons, & Smith, 2014). The summary of the observations and descriptions of the participants' lived experiences included an explanation of how individuals make decisions regarding their lived experiences for the observed phenomenon. By using a face-to-face in-depth

approach to explore participants' experiences about their burial practices, I sought to explain participants' resilience or adaptation to behavioral change. The common themes contributing to the potential spread of the Ebola virus among the Kono people of Sierra Leone were described. Also, I explored how the observed phenomena contributed to achieving the needed changes in behavior regarding burial practices and EVD risks.

### **Definitions**

*Burial practices:* A belief system in the afterlife is a common concept among the traditions of many Sierra Leoneans (Mangovu & Mafuvadze, 2015). The method of washing the dead and preparing the corpse for burial varies by tribe and religion and expresses the community members' love and respect for the deceased (Mangovu & Mafuvadze, 2015). The burial practice may also vary based on the individual's position or status in the society or community (Mangovu & Mafuvadze, 2015). Traditional beliefs and practices influence how and when burials are performed in the West African communities (Nielsen et al., 2015). Cremation is rarely practiced among the Konos, although the WHO recommends cremation during EVD outbreaks (Nielsen et al., 2015).

*Distrust of the government:* Sierra Leone is an impoverished developing country that emerged from the instability of civil war, and the government has attracted international scrutiny because of a series of well-documented scandals (WHO, 2014). The scandals inspired conspiracy theories in the local populations to suggest that the EVD was a government plot to subjugate the local communities. In addition, perceived low morale and credibility among the local public health officials contributed to the unwillingness to change the opinion of the public about the risks associated with the

traditional burial practices during the 2013-2016 EVD outbreak (Dynes, Miller, Sam, Vandi, & Tomczyk, 2015; Kelly et al., 2015).

*Ebola virus disease (EVD):* A zoonotic infection with four major strains. It is a hemorrhagic infection that is fatal and has sporadically infected humans since it was first identified in 1976 (Coltart et al., 2017). It is mainly transmitted through person-to-person contact with infected persons and bodily fluids (Coltart et al., 2017).

*Kono people or Konos:* One of the 14 major ethnic groups of Sierra Leone (8.0% of the total population) largely centered in the Kono district, a diamond-rich eastern province bordering Guinea near Liberia (GoSL, 2014). Farming and trading are the important occupations of the Konos (GoSL, 2014).

*Lived experience:* An aspect of a phenomenological approach by which interviews are used to obtain direct information from individuals about their knowledge of a phenomenon, experience, or situation (Creswell, 2013). The aim of the interviews is to understand the individuals' experience of the phenomenon and how their behaviors have been influenced by the experiences they have lived (Creswell, 2013).

*Perceived barrier:* The belief that certain factors prevent an individual from making positive and meaningful health care decisions (Glanz & Bishop, 2010).

*Perceived severity:* The belief that individuals are at risk of developing the disease, and the likelihood of disability or death from the disease, in the presence or absence of treatments (Glanz & Bishop, 2010).

*Perceived susceptibility:* The perception of the individual that the disease can be transmitted from one source to another (Glanz & Bishop, 2010).

*Self-efficacy*: The ability of the individual to make positive decisions and to act to implement those decisions (Glanz & Bishop, 2010).

### **Assumptions**

One of the main assumptions of this study was that all the data collected through interviews, personal stories, and audio recordings were valid and accurately represented the lived experiences of the participants. Secondly, I assumed that the data were properly coded and transcribed with accuracy. A further assumption was that the manner of conducting and administering the interview questions was consistent in the interview process (see Creswell, 2013; Janesick, 2011). Also, I assumed that my biases could be minimized in the study. Most importantly, I assumed that the data that were obtained from the purposeful sample of participants were sufficient to provide an accurate representation of the knowledge, attitude, and practices regarding burials and EVD among Sierra Leonean Konos. A purposeful sample is often appropriate for a qualitative study, but the knowledge level of the participants regarding EVD and burial practices was not systematically assessed before the study was conducted. Therefore, I assumed that the participants were reasonably familiar with the Kono traditional burial practices and that they were informed about the EVD-related transmission risks and related health outcomes. In addition, I assumed that the participants had general knowledge of public health measures within the Kono community regarding EVD, and that participants provided meaningful responses to the interview questions.

### **Scope and Delimitations**

This was a qualitative phenomenological study. Because only 10 participants were enrolled in the study, and given the nature of the research design, no causal inferences could be made. The study was not designed to prove the effectiveness of public health preventive measures in the Kono district. Rather, the study was conducted to explain and describe participants' lived experiences to identify persistent burial practice behaviors that increase the risk of EVD transmission among the Konos. Information on ethnic communities within the Kono district was not explored in this study. The findings from this study may have limited generalizability because the results could be different if the study were to be replicated in other parts of Sierra Leone or in other countries. Also, interviews with only 10 participants probably did not provide a complete representation of the entire population of the Kono district. Instead, findings represented the purposely surveyed participants' subjective opinion about the subject matter under investigation.

### **Limitations**

This qualitative study had several limitations. The length and frequency of the interviews may have affected the credibility and trustworthiness of results. The focus was describing the burial practices of the Konos based on the lived experiences of the members of the community during the 2013-2016 EVD outbreak. However, the observations and experiences of the participants may have been different from those from other tribes in Sierra Leone. Also, data may have been collected from participants who had incomplete knowledge about EVD. As a result, their responses to the interview

questions may not have been informed by a sound awareness of EVD transmission processes.

The number of participants required for an exploratory descriptive qualitative study is not rigid (Creswell, 2013). However, for exploring the lived experiences of the participants, the use of a small sample size was appropriate but insufficient to imply generalization. There is limited knowledge about the burial practices of the Kono people and how these practices contributed to the massive and rapid spread of the EVD epidemic (Nielsen et al., 2015). Furthermore, participants were chosen from the Kono community based on specific inclusion criteria. It is possible that the inclusion criteria influenced or altered the findings. Both adult men and women were included in the study.

Several potential biases could have affected the study outcome. I am a native of Sierra Leone who 30 years ago taught English in the Kono district high school. I speak the Kono language, so an interpreter was not required for the study. The use of an interpreter would have required translation of the interview questions and respondents' responses from Kono to English language and vice versa. It may have been possible that the translation processes could have distorted the meaning of the questions posed in English and the responses provided in the Kono language. Loss of the core meaning of the information translated or interpreted or transcribed may have occurred. The loss of meaning through translation of words or terms or sentences could have affected the dependability and transferability of essential information, and could have compromise the integrity of the study.

Elements of researcher biases existed due to cultural and language barriers. My residential status in the United States for several years could have introduced implicit and unintended biases. In addition, participants' bias could have influenced responses to questions addressing socioeconomic topics and common belief systems of the traditional burial practices. To address these limitations, I asked two neutral community members to review the data collection process and selection of the purposeful sample.

### **Significance**

The results from this study provided information to understand the participants' lived experiences regarding burial practices and EVD. Describing the experiences and understanding the care for EVD patients or remains of the victims may help prevent or minimize the spread of Ebola and similar infectious diseases. The findings may be useful in the public health discipline and medical practices to develop educational tools on cultural competency and health literacy, especially regarding the role of unsafe burial practices in the transmission of communicable or infectious diseases.

Study findings may also be used to assess the severity of health risks and the magnitude of health burdens associated with the EVD outbreak. Exploring participants' lived experiences could enhance the understanding of the belief systems and cultural practices of the Kono people, especially burial practices. Such practices or ceremonies may be representative of other tribes in Sierra Leone. The common themes identified from data analysis may or may not support the behavioral practices that promote the spread of the disease. Also, the derived thematic constructs could be used for educational purposes in other tribes that share similar burial beliefs. Findings could help the



community implement preventative measures to address the EVD outbreak. Such efforts could be useful in minimizing future spread of infectious disease in the event a similar outbreak occurs.

This research may help to promote positive social change by identifying EVD risk factors from burial practices by surveying the lived experiences of members of the Kono community regarding their burial practices. Furthermore, the gap in knowledge in identifying how traditional practices influence the spread of disease could be addressed. Further research is needed on the burial practices and experiences of relevant communities on the spread of EVD and other infectious diseases (Coltart et al., 2017; Crowe et al., 2015; Nielsen et al. 2015; Shah, 2015).

### **Significance to Practice**

Recognizing EVD at the early stage is the key to preventing the spread of the outbreak (CDC, 2014). An EVD outbreak presents a public health threat that not only affects the people in Africa, but the whole international community. The findings from this study might be useful to Sierra Leoneans, the WHO, and the CDC regarding public health efforts to prevent Ebola transmission. Findings may provide emic perspectives on how to develop culturally sensitive health promotion policies on EVD-related health outcomes and other infectious disease outcomes. Findings could add to what is already known about the contributing risk factors of the EVD outbreak and transmission. In addition, findings could be useful in planning and implementing culturally sensitive surveillance programs to prevent future EVD epidemics.

**Significance to Theory**

A theory is used to describe concepts or principles that depict or explain a phenomenon. In this study, the theory that was applied was the HBM. The operational constructs of the HBM are meaningful elements that were useful in explaining the observed phenomenon and describing the recurring themes. The HBM focuses on three operational constructs: modifying factors, individual beliefs, and action or inaction.

**Significance of Social Change**

Although the 2013 EVD outbreak was contained and controlled as of 2016, it appears that the emic views or lived experiences of individuals or communities affected by this outbreak had not been fully understood. Many of the contributing factors including poverty, socioeconomic status, ecological or environmental cues, and inadequate health care associated with the EVD transmissions in the West African regions persist (Dynes et al., 2015). These countries remain vulnerable to Ebola resurgence, as well as other infectious diseases such as cholera, Lassa fever, typhoid, and Zika virus if these factors are not effectively addressed (Dynes et al., 2015). The application of the HBM in this study could be useful in articulating the identified themes based on the modifying factorial components, individual belief systems, and inclination to action or inaction. In this study, the individual or communal belief systems of the Konos, including perceived norms, values, customs, and cultural burial practices, were explored using the HBM constructs.

The implications for positive social change include strengthening community awareness, health education and literacy efforts, policy implementation, individual and

group decision-making processes, public health needs, and quality of life of the community members (see Creswell, 2013). Health organizations around the world and the government of Sierra Leone are working to implement policies on disease prevention, identification, and surveillance response systems for future outbreaks of infectious diseases (Koroma & Lv, 2015). This study's findings could contribute meaningful elements and knowledge required for these policies.

### **Summary**

The key elements of this study were discussed in this chapter. The 2013-2016 EBD epidemic is now over. However, public health concerns linger among health care communities locally and globally. EVD epidemics could resurface in the Kono district. In Chapter 2, I present a literature review addressing the Ebola virus, contributing factors of EVD outbreaks, EVD transmission in Africa and other continents, other risk factors, and the burial practices of the Kono people of Sierra Leone. I also explain the application of the HBM for understanding the burial practices of the Konos in a nonintervention qualitative survey that could produce meaningful information about current and future EVD risks among the Kono people based on their burial practices.

## Chapter 2: Literature Review

The 2013-2016 Ebola epidemic affected three countries in West Africa: Guinea, Liberia, and Sierra Leone (CDC, 2014; WHO, 2014). It was the longest and most widespread EVD epidemic recorded in the history the Ebola virus outbreak (CDC, 2014; WHO, 2014). Sierra Leone is a developing poor country with one of the worst health care systems in the world (WHO, 2014). Several researchers identified many contributing factors associated with the emergence and transmission of EVD in Sierra Leone and how it infected so many people (Alexander et al, 2014; CDC, 2014; Koroma & Lv, 2015; WHO, 2015). The factors identified included sociological, environmental, and ecological elements (Alexander et al, 2014; CDC, 2014; WHO, 2015). Sierra Leone is surrounded by countries with EVD or known to have had EVD in the past (Guinea to the north and Liberia to the south), which makes the country subject to increased risk of Ebola virus (CDC, 2014). Poor hand-washing practices and direct or indirect contact with EVD-infected individuals are common ways the disease can be transmitted to a healthy person (Alexander et al., 2015; CDC. 2014a; Coltart et al., 2017; WHO, 2014). In this literature review, sociological factors including traditional, cultural, religious, social service, and health care practices of the target population are explored.

The primary purpose of this study was to explore the lived experiences of the Kono people regarding their burial practices and the rapid spread of EVD in the area. Researchers have explored the burial practices of many West African countries but not in relation to the transmission of EVD (Nielsen et al., 2015). There was minimal information available about the burial practices of the Kono people and their

understanding of how these practices could influence the spread of EVD within their community. In this chapter, I reviewed literature containing information about EVD, the role of burial practices in infectious disease prevention, characteristics of EVD transmission, and other contributing factors of infectious disease transmission.

### **Literature Search Strategy**

The literature reviewed in this study consisted of topics and central concepts about EVD transmission and burial practices as practiced in Kono and other related places. The literature search included studies that included the HBM and its application in promoting positive social change and healthy behaviors. Some of the literature addressed the lived experiences of the Kono people and interment practices. The literature search was done using several databases in the Walden University library, including ProQuest, Medline Plus, PubMed, Cochrane, CINAHL, Psychosocial Instruments, and Health. I also used the Google Scholar search engine. The search included peer-reviewed and non-peer reviewed articles. The dates used in the literature search ranged from 1976 to 2016. The articles that were excluded from the literature review were ones that did not address the Ebola virus in the three countries (Sierra Leone, Guinea, and Liberia) in West Africa most affected by the recent Ebola outbreak. The articles on the conceptual framework were not published within 5 years of this study but were included in the review because the literature was an essential part of the study. Such articles represented seminal work on the theory in question. The literature search was conducted electronically. Information presented in these articles could be useful in addressing some of the elements of the posed research questions. A total of 200 articles was obtained and thoroughly reviewed.

The reviewed articles were sorted by key words, annotated, and recorded in an excel spreadsheet.

The research design, methods, methodology, and theoretical framework employed in each article was identified and examined. Articles that addressed participants or locations outside of Africa were excluded from the literature review. Sets of terms were used to search for appropriate literature that reflected the purpose of this study, largely through the U.S. National Library of Medicine PubMed website. The common query terms used were *infectious diseases and burial practices; funeral practices among the Konos in Sierra Leone, handwashing and diseases, Ebola in Sierra Leone, traditional funerals in Sierra Leone, origin of Ebola, causes of Ebola, modes of transmission of Ebola virus disease AND burial* generated 5,880 articles on the topic. These phrases were used in all of the databases to identify the literature reviewed in this study.

### **Conceptual Framework**

The adoption of the concepts of the HBM may motivate individuals and community members into action (Creswell, 2013; Maxwell, 2013). The research questions drive the research design, method, and methodology (Creswell, 2013). The conceptual or theoretical framework is the tool used to explain the observed phenomenon (Creswell, 2013; Maxwell, 2013). In this study, the constructivist approach that is the basis of the philosophical worldview in qualitative research was employed (see Conklin, 2007).

The constructivist approach addresses how people interact and form opinions or themes given the circumstances surrounding the experiences (Conklin, 2007). The use of

social interaction, which includes semi-structured interviews, storytelling, and open-ended questions, allows the participants to express themselves freely and enhances the collection of subjective data to justify the interpretation of the findings (Miles, Huberman, & Saldana, 2014). A face-to-face interview is a type of descriptive qualitative data collection method that gives the researcher the opportunity to have a direct interaction with the participant while exploring his or her lived experiences (Creswell, 2013; Patton, 2015). The validity of the responses can be verified by asking follow-up questions and checking the credibility of the information obtained from the participants (Creswell, 2013; Patton, 2015).

Nielsen et al. (2015) suggested that cultural evolutionary framework described by Mesoudi (2012) could be used to understand the burial practices of the Kono people. Darwinian Theory is grounded in understanding cultural change and adaptation or adoption over time (Nielsen et al., 2015). Cultural beliefs and traditions of a group of people are the basis for their sense of belonging (Mesoudi, 2012). Knowledge acquired from the elders in a cultural perspective becomes part of the group's history and tradition and could be used to shape the traditional beliefs, norms, and behaviors of the community members belonging to that culture. Information is passed from one generation to the next. According to Mesoudi (2012), cultural beliefs, norms, and practices could vary within and between communities. By exploring the views of diverse groups, researchers can extract relevant information to explain the belief systems of a cultural group;

In the current study, the conceptual framework was the HBM. Rosenstock (1974) described the HBM as a social cognitive model that can be employed for intervention

studies or to address event outcomes or lived experiences of individuals regarding the decision-making processes on health outcomes. The HBM can be employed for a quantitative, qualitative, or mixed-methods study. According to Rosenstock (1974), the HBM addresses the perceived benefit of avoiding or promoting certain lifestyle behaviors. The HBM's operational constructs include perceived susceptibility, perceived severity, perceived threat, perceived benefits, perceived barriers, perceived self-efficacy of the disease, and the inclination to action or inaction (Rosenstock, 1974; Rosenstock et al., 1988).

Perceived susceptibility involves the assessment of individuals at risk for a behavior or health outcome in question (Rosenstock, 1974). In this study, the Kono peoples' practice of unsafe burial rituals with corpses of individuals infected with EVD put the entire community in Kono at risk of or susceptible to Ebola infection during the epidemic. This risk is increased because Ebola is an infectious or communicable disease and not a chronic disease (CDC, 2014). Perceived severity deals with the understanding or lack thereof in the dangers associated with a lifestyle behavior that could lead to unhealthy health outcomes (Rosenstock, 1974). In applying perceived severity in this study, the participants look at how burial practices that encourage direct contact with the corpse during the Ebola epidemic could lead to fatal health outcomes. Perceived threat is associated with the direct or indirect consequences of indulging in unsafe behavior or no involvement in a healthy behavior (Rosenstock, 1974). In this case, catching EVD through unsafe burial practices during an Ebola epidemic outbreak is a threat to a healthy life or even loss of many lives.



Perceived benefits deal with the monetary or non-monetary gain that could be achieved by either participating in healthy behaviors or avoiding an unhealthy lifestyle (Rosenstock, 1974). Inclination to perceived benefits could help individuals reduce their health risks and indulge in the following;(a) determine the environmental barriers to change in behavior; (b) identifying how to achieve the behavior change after the individual has developed an active intention to change the behavior; and (c) how to minimize or eliminate the barriers to change (Chen et al., 2011; Rosenstock, 1974; Rosenstock et al., 1988).

Perceived barrier is associated with factors or elements inclusive of either social or environmental cue that hinder the likelihood to practice a safe lifestyle or avoid unsafe behaviors (Rosenstock, 1974). In this study, it is possible that family pressure for the loss of loved ones and cultural ties associated with the Kono people's customary tradition for burial rituals, played a major role in influencing unsafe burial participation during the EVD epidemic outbreak. In such cases the risk for individuals are even higher. Perceived self-efficacy is a function of self-driven ability to perform duties to reach certain goals. It also involves the perceived sense of security of the capability of the individual or community in question to procure the resources to complete the task in question effectively for self-gain or communal benefit (Rosenstock, 1974).

The recent Ebola outbreak in Kono created a division among the community in their cultural beliefs and practices in a community that already had poor public health infrastructures (Alexander et al., 2015; Coltart et al., 2017). The inclination to action or inaction is the final stage of the HBM (Rosenstock, 1974). It deals with the resolution

stage where individuals or community members make or fail to make the decision to adhere to certain conditions of a belief system for their benefit. However, the goal of the application of the HBM is to encourage individuals or community members to act in their best interest for a positive health outcome. In this study, the application of the HBM aided in the understanding of the lived experiences of the participants on the EVD epidemic outbreak and the burial practices of the Kono people.

The HBM has been used in several studies to explain or promote the health behaviors within the population health concepts (Carpenter, 2010). When the HBM is applied in health promotion measures or to explain a phenomenon, it could be used to assess the adoption to change mechanisms or lack thereof (Rosenstock, 1974). After the new behavior is adopted, the individual is likely to change their perceived belief so that there is consistency between the belief and that behavior (Carpenter, 2010). A strong relationship could exist between the intended behavioral change and the constructs, in this case, the traditional belief norms on the burial practices and the HBM constructs.

Several researchers provided enough evidence to support the applicability and usefulness of the HBM on behavior change (Jones et al., 2015). However, there are ambiguities on which construct(s) plays the most significant role in the application of the model when applied to the behavior change model (Jones et al., 2015). The order in which the constructs appear in the model allows for meaningful evaluation processes on behavior change (Jones et al., 2015). For instance, when the HBM is applied in a study, as individuals adopt the concept and move towards overcoming the ‘perceived barriers’, the level of ‘self-efficacy’ increases, thus, increasing the inclination to ‘action’ in

changing the health behavior (Jones et al., 2015). To encourage the Kono people to move away from the ideation and belief systems in the healing and magical powers associated with the re-use of bath-water used in bathing the dead, the assessment of the understanding of the HBM constructs must be demonstrated among the target population. This assessment can be done by evaluating the lived experiences of the members of the community and by describing the experiences based on relatable themes that link to the HBM constructs.

### **Literature Review Related to Key Variables and Concepts**

Even though more than 20 million people were infected with the Human Papillomavirus Vaccine (HPV) in the United States, many people opposed vaccinations especially the HPV vaccines (CDC, 2014). Basu and Mittal (2011) conducted a questionnaire-based study to explore the experiences or knowledge of 261 married couples in India about HPV vaccination of children. The questionnaire included evaluations on the participants' knowledge of HPV and cervical cancer, socio-demographic status, and the level of inclination to HPV vaccine adherence (Basu & Mittal, 2011). The study participants were literate and affluent (Basu & Mittal, 2011). Most of the participating parents were aware of some of the benefits of the HPV vaccines, but they had no knowledge of the link between HPV and cervical cancer (Basu & Mittal, 2011). The HBM was used as an intervention tool in the study to provide health literacy education on the issue and to promote informed decision-making processes on HPV vaccination for children (Basu & Mittal, 2011).

Reisi et al. (2014) used the HBM in their study as a theoretical model to explore the decision-making processes of male students on smoking cessation and promotion of disease prevention to decrease smoking-related mortality and morbidity. In the study, the decision to adopt the smoking cessation concept (a change in behavior), promoted positive health outcomes (Reisi et al., 2014). A randomized sample of 382 pre-college students was selected for the study (Reisi et al., 2014). The theoretical concept of the HBM was employed to educate the students on the benefits of smoking cessation (Reisi et al., 2014). Tobacco use is one of the major contributing factors of chronic conditions and related mortality or morbidity cases, yet it is a modifiable or an amendable lifestyle behavior (Reisi et al., 2014).

Some contributing factors on smoking identified among the study population were; poor academic performance, low socioeconomic status, including peer pressure, genderism-masculinity, less or no parental control, and curiosity (Reisi et al., 2014). The reported median age at which the participants began smoking was at 14.5 years old (Reisi et al., 2014). Some of these young smokers started at such an early age probably due to the lack of parental control or the presence of an adult smoker in the home, who did not perceive the risks and adverse effects of smoking, or ignored the severity of the lifestyle. The authors concluded that individuals who recognized the benefits of quitting smoking through education and health coaching processes were more willing than others to adopt behavioral adjustments necessary to adopt a positive lifestyle change (Reisi et al., 2014).

For the construct of perceived self-efficacy on non-smoking among male students, there was no difference between smokers and non-smokers (Reisi et al., 2014). The most

important construct identified in the study among the student participants was perceived threat (Reisi et al., 2014). According to the authors when there was an inclination to perceived threat about the health consequences, risks, and seriousness of the threat of diseases associated with smoking, the subjects were more likely to adopt a positive behavioral health change (Reisi et al., 2014). Based on these findings, a recommendation for education for smoking cessation was appropriate to enhance health promotion measures and advance positive change in behavior (Reisi et al., 2014).

Chen et al. (2011) conducted a similar study in Pingtung, China using the HBM to explore the decision-making processes of the participants on childcare and adherence to the influenza vaccines for the children under their care. The participants were recruited from the local public health vaccination programs (Chen et al., 2011). The baseline questions during the recruitment process included information on personal health beliefs, child's history of vaccinations, and caregivers' age (Chen et al., 2011). Based on the findings, the children of more than half of the employed mothers, who lived in the urban areas, were not vaccinated. The authors concluded that fostering health education could help inform caregivers on the improvement of vaccination compliance (Chen et al., 2011).

Furthermore, Hall (2012) employed the HBM in exploring women's choices on contraceptive use. In the decision-making processes, the use of the HBM allows the individual to weigh the perceived benefits against the perceived threat; assuming the individual processes information rationally and gathers sufficient knowledge in the matter to make an informed decision. In such decision-making processes, when the perceived

benefits of action outweigh the perceived benefits of inaction, then, there is higher inclination to act and comply with positive behavior changes.

Hidarnia, Jerhooni, Kavel, Hajizadeh, and Askari (2016) employed the HBM and social cognitive theory (SCT) in a quasi-experimental study. The study consisted of 120 women from the Fais Province of Iran (Hidarnia et al., 2016). Using the HBM, the authors explored the behavioral inclination on prevention of osteoporosis by women through nutrition and diet (Hidarnia et al., 2016). The experimental group was exposed to the HBM and SCT while the control group was not (Hidarnia et al., 2016). The experimental group showed substantial improvement in their diet or nutritional behaviors compared to those in the other group. They concluded that the HBM and SCT could be used to help women adopt healthier and positive dietary behaviors to substantially reduce the effects of osteoporosis.

Park et al. (2014) employed the HMB for disease prevention. The study was a qualitative approach involving 35 participants (Park et al., 2014). Eligibility for enrollment in the study required individuals who smoke or had smoked in the past (Park et al., 2014). The screening was done through non-structured, qualitative interviews to understand the lived experiences of the participants about the risk of lung cancer-related smoking (Park et al., 2014). In the study, the purpose was to use the HBM to assess the cues to behavior change of their behavior on smoking (Park et al., 2014). Although most of the participants confirmed their understanding of the risk of lung cancer from smoking, the motivation to quit was low (Park et al., 2014). However, the health coaching through the use of the HBM allowed the participants the opportunity to engage in quitting

discussion and increased their inclination and confidence to engage in quitting (Park et al., 2014).

Grave, Centis, Marzocchi, Ghoch, and Marchesini (2013) explored the link between the environment and obesity. Using the HBM, the researchers examined behaviors that would promote awareness of obesity and consequently help vulnerable individuals lose weight (Grave et al., 2013). In this study, using the HBM construct, positive attitudes promoted the inclination to obesity reduction (Grave et al., 2013). However, perceived self-image and perceived self-efficacy must be established to achieve an active and healthy behavior (Grave et al., 2013).

### **Ebola Epidemic in Sierra Leone and Health Care**

The outbreak of the EVD in West Africa particularly in Guinea, Liberia, and Sierra Leone was widespread in 2013 to 2016 (Levy et al., 2015; Manguvo & Mafuvadze, 2015; WHO, 2014). The rapid spread occurred because of because of lack of public health support and preparedness for the unexpected outbreak of the Ebola virus (Coltart et al., 2017; Manguvo & Mafuvadze, 2015). According to Levy et al. (2015), the epidemic occurred at a time when the healthcare delivery systems in these countries were weak and fragile and faced serious challenges, that affected the efforts of the governments to control and contain the spread of the disease. Few prevention and treatment facilities were available to treat infected patients properly, which allowed the proliferation of the epidemic among the population (Jain et al., 2015; Levy et al., 2016; Manguvo & Mafuvadze, 2015). In Kono district 230 confirmed EVD cases were identified by the Local Public Health Officials between periods of five months, from

December 2014 to April 2015 (Stehling-Ariza et al., 2016). Of the cases identified, fifty cases were from one village (Stehling-Ariza et al., 2016). In May 2014, the first case of EVD was identified in Sierra Leone, but the clinical symptoms and signs of Ebola, which were like other known conditions, were mistaken for typhoid and malaria in the initial stages (Black, 2015). This misdiagnosing of the disease may have led to the delay in seeking treatment for the disease and created mistrust of the health care system, of the existence of a new and more deadly infection (Black, 2015).

Traditional burial practices facilitated the spread of the Ebola virus and were among one of the several transmittable factors of the EVD epidemic (; Alexander et al., 2015; Jain et al., 2015). For instance, in August 2014, a report showed that 60% of new infections in Guinea were related to funeral practices (WHO, 2015). About 80 % of EVD suspected and confirmed cases were linked to traditional burials in Sierra Leone in November 2014 (WHO, 2015). One funeral alone was linked to several hundred infections (Coltart et al., 2017).

The first case of EVD was confirmed on May 2014 in Sierra Leone, in a woman in Kenema town, which is in the Eastern Province of Sierra Leone (Coltart et al., 2017). Kenema town is 50 kilometers from the border with Liberia, and 100 kilometers from the border with Guinea (Coltart et al., 2017). Surveillance was enhanced in Sierra Leone, in Kenema, because there was an ongoing monitoring for Lassa fever in the General Hospital in Kenema (Coltart et al., 2017). Once the first case was identified, the number of cases increased to about 150 infected cases within the first month and spread rapidly across villages and neighboring towns by November 2014 (CDC, 2016). Approximately



150 cases were reported each week (CDC, 2016). During the West African EVD epidemic of 2013-2016, Sierra Leone reported a total of 14,124 EVD illnesses, including the 8,706 cases confirmed by laboratory tests. The number of deaths recorded was 3,956 (Coltart et al., 2017). By November 2014, Sierra Leone was the most heavily burdened country in the world measured by newly reported EVD cases per month (i.e. incidence.) (CDC, 2016).

### **Contributing Factors to the Rapid Spread of the Ebola Virus**

Several contributing factors were identified in the 2013-2016 transmission of the EVD epidemic in West Africa (WHO, 2015b). The local government and Non-governmental organizations helped to combat the disease during the initial stage of the outbreak but were not fully prepared for the overwhelming tasks (Alexander et al., 2014; Levy et al., 2015; Jain et al., 2015). As a result, the international community, the United Nations (UN), other public health agencies and other countries reached out to help (Alexander et al., 2014; Levy et al., 2015; Jain et al., 2015). Priority and enhanced protocols were established in handling infected individuals (WHO, 2015b). Also, surveillance, safe burials, contact tracing, case management, community engagement and social mobilization were enhanced (Alexander et al., 2015; Levy, et al., 2015; Jain et al., 2015).

Phua (2015) discussed how the EVD epidemic posed socioeconomic and cultural challenges. These challenges were linked to the rapid widening of the disease outbreak (Phua, 2015). In West Africa, the lack of public health preparedness, limited knowledge about Ebola virus and the social conditions facilitating the rapid transmission. Other

factors that likely influenced the rapid widespread of EVD in Kono included transmission mode of the EVD, trust issues with the government, consumption of bush meat, and unsafe burial ritual (bathing of the dead) (Phua, 2015). A sublevel and insufficient healthcare delivery system with limited medical supplies, personal protective equipment, transportation and other essential medical equipment and resources in Kono were also tied to the spread of the EVD in 2013 (Phua, 2015).

Rainisch et al. (2015) examined the ecological location and proximity of Sierra Leone from Guinea where the Ebola virus was first detected. Rainisch et al. (2015) used a correlational statistical tool to analyze the size of the target population and the travel pattern in one of the three countries affected by the Ebola epidemic. The researchers explored the geographical distance between countries and concluded that the proximity could have contributed to the disease transmission (Rainisch et al., 2015). Individuals in the neighboring countries who had shared borders with the areas primarily classified as the epicenter of the disease outbreak, had higher chances of exposure to the viral infection of Ebola (Rainisch et al., 2015). Therefore, travel quarantine and isolation of individuals suspected of having the disease or symptoms of the EVD disease were part of the preventative measures employed during the 2013 outbreak (Rainisch et al., 2015). On the other hand, closing the borders or imposing travel restrictions or bans were not completely effective in interrupting disease transmission. This was because there were many examples of persons with EVD traveling across quarantine barriers and deliberately hiding persons with EVD illnesses from health authorities in populated areas (Coltart et al., 2017; Rainisch et al., 2015; Spengler et al., 2016)).

The role of the traditional chiefs and rulers was essential in communal society (Hagan et al., 2014; Levy et al., 2015). The traditional rulers and leaders, especially in the Kono district, were responsible for making strategic decisions about their community. It was their responsibility to encourage their community burial teams to relinquish the rituals and ceremonies to Medical burial teams instead of performing their own burials; Hagan et al., 2014; Levy et al., 2015). The Medical burial team members who were not part of the Kono community, were considered by the traditional rulers, as culturally insensitive in handling the corpse of individual who died of EVD (Hagan et al., 2014; Levy et al., 2015).

### **Distrust of the Government and the Health Care Systems**

The decline in the usage of the healthcare facilities in Sierra Leone worsened after the outbreak of the Ebola virus. The lived experiences of the individuals and the community about the mode of transmission (MOT) of the EVD varied among the persons, based on their confidence in the governmental process and the healthcare system, to provide them with the accurate information about the cause of the disease (Kelly et al., 2015). On the contrary, the image of assessment of EVD presented by Dynes et al. (2015) was more positive. The researchers considered events before the EVD epidemic. and concluded that the healthcare system in the affected area was one of the worst in the world due to poverty, poor infrastructure, socioeconomics, and other factors (Dynes et al., 2015). The excessively high mortality rate in the country especially among children, elderly, and women during childbirth were health indicators reflecting the magnitude of the weak health care system in Sierra Leone (Jain et al., 2015).

Another major factor resulting in mistrust for the healthcare system was the neglect of the health of the children and people suffering from other diseases during the Ebola outbreak (Jain et al., 2015). Sierra Leone had the worst infant mortality rate in the world, one child death for every three deaths before the age of five years (Jain et al., 2015). Jain et al. (2015) further noted that it was important to standardize the depleted infrastructure of both the health care and social systems in the country to prevent future outbreak similar to the 2013 EVD epidemic.

Phua (2015) highlighted the impacts caused by dismissive behavior about the reality of the virus by many people, a situation where some had believed that it was a hoax and others believed the virus was because of witchcraft. Phua (2015) reported the attacks and killings of eight public health staffers in Guinea as they attempted to educate the community about the dangers of the EVD. There was a high demand and need for public education about the disease to counter the negative attitudes and beliefs from the people such as disbelief, fear, hostility, violence, and traditional practices (Phua, 2015).

For the assessment of the burial teams, Coltart et al. (2017) and Nielsen et al. (2015) emphasized the problems encountered by the burial teams while conducting safe burials in Sierra Leone. Due to the lack of an adequate workforce and PPE, it was evident that more resources were needed for the Healthcare workers and the burial team, to ensure that they were more equipped to take care of victims of the Ebola virus disease, in many parts of the country (Coltart et al., 2017; Nielsen et al., 2015). Nielsen et al. (2015) also discussed the complication and exacerbation of the problem with inadequate human and logistic resources, which delayed the collection of dead bodies for burial by the

burial teams. In most cases, it took about one to five days to prepare the bodies for safe burial (Nielsen et al., 2015). There were inconsistencies in coordinating efforts with the burial team members, case investigation, and swab collection for laboratory testing for EVD (Nielsen et al., 2015).

### **Role of Anthropology to Control the Ebola Virus Disease**

Several researchers discussed and reviewed the disease management in references to the management control, burial practices, and transmission of the Ebola virus in different districts, particularly Kono district (Laverack & Mononcourt, 2016; Roca et al., 2015). The role of anthropology was highlighted as a critical contributing factor to the control of Ebola virus and in making decisions (Laverack & Mononcourt, 2016; Roca et al., 2015). The researchers of anthropological studies incorporated the experiences of members of the local population to understand the numerous problems associated with the epidemic (Laverack & Mononcourt, 2016; Roca et al., 2015). Anthropological insights were not properly utilized during the outbreak of the 2013-2016 EVD e, even in the response time to the crisis, and the community concerns about the burial of the dead (Laverack & Mononcourt, 2016; Roca et al., 2015; Greiner, et al., 2015). As the disease spread rapidly, it became necessary to assess how anthropologists can assist in handling the situation, to prevent further spread of the disease (Laverack & Mononcourt, 2016; Roca et al., 2015). These issues were tackled and handled by the authorities with the help of the international community of nations and the WHO (Hagan, et al., 2014; Roca, et al., 2015). The role of anthropologists in conjunction with the expert view of specialists and health professionals provided substantive information on the practical interventions to

numerous problems encountered by the people and the communities (Greiner et al., 2014; Laverack & Mononcourt, 2016; Roca et al., 2015).

### **Assessment of Cemetery and Burial Practices**

Examples of overcrowding of cemeteries in the western urban district, such as the King Tom cemetery and other cemeteries in the country that were approved by the government to bury victims of Ebola virus disease by the burial teams, were emphasized in previous studies (Manguvo and Mafuvadze, 2015; Nielsen et al., 2015). It was estimated in the King Tom cemetery alone, that approximately 40 corpses were buried every day during the worst time of the Ebola outbreak (Nielsen et al., 2015). There were several problems experienced with the burial practices by the medical team such as; unmarked graves, cemeteries not properly fenced, and pedestrians walking across the graves in the cemetery (Nielsen et al., 2015). Some of the graves were not properly dug to the recommended depth, and at times, there were more bodies placed in a single grave, to accommodate more burial space (Nielsen et al., 2015). Furthermore, the members of the deceased family were not allowed at the grave sites at the time of the funeral, and they could not observe the burial of their loved ones, which aggrieved the community members (Nielsen et al., 2015).

Coltart et al. (2017) discussed the challenges encountered by the WHO and other health care organizations, and the steps taken to implement burial practices that were safe for the community as well as healthcare workers. One of the challenges included identifying the type of method that would be acceptable culturally for Muslims, Christians, and traditional leaders (Coltart et al., 2017). This is because each of these

religions has specific practices or rites performed at burial ceremonies. To honor and respect each of the religions, the WHO devised new policies to incorporate the input of families and community leaders in conducting safe and dignified burials (Coltart et al., 2017)

In the Kono, Port Loko and western urban districts, Manguvo and Mafuvadze (2015) observed and emphasized that safe burials included both cemetery and community graves with designated cemeteries, isolated from the population. Family members were prohibited from going to the cemetery or to the gravesides for the burials (Manguvo & Mafuvadze, 2015). In some cases, the chieftom leader approved the safe community burials, which allowed the appointed gravediggers to dig in the spaces they identified while the burial team performed the burial process (Manguvo & Mafuvadze, 2015). The family members and the rest of the community were allowed to stay at a distance to watch the burial, without any final traditional rites or practices performed for the deceased (Manguvo & Mafuvadze, 2015). The Kono people of Sierra Leone believed in the existence of God as a supreme being, who could not be compared to any other being, which was why there were no images to represent God (Ekeke and Ekeopara, 2010). God was considered a supreme being from whom no one could hide and who reigned forever (Ekeke and Ekeopara, 2010). They referred to God as “Yataa” meaning “You can meet God everywhere” and “Meketa” meaning, “God is an everlasting being” (Ekeke and Ekeopara, 2010). They also believed that the spirits of their dead ancestors have the power to mediate for them with God for good luck in everything, including marriage, finances, illness, the birth of healthy children, long life, and to avert any evil forces from

them and their families (Ekeke and Ekeopara, 2010). The people believed that they owed their dead loved ones the obligation to provide them with the traditional burial rites and sacrifices, to make their transition into the next life a smooth passage (Ekeke and Ekeopara, 2010). Failure to perform the necessary funeral rites they believed, would bring misfortune on them and their families, as the dead could haunt them (Ekeke and Ekeopara, 2010). It is believed that the spirit of those who die and do not receive the appropriate funeral rites may not rest in peace and could be wandering and restless souls (Ekeke and Ekeopara, 2010).

### **Communication Approaches**

There was an increased level of information related to the transmission of EVD among individuals, after many positive steps had been taken to sensitize and educate members of the community about the virus (Laverack & Mononcourt, 2016). A well-established communication approach was put in place using mass media outlets, printed materials, face-to-face meetings, and verbal communications (Laverack & Mononcourt, 2016). Social mobilization, which was headed by the President and government officials, with support from the international community, WHO, and International NGOs was very successful. It triggered a community response to the dangers and risks associated with the deadly impact of the Ebola virus disease (Laverack & Mononcourt, 2016). Thousands of social mobilizers were recruited to create awareness about the Ebola virus to enhance health promotion and preventative measures against the virus (Laverack & Mononcourt, 2016; WHO, 2014). The mass media approach was successful as it reached many households and raised the levels of awareness about the Ebola virus disease (Coltart et



al., 2017; Nielsen, et al., 2015). The communication approach helped families and the community change their traditional practices in several ways, including abstinence to the problematic burial practices (Coltart et al., 2017; GoSL, 2013).

Social mobilization became effective through the health promotion campaign, the “Safe Burials Save Lives” which spread the message to all districts and promoted the use extreme care and caution when handling corpses (GoSL, 2013). It was also used to inform the public the need for safe burial in preventing the transmission of the Ebola virus (GoSL, 2013). The effects of this campaign positively influenced the Chiefs, who are also traditional rulers in the various chiefdoms of the country, and guarded them in the positive position they took regarding the discussion on the importance of adhering to safe burial practices. The campaign further required these leaders to educate their subjects about the importance of accepting safe funeral practices ((GoSL, 2013; Hagan, et al., 2014; Nielsen et al., 2015).

### **Health Care System Collapse and Spread of the Ebola Virus**

There was an increase in death not just from the EVD, but from other diseases as well (ACAPS, 2014; Coltart et al., 2017; Piot, 2014). These deaths were due to the lack of trained health personnel and equipment to attend to other patients who were sick from other diseases (ACAPS, 2014; Coltart et al., 2017; Dynes et al., 2015;). The healthcare providers transferred and concentrated their focus on the prevention of the Ebola transmission, and care of the EVD victims (ACAPS, 2014; Coltart et al., 2017; Dynes et al., 2015; Piot, 2014). However, many healthcare workers contracted EVD within health facilities and died (Piot, 2014; ACAPS, 2014). Most pregnant women refused to go to the

healthcare centers to give birth because they did not trust the healthcare system. This was because they did not understand the Ebola virus and why people were dying around them (ACAPS, 2014; GoSL, 2013). Due to the increased pressure faced by the national and global healthcare communities to assure safe environment of the containment of EVD, there was less focus on other chronic conditions (ACAPS, 2014; GoSL, 2013). As a result, people with pre-existing chronic conditions such as HIV, malaria, or typhoid, were not able to access treatment for their ailments (ACAPS, 2014; GoSL, 2014).

During the Ebola epidemic, several healthcare centers and hospitals in Sierra Leone were abandoned and closed due to lack of healthcare providers and other trained personnel (GoSL, 2013). The closures were the result of the death of direct and indirect care providers, and those who remained were untrained and many deserted their healthcare stations for fear of contracting the disease (GoSL, 2013). After the outbreak, Ebola survivors, healthcare workers, and the burial team members were stigmatized, which resulted in isolation of EVD survivors and refusal by community members to allow the survivors to stay within the community (Coltart et al., 2017). Moreover, the government failed to pay healthcare workers and burial workers for their services, which resulted in strikes over these payments and dead bodies left unattended on the streets for days (ACAPS, 2014).

### **Community Resistance and Rumors**

Lack of transparency and accountability issues created mistrust, fear, noncompliance, and resistance from the community (Nielsen et al., 2015; Richardson et al., 2015). Rumors, misinformation and the lack of professional practices by those

entrusted with the tasks and responsibilities to inform the communities were very prevalent during the outbreak of the epidemic (Nielsen et al., 2015; Richardson et al., 2015). Although efforts were made by the government to solve these problems, there were still some concerns about the role of the government and its interventional measures to eradicate the disease transmission among populations. This lack of cooperation from the community with the government led to high rates of deaths among the people (Nielsen et al., 2015).

Other concerns expressed by the Kono people were about the unmarked graves and mass burials (Nielsen et al., 2015). Members of the community considered these practices much undignified and unacceptable (Nielsen et al., 2015). There was also knowledge deficit among the community and individuals who were unaware that Ebola could be transmitted through contact with fluid from an infected Ebola victim even after the victim was dead (Nielsen et al., 2015). Some of the individuals doubted the reality of Ebola virus (Nielsen et al., 2015). In contrast, some of them believed witchcraft was the source of the miraculous deaths or that the deaths were related to attacks from a mysterious, supernatural, or spiritual force (Nielsen et al., 2015).

Despite the problems mentioned above, more issues associated with the religious and traditional practices and rites of the various tribes and communities existed (Phua, 2015). These relatives of victims of the Ebola virus had to carry out pre-burial rituals of washing and shrouding of the bodies of the dead, which exposed them to the risk of infection (Manguvo & Mafuvadze, 2015; Nielsen et al., 2015; Phua, 2015). These rituals and practices of traditional rituals and practices were associated with the high

transmission of the Ebola virus among the people, due to the tendency for families to have physical contact with the dead bodies, such as kissing the dead, as a gesture in bidding farewell to their loved one (Coltart, et al., 2017; Phua 2015). The Ebola virus is more virulent in dead bodies, thus, the lethality and transmission of the virus increased among the relatives of a family member who had been in contact with the corpse of an EVD victim (Coltart et al., 2017; Shah, 2015; Semalulu, Wong, Kobinger & Houston, 2014). As part of the cultures of the Kono people, corpses were transferred from the city where they died, and buried in their hometown, in the same graveyards as their ancestors, to be close to their ancestors (Phua, 2015; Nielsen et al., 2015). The process of transfer and funeral ceremonies contributed to increased chances of transmitting the disease (Nielsen et al., 2015; Phua 2015).

Some researchers argued that it was wise to face the challenges posed by the outbreak of the Ebola virus disease by understanding the socioeconomic and cultural factors, and the values of the cultural and socioeconomic factors to the people and their communities (Coltart et al., 2017; Koroma & Lv, 2015; Phua, 2015). By understanding these challenges, program coordinators, and stakeholders collaborated efforts through the government and health education programs (Koroma & Lv, 2015; Gray et al., 2015; Phua, 2015). There was widespread low-level literacy among the population, and many people were living in dirty, unhygienic environments, which further increased the chances of contracting the disease (Koroma & Lv, 2015). Credible public health officials were scarce, and the people hardly believed the health risks communications by the government and healthcare of measures recommended to avoid infection with the Ebola

virus (Koroma & Lv, 2015; Coltart et al., 2017). It is hard to stop people's traditional practices, especially with burial practices and rituals. After constant awareness campaigns were conducted with the assistance of the WHO and the international community, these traditional (unsafe) burial practices were put on hold, which helped in reducing the rate of infection with the EVD (Shah, 2015).

It is imperative to implement the holistic approach to achieve control and management of diseases among the people and communities (Roca, Afolabi, Saidu & Kampmann, 2015). Certain cultural beliefs and practices of the people were considered and incorporated into programs for effective management and control of the disease (Coltart et al., 2017; Spengler et al., 2016). The people of these communities ascribed the Ebola virus disease to some form of supernatural or evil spiritual force, which could only be cured with the intervention of traditional and ritualistic healing practices and sacrifices, to appease the gods and ancestors (Curran et al., 2016; Nielsen et al., 2015; Phua, 2015; Roca et al., 2015). They also used unsafe practices to perform these rituals and treating patients infected with the virus (Curran et al., 2016). The homes where these traditional treatments were performed, served as the epicenters for the escalation of the transmission of EVD in many communities (Curran et al., 2016). During burial ceremonies, many people had EVD exposure through direct contact with the dead bodies that occurred either during the washing of the bodies, or during burials, thereby increasing the rate of transmission and infection (Curran et al., 2016; Greiner, et al., 2015; Roca et al., 2015).

Major obstacles prevailed during occurrences of death and burial practices as already articulated by various authors, but there were major oppositions encountered by burial teams (Semalulu et al., 2014). The members of the government burial teams did not understand the profound traditional beliefs and views of the people about life and death, the life to become an ancestor in the spirit world or to be with the supreme creator in heaven (Semalulu et al., 2014). That belief of the individuals necessitated having a proper burial of their dead, which required washing the dead before burial, which was denied the dead by the Medical burial team; resulting in opposition by the Kono people to the work of the burial team (Semalulu et al., 2014). It was an uphill task for the people to adopt the funeral practices of the burial team, in place of their cultural beliefs about burying the dead (Semalulu et al., 2014). The citizens believed that proper burial practices take into consideration respect for the cultural values of the people, and they were willing to work with the burial team as they strived to ensure safe burial of loved ones (Barbarossa et al., 2015; Phua, 2015; Semalulu et al., 2014). These were the challenges faced by the burial team and health professionals who worked hard to address these drawbacks through the awareness campaign, effective communication, and education (Coltart, et al., 2017; Laverack & Mononcourt, 2016; Phua, 2015). In some cultures, including the Konos and other tribes in the country, improper burial should only be reserved for sorcerers and witches, whose bodies are burnt and or secretly disposed of over the mountains or sacred bushes, away from the village or cities (Forrester et al., 2015; Phua, 2015; Semalulu et al., 2014). The role played by anthropologists and the locals or indigenes substantially helped in modifying funeral rites, thereby reducing the

risks posed by these traditional practices which were contributory to the rapid EVD transmission (Nielsen, et al., 2015; Phua, 2015).

### **Social Insecurity and Spread of the Ebola Virus**

The social impact of the Ebola epidemic on the citizens was more severe for the elderly, children, pregnant women, the poor, and the chronically ill, who were the most vulnerable groups and who suffered the highest mortality rate from the Ebola epidemic (WHO, 2015). The Kono people depended on economic support from work as diamond miners, farmers, or traders (Coltart et al., 2017). During the Ebola outbreak emergency, the government of Sierra Leone suspended these economic activities and interrupted transportation networks (Coltart et al., 2017). To avoid the restrictions, people tried to minimize the gravity of the disease by either refusing to report the number of illnesses and deaths from EVD, by hiding the corpses or buried them secretly (Coltart et al., 2017). Funds previously allocated for other social programs and for development of hospitals, schools, roads, and energy, were diverted to combating the rapidly growing Ebola epidemic (Coltart et al., 2017). The restrictions on the activities of the citizens created tensions among the population, as they felt that the government was not truthful in sharing accurate information about the disease with them (Coltart et al., 2017). This led to strikes and unrest (Coltart et al., 2017). As the government continued the diversion of funds, the dropout rates from schools, teenage pregnancy, and mortality from non-Ebola related cases increased (ACAPS, 2014; Coltart et al., 2017). Shortage of clean water supply and poor sanitation due to water projects abandonment resulted in poor hand washing and poor hygienic practices (ACAPS, 2014; Coltart et al., 2017). Women who

were usually the primary caregivers for the sick were disproportionately affected by the Ebola epidemic (Black, 2015). These women were at significant risk because they had the potential to spread EVD to loved ones within family units after coming into direct contact with another person infected with Ebola (Black 2015; Richardson et al., 2015). Discrimination, stigmatization, and rejection of survivors sometimes resulted in the relocation of survivors to other remote areas outside of their home villages. Some family members declined to reveal when another family member became ill with the disease to avoid the discrimination and stigmatization (Black 2015; Richardson et al., 2015). The forced relocation resulted in suspected cases dwelling among other unsuspecting communities, which increased the number of Ebola cases (Black 2015; Richardson et al., 2015). As stigmatization of EVD survivors occurred even from family and community members, the bond between families and community cohesion became weaker and less capable to fight the disease (Black 2015; Gray et al., 2015; Richardson et al., 2015).

### **Food Insecurities Due to the Ebola Virus Epidemic**

During the uncontrolled phase of Ebola epidemic, the movements of many persons were restricted and, in some cases, groups of people were quarantined. (Coltart et al., 2017). This resulted in poor domestic harvest, thus leading to the increase in food prices, reduction in food supply, and a decrease in family incomes (ACAPS, 2014; Piot, 2014; Ragozini & Maietta, 2014). As farmers went into hiding to avoid infection, there was a shortage of food products for the traders to sell (ACAPS, 2014; Piot, 2014; Ragozini & Maietta, 2014). The most vulnerable populations, who were most affected by the lack of food were the children, the disabled, pregnant women, the elderly, and the



chronically ill, who easily succumbed to the direct and indirect adverse effects of the Ebola epidemic (GoSL, 2014, Ragozini & Maietta, 2014; Research Institute (IFPRI), 2016). It was reported that approximately 3 million people suffered from undernourishment due to food shortages, related to the inadequate food supply. This shortage affected the three countries most heavily affected by the Ebola epidemic (ACAPS, 2014; IFPRI, 2016).

### **Linking Burial Practices to the Spread of the Ebola Virus**

The number of Ebola cases as of February 2016 was as follows; there was a total of 14,122 EVD illnesses, about 62% confirmed cases and up to 3,955 EVD related deaths in Sierra Leone over the span of the 2013 to 2016 EVD outbreak in West Africa (Curran et al., 2016). The main goal of the response team in managing and addressing issues related to the EVD included promoting dignified and medically safe burials, limiting the transmission rate, and limiting contact with persons with infectious dead bodies (CDC, 2016). Traditional funeral practices were identified as one of the crucial factors that posed a significant risk for the transmission of EVD, mainly through contact with body fluids from dead bodies, and clothing contaminated during the time of the infection with the disease (Coltart et al., 2017; Curran et al., 2016).

Curran et al. (2016) reported the investigation of the EVD outbreak in Moyamba, one of the towns in the Southern Province in Sierra Leone. A previously low rate of Ebola infection was reported in this town, but a well-characterized cluster of cases of the Ebola infection were reported in 2014 (Curran et al., 2016). An investigation conducted by the Ministry of Health of Sierra Leone (MOHS) and the CDC in the increased death

rate in Moyamba found that 28 persons who had attended a funeral of a famous pharmacist, were infected with EVD (Curran et al., 2016). Out of 28 people infected, 21 individuals had touched the body of the deceased, and 16 of them came in direct contact with the pharmacist in some form, prior to his death (Curran et al., 2016). Most of these people who touched the deceased in any way also died from the EVD disease (CDC, 2014; Curran et al., 2016).

Furthermore, another EVD related-epidemiological study by Stehling-Ariza et al. (2016) discussed the death of a 75-year-old community leader, who was also a Taxi driver (and index case) in a village in Kono. The investigators linked the community leaders' funeral to 43 confirmed cases, including 27 additional deaths, including the index case (Stehling-Ariza et al., 2016). The source of the infection of the index case with the Ebola virus was never identified. The index case had previously reported to the hospital with symptoms that were not related to the Ebola infection (Stehling-Ariza et al., 2016). The patient was diagnosed with cerebrovascular accident and was discharged home (Stehling-Ariza et al., 2016). The patient later developed diarrhea and vomiting, which was initially incorrectly attributed to malaria and typhoid 48 hours after discharge, and later died at home in Kono District (Stehling-Ariza et al., 2016). A follow-up test conducted on the corpse by oral swab for EVD confirmed the diagnosis of Ebola infection (Stehling-Ariza et al., 2016). Families in this EVD cluster admitted to washing the corpse and dressing it according to the traditional burial practices, but denied kissing or touching the corpse. They did not bury their own dead ones because funerals at that time s were only designated to be conducted by the Government burial teams (Stehling-

Ariza et al., 2016). The number of people who were confirmed to be linked to the index case was 43, out of which 27 died from EVD (Stehling-Ariza et al., 2016). Also, 30 of these confirmed cases were either directly linked to the funeral, or they had been in direct contact with the infected individual before death occurred (Stehling-Ariza et al., 2016). Furthermore, 24 people were likely infected at the funeral ceremony since they had not had contact with the index case in the week before the death (Stehling-Ariza et al., 2016). Other individuals who were confirmed cases of the EVD in the same community were affected by those people who initially became sick through contact with the index case (Stehling-Ariza et al., 2016). As ambulances transported sick patients, no disinfection of the ambulances took place afterward (Stehling-Ariza et al., 2016). The same ambulances were later used to transport other sick people, which increased the risk of the disease transmission through viral contamination of environmental surfaces (fomites) (Stehling-Ariza et al., 2016). Some other people were later documented to have contracted the EVD disease after traveling in the EVD-contaminated ambulances (Stehling-Ariza et al., 2016).

Curran et al. (2016) and Stehling-Ariza (2016) published epidemiological studies that highlighted the elevated level of EVD transmission and confirmed deaths linked to a single patient who died of the disease. The researchers also discussed EVD transmission risks from touching patients with EVD and from touching corpses with EVD (Curran et al., 2016). Transmission of the disease took place among those who contacted the victim before and during the funeral, which resulted in several persons infected with the virus (Curran et al., 2017; Stehling-Ariza et al., 2016). However, the implementation of rapid

comprehensive and targeted responses which included community engagement, sequestrations, unexpected visits of healthcare personnel to houses in the community, police surveillance, and the neighborhood watch by the youths, helped to identify and decreased number of cases and transmission of the disease (CDC, 2015; Curran et al. 2016).

### **Summary and Conclusion**

The Kono people had traumatic experiences during and after the 2013-2016 EVD epidemic outbreaks (Coltart et al., 2017). Even when the traditional burial rituals and practices were temporarily disrupted and discouraged, potential vulnerability to EVD outbreak among the Kono people remained (Coltart et al., 2017). Asymptomatic infections among the population, especially Ebola carriers, for instance, some men who survived EVD continued to have asymptomatic shedding of Ebola virus in their semen (Coltart et al., 2017). Other sporadic zoonotic factors and animal reservoirs are hosts to the Ebola virus (Coltart et al., 2017). In this chapter, several bodies of literature were reviewed. The literatures reviewed represented various methodologies that are relevant to the main research questions. Qualitative research method or subjective-driven interviews were necessary in exploring the emic views of the Konos of their traditional burial practices with respect to the mode of transmission (MOT) of the Ebola virus during an EVD outbreak (Creswell, 2013).

Based on the literature reviewed, enhanced awareness and sensitization of the community was determined as useful to promote health measures and help individuals or community members in modifying their behaviors. Such awareness enhancement must be

translated through health literacy and education. Expanding the scope of knowledge of the stakeholders, global, national, and local healthcare providers on the importance of cultural factors related to disease transmission and prevention could provide invaluable information for enhanced policies on disease preventative measures. This qualitative study was not designed to provide an objective view of the impact of EVD outbreak or to address the issue of behavior change among the Konos. Rather it provided relevant themes from a subjective view that could be used in the identification of ongoing health risks regarding unsafe burial practices, future diseases prevention in Kono district or any other location.

### Chapter 3: Research Method

The traditional burial practices of Kono are long-standing behaviors that are based on core cultural beliefs (Coltart et al., 2017). The primary purpose of this study was to explore the lived experiences of the Kono people regarding their burial practices and the rapid spread of EVD in the area. A phenomenological design was applied in this study. This design promotes unbiased investigation processes focused on the participants' subjective views to draw thematic conclusions of the observed phenomena (Englander, 2012). Using the guidelines and protocols described in this chapter, I conducted in-depth face-to-face interviews and focus groups with participants. A pilot study involving 5 participants was conducted using the qualitative approach and the interview questions. The ethical issues and the role of the researcher are also discussed in this chapter.

#### **Research Design and Rationale**

In this qualitative study, the application of the phenomenological approach and semi-structured interviews was appropriate in exploring the lived experiences of the Kono people regarding the internment practices and the 2013-2016 EVD outbreak. The approach is commonly used when exploring the lived experiences of individuals or groups regarding a specific phenomenon, in terms of how and why the phenomenon occurred (Creswell, 2013; Husserl, 2007; Patton, 2015). In this study, open-ended questions, written notes, audiotapes, videos, personal stories, observations of individuals' behavior, and saved documents were included in the data collection. The application of these data collection sources helped in explaining the observed phenomenon and recurring themes. The subjective nature of the information obtained from the participants

regarding their decisions to make a positive social change in health behaviors using the HBM constructs was crucial in this study. The qualitative method was used to facilitate the identification of biases and analysis of the experiences of the participants. Because the study was conducted in a local Kono community setting, the participants were expected to feel more comfortable than they would have if they had been interviewed in unfamiliar locations.

Other qualitative methods could have been used in this study, but the phenomenological method was most appropriate for the study's purpose. Grounded theory is a process in which interactions or actions are investigated with the focus on developing a theory (Creswell, 2013). The goal of this study was not to develop a theory, which made this approach unsuitable. Ethnography is a method used to perform an in-depth assessment and understanding of a group's culture, which requires the researcher to be personally involved with the experiences of the participants (Creswell, 2013). Because participants in the current study did not belong to the same religious groups, this approach was not suitable for this study. A case study involves the extensive investigation of one or more persons, events, or programs (Creswell, 2013). The data collection and analysis process are time-consuming and labor intensive, which could affect the completion and results of the study (Creswell, 2013). The purpose of the current study was best met through the qualitative phenomenological approach. In this study, the focus was to identify themes regarding the burial practices of the Kono people based on the lived experiences of the participants and how their belief system promoted EVD during the 2013-2016 outbreak.

### **Research Questions**

The following research questions (RQs) were used to guide the study:

RQ1: Based on the lived experiences of the Kono people who were purposefully surveyed, what were the Konos' traditional burial practices before the 2013 EVD epidemic in West Africa?

RQ2: Based on the lived experiences of the Kono people who were purposefully surveyed, did the burial practices influence the spread of the EVD in Kono, and how?

RQ3: Based on the lived experiences of the Kono people who were purposefully surveyed, how did the Kono burial practices change during the 2013-2016 EVD epidemic?

RQ4: Based on the lived experiences of the Kono people who were purposefully surveyed, when did the Kono burial practices change (again, if at all) after the 2013-2016 EVD outbreak (provide dates)?

RQ5: What, if anything changed regarding the Kono burial practices after the 2013-2016 EVD outbreak based on the lived experiences of the Kono people who were purposefully surveyed?

RQ6: What are the future burial plans of the Kono respondents if there is another EVD epidemic in Kono based on the lived experiences of the Kono people who were purposefully surveyed?

### **Role of the Researcher**

I followed a protocol for data collection, documentation, and analysis. A self-assessment personal journal and evaluation was kept. Specific information about the



study was also documented. As a nurse practitioner and lead investigator in this study, I had extensive professional experience working with other health care team members in the treatment and prevention of infectious diseases in the United States. My professional experience with infectious disease cases informed this study. Although I am a citizen of the United States and currently lives in there, I grew up in Sierra Leone. Prior to coming to the United States, I taught in a high school in Koidu, where the study was conducted in Sierra Leone. I am fluent in the Krio language and the Kono language; therefore, no translator was needed for this study.

Researcher's bias is inherent in any study, but the subjective nature of the study required a nonjudgmental assessment of biases related to my inclinations or opinions. In this study, I observed the daily activities and hygiene practices of the Kono people during the interview process. Other human behaviors or expressions, including facial expressions and nonverbal cues, were also observed. Researcher's bias, especially personal feelings, could have emerged during the observations of the daily living activities of the Kono people, which are different from those experienced in the United States. However, my goal here was to bracket my perceived personal emotions and biases while reporting the findings to reflect the emic views of the participants.

As the primary data collector, interpreter, and analyst, I created a transparent environment between myself and the participants to mitigate potential bias and to address unexpected outcomes. I conducted a pilot study of the interview protocol to ensure the integrity, reliability, and validity of the study instruments. The information collected from

the pilot study was recorded, documented, and analyzed. Only information that was useful in standardizing the strategies and instruments in this study was used.

### **Methodology**

In this qualitative research inquiry, a phenomenological design was employed. Also, a semi-structured interview process implicating an open-ended question-based strategy was used to explore the burial practices and the lived experiences of the Kono people regarding the spread of the recent EVD outbreak. An open-ended question-based strategy allowed the inclusion of the participants' raw self-expression (Conklin, 2007). A purposeful, convenient, and non-probability sampling strategy was used in this study. It is cheaper, convenient, and a sampling frame is not required when using an open-ended question approach (Frankfort-Nachmias & Nachmias, 2015). Purposeful samples are generated for a study based on the results from the pilot study regarding the participant's knowledge of the phenomenon, purpose of the research, and target population in question (Patton, 2015).

The aim of using a purposeful sample is not primarily to achieve validity but to understand the perceptions and experiences of the individuals, in-depth (Heidegger, 2008; Patton, 2015). A purposeful sample allowed the selection of the most relevant community members poised with sufficient knowledge about the subject matter in question (Patton, 2015; Creswell, 2013). That person should be able to provide resourceful information to address the posed research questions and purpose of the study (Creswell, 2013; Patton, 2015). In a qualitative research, the type of questions used are of an inquiring nature, in which the investigator posed general, broad, open-ended questions to obtain in-depth

information from the participants within their natural setting (Creswell, 2013; Husserl, 2007). Furthermore, an inductive approach is used in qualitative research involving subjective data collection, implicating holistic aspect of the participants. Data collection with the inductive approach is process-oriented and ongoing (Creswell, 2013).

### **Participant Selection Logic**

The face-to-face interviews were conducted with a purposeful sample of 10 adults, who were selected from among members of the community and were considered the most knowledgeable about the phenomenon under study. The inclusion criteria were as follows; (a) Leadership of the Muslim religion, with direct involvement in the burial practices and participation of burial rituals during the Ebola epidemic; (b) Leadership in the Christian religion, with direct involvement in the burial practices and participation in the burials of Ebola victims; (c) individuals who were direct care givers and participated in caring for the sick and washing of the corpses of family members;(d) Community leaders with knowledge of the data review method was selected as the reviewers of data collected, and (e) Representatives of the local and National healthcare who are aware of the health policies and pathophysiology of the Ebola virus disease.

According to Creswell (2013), a sample size of 20 participants could be used for a qualitative study. A sample size of 20 could also be used to achieve saturation (Creswell, 2013). Others suggested a sample size range of 5 to 25 for a qualitative study based on the diversity of the background of the participants, the extent of knowledge, and amount of pertinent information about the phenomenon needed to be covered by the investigators (Connelly, 2005). The steps used in sample selection potentially yielded a sample size

that was small, but large enough to provide relevant and meaningful data (Connelly, 2005). In this study, protocols and strategies were established to necessitate the gathering of relevant information to address the posed research questions that produced a deeper understanding of the phenomenon. Similarly, the application of these strategies increased consistency with the interview processes.

Data saturation was achieved after data had been collected and analyzed. Information was obtained by targeting leaders of the Muslim and Christian congregations, community leaders, healthcare workers, and other members of the community who are not leaders, but played important roles in this study. Individuals that were selected for the interview in this study lived in Kono district during the Ebola outbreak and had knowledge of the involvement and activities of the groups, individuals, and government representatives during the Ebola epidemic. An informed consent for participation was completed before enrollment into the study. A pilot study questionnaire consisting of the posed questions was distributed to a member of each of the following groups; church leader, community leader, a lay member of the community who also participated in traditional burial practices, local health worker, national health practitioner and a representative of the MoH of Sierra Leone. The pilot study participants once selected were no longer eligible for selection in the main study.

### **Instrumentation**

Interviewing is a popular method used in qualitative research for data collection (Janesick, 2011; Patton, 2015). Interviews are means of communication between individuals, groups, and communities to provide information promptly while providing

in-depth data related to the specific topic (Janesick, 2011; Patton, 2015). Interviews can be structured or unstructured and, in some cases, semi-structured (Creswell, 2013; Patton, 2015). In face-to-face interviews, the researcher also acts as an observer (Creswell, 2013; Patton, 2015). The Interviewer and Interviewee were both visible to each other and non-verbal cues were observed as well. I was involved subtly in the conversations and activities to clarify any questions and any doubts the participants had about the question contents, voice tone, body language, and other concerns. The face-to-face approach was useful in producing in-depth and comprehensive data with minimal researcher's bias, and increased the credibility of data collected (Creswell, 2013). The strength of a face-to-face interview approach was that the interviewer was personally present and collected information from the participants in a real-time and natural environment (Creswell, 2013). Every behavior observed was recorded directly with this approach. The interviewer did not rely on other peoples' anticipatory or retrospective accounts. In the face-to-face interview, the participants also interacted with the researcher and observed non-verbal cues, facial expressions, and feelings of the interviewer as well (Creswell, 2013, Patton, 2015). With a face-to-face setting, it was possible for the interviewer to understand the importance of statements made by participants with poor control of language or communication (Creswell, 2013, Patton, 2015). Furthermore, information provided in the interviews was collaborated through unobtrusive observations (Creswell, 2013, Patton, 2015).

As the PI and observer in the study, it was my responsibility to identify the participants from a non-generalized sample. Individuals who had the most knowledge of

the phenomenon to provide meaningful and relevant data were identified from among community members with diverse backgrounds and life experiences, to participate in the study (Creswell, 2013). In this study, data collection continued till data richness and saturation were achieved. Additionally, the MOH of Sierra Leone was contacted in relation to the study plan, rationale, goals, purpose, strategies, IRB processes, and other collaborative efforts. The fliers for the recruitment inquiry or advertisement containing information about the intended goals and objectives of the study were distributed by the PI to the various groups identified earlier. The fliers were distributed among members of the 5 groups earmarked. Once enough participants were selected from all the identified groups based on the inclusion criteria, the pilot study stage was initiated.

### **Pilot Study**

In anticipation of problems unforeseen with the questions, research techniques, or participants' cooperation in the study, pilot studies are conducted to assess the level of the reliability of the instruments (Teijlingen & Hudley, 2002). For this purpose, only five participants were needed. A pilot study was also important for establishing the existence of prior knowledge, which might affect the study outcome (Teijlingen & Hudley, 2002). It was important in authenticating the techniques and appropriateness of the sample size used (Teijlingen & Hudley, 2002). It was also an invaluable tool for assessing successes of the recruitment and enrollment processes (Teijlingen & Hudley, 2002).

The pilot study did not start until an IRB approval was obtained. IRB approval number is 0627180480316 and expires on June 26, 2019. A letter of cooperation was sent to members of the community through which participants were identified. The letter

contained a copy of the informed consent as well. In this letter, the purpose of the study and plan to conduct a pilot study were stated. This pilot study was conducted to identify the most appropriate method and sensitive approaches for the study, recruitment process, and data collection method. Participants in the pilot study included a member from each of the five groups of representatives mentioned earlier. The participants were volunteers from among the groups identified. Each selected participant's response to the research questions provided valuable information on the integrity of the contents of the posed research questions. Ethical issues and risk factors were identified through this process so that the issues were avoided and handled appropriately in the larger study settings. Another objective was to determine whether the main study was feasible regarding the limited time, human and financial resources available for the study. The feedback from the pilot study was noted and taken into consideration. Changes to legitimate concerns were made and applied in the main study settings.

### **Procedures for Recruitment, Participation, and Data Collection**

The following steps were used to recruit participants and collect data:

1. contacted the participants of interest. No members of the pilot study were included.
2. Sent the study information to the groups and obtained consent.
3. Analyzed and reviewed the consent forms and any questions asked by members of the groups.
4. Selected the participants from the groups based on the criterion for the study
5. Contacted the selected members.

## 6. Collected the data for the study

The categories of the participants included local and national public health authorities, Muslim and Christian religious leaders, traditional burial team members, and community leaders.

1. Local and national public health officials included those members of the health department who had first-hand knowledge of the recent Ebola virus epidemic and could provide information on the role played by the government and the health department in the prevention and control of the disease.
2. Muslim and Christian religious leaders who were head of their congregations and presided over burials for members of their groups. Those who were directly or indirectly involved in some aspects the burial practices during the Ebola epidemic were selected.
3. Traditional burial team members: These included leaders of the traditional societies who were responsible for performing funeral rites for members of their secret societies, such as the “Sande” for the women and the “Poro” for the men. There were also special burial rites for traditional healers and chiefs and those with knowledge of these burials were selected.
4. Community Leaders; These leaders were chosen based on their involvement in the process of decision-making for the community. They provided information on how the community was affected by the decisions made by the government, public health professionals, and how their community responded



during the Ebola epidemic. Reviewers of the analyzed data were selected from among this group to ensure the credibility of information collected.

### **Contacting and Screening of the Target Group**

After the selection of the participants, the investigator contacted the individuals selected. They also received a letter explaining their role as participants. It included the consent forms, the purpose of the study, the information about the role of the researcher, and links to contacts at Walden University if needed for verification purposes. The selected individuals were requested to come to a meeting on separate days; each person was met at a specific time and informed of the decision for their participation. As the PI of the study, I introduced myself, my role, and what my goal was for conducting the study. After the consent forms were signed, the screening process began. The participants had the choices to enroll or withdraw from the study at any time if they wished to, without any repercussions. Those who decided to stay signed the Confidentiality Agreement. The PI further discussed when and where each of the participants were to meet for the conduction of the study interviews.

All these participants were selected based on their willingness to participate and based on each person meeting the criteria for the study. After collecting all the consent forms, the names of each of the participants were recorded on a word document and stored under a heading that was only accessible by the PI, by use of a secret password. The consent forms provided information on the voluntary nature of participation in the study and informed the participants that at any time during the conduction of the study they could leave the study, if they wished to, without any repercussions. On the word

document, alongside each participant's name, the documents gathered from the participants were recorded, including their age, occupation, and gender.

A non-probability sampling was used. This approach was convenient and cost-effective (Creswell, 2013). The disadvantage of this sampling method was that any generalizability made was questionable because there was no random selection of the participants, and thus, there was also the risk of selection bias (Creswell, 2013). Semi-structured, open-ended questions were used to explore the thoroughness of the event (Patton, 2015). Ten participants were involved in the study, which included a mixture of religious leaders, health professionals and community leaders of mixed genders.

The use of multiple sources of data, in addition to the general scheme increased the credibility and dependability of the data in this qualitative study (Patton, 2015). The use of triangulation, which was a technique used to include more than one data source, which involved conducting interviews, using semi-structured questions, and observations to validate the responses, were implemented in this study. Other researchers were encouraged to review the method used and information collected to establish the validity and reproducibility of the study.

### **Data Collection and Recording**

As the primary instrument, I was the only one conducting interview and the data was documented on paper and audio recorder by me. One of the main significant problems in data collection in qualitative studies is the organization of the data. The following steps described by Janesick (2013) used for the organization of the data are as follows: (a) check the data, (b) review the data and maintain a log, (c) utilize the

qualitative data analysis tool to record all the raw data, and (d) evaluate the notes that you had written.

Keeping a journal to log all activities and information obtained during the research process provided additional information for reflection of the research journey (Janesick, 2013). Moreover, the journal information helped to authenticate and validate the data (Janesick, 2013). After the data was collected from the participants, the PI reviewed and listened to recorded information and returned to any participant, whenever there was a need for further clarification of information obtained during the interview process. As the purpose of the data collection was to collect data from the participants in their physical locations, concurrent observation of behavioral cues helped the researcher to better understand the feelings and shared experiences of the participants. The aim of qualitative data collection is not to compare the experiences of various people, but to explore the richness and depth of the description of the phenomenon (Patton, 2015).

Data was collected from the participants in three sessions; each lasted for forty-five to ninety minutes. Face-to-face interviews were conducted at a location that was convenient for the participants. The participants did not need to travel out of their neighborhood. The idea was to provide a comfortable environment for the participants during the interview processes. Each participant was interviewed separately. The first face-to-face interview involved discussions about brief history of the participants, including occupation, and their roles during the Ebola virus epidemic. The PI then went through the interview questions, allowing the participants to respond to the questions based on their lived experiences with the EVD event. A digital USB voice recorder was

used for recording every interview, and handwritten notes were also taken. Non-verbal observations were also documented in the handwritten notes. After the interview, the data collected was verified, transcribed, and coded systematically and thematically, using Microsoft Word software. The participants were reminded to think about the responses they had provided during the first interview and any additional information they wished to add to their responses could be provided to the PI at any time during the data collection, or the member-checking process.

The second interview involved 2 focus groups consisting of 5 of the members in each group at various times. In each of the focus groups, the same questions were asked, and the members were given the opportunity to answer the questions based on their lived experiences. The focus group questions used were related to how the advent of the EVD changed the lives of people in the community and how they came together as a group and brought about positive social change in the community. The responses were recorded as previously done in the first interviews and the results analyzed.

The third interview was conducted in focus groups of two participants from the five groups identified. The participants were divided into five groups, as there were two members of each group. In conducting the interviews, each group were allocated three separate days the 2 members were representatives from each of the religious groups, public health officials and community members represented in the sample. Each group was given the opportunity to answer the same focus group questions. The responses to the questions were focused on how each of the groups planned to work with their members to improve their burial practices and adhere to preventive measures for future

infections. Observation techniques were employed by the PI during the interviews with the focus groups to visualize the influences of some members over others, to understand possible intimidation behaviors by some members. No intimidation behaviors were observed or exhibited. Any intimidation would have made the information collected probably biased, coerced, and perhaps not credible (Creswell, 2013). After all the data was reviewed, analyzed, organized, and transcribed, the participants reviewed the data through the process of member checking, and made suggestions to confirm the information before the final write-up was done.

### **Anticipated Duration and Number of Interviews**

Building a rapport and a trusting relationship with the participants was necessary to cultivate a comfortable environment with the PI. Such relationship increased the participants' trustworthiness in the study and motivated them in discussing personal information they were asked to provide. This relationship was initiated during the first interview, by letting the participants understand the purpose of the study, the importance of the information furnished to the success of the research, and the participants' confidentiality of the information provided. The length of subsequent data collection was determined by the information collected and analyzed from the previous day. The interviews continued until the 45-90 minutes period was utilized, or until the participant showed signs of fatigue, such as inattentiveness, by repeating the same answers to different questions, or getting irritated when asked to clarify their comments. Clarification of responses with the participants during the interview helped to improve the credibility of participant's responses (Patton, 2015).

Responses from each participant was transcribed, from the interview notes and audios, starting from the first interview with the first participant, to create a general idea of the participants' experiences with the phenomenon. Phrases and statements, that were significant, and pertaining to the event, were identified for each of the participants and documented on a Microsoft word sheet. Important statements made were identified, and the meanings formulated and organized into themes. These topics were categorized, and color-coded, to enable me to perform the analysis to formulate the structure of the phenomenon. Data validation was performed by soliciting the input of the participants, who compared their lived experiences with the results of the description of the data. Data triangulation from various sources was used to justify the themes from the data (Creswell, 2013). The description of the data on the results outcomes was presented in chapters 4 and 5.

### **Data Analysis**

A substantial amount of data was collected from interviews, field notes, videos, observations, audio recordings, photos, supporting documents, written texts, focus groups and consultations (Miles et al., 2014). Identifying how to manage the information the PI had collected for the research wavery important. To increase reliability and dependability of data sources, the data was organized and saved such that it was password protected, but easily accessed and managed by the PI, and other researcher (Creswell, 2013; Miles et al., 2014). It was essential to consider organizing research articles to save time, maintain easy access and ability to get the data where, and when needed (Rudestam & Newton, 2015).

Data storage was backed up on several devices such as I-cloud, disk, drop box, and on multiple computers to prevent loss of information, should a single storage source crash. For instance, I-Cloud was easily accessible from any computer connected to the internet (Milles et al. 2014; Rudestam & Newton, 2015). Computer-assisted qualitative software coding (NVivo 10) was essentially a transitional process between the data collection and the broader way of analyzing and interpreting data (Patton, 2015; Creswell, 2013).

The documentation of the reviewed articles was performed by date, relevant keywords, theories, names of authors, and based on key aspects of the study focus. Each reviewed body of literature was stored or saved with a specific title. For the data collections, the field notes were scanned and saved under a specific title as well. For security and safety purposes, the video recordings containing sensitive research and personal information were password protected and stored or locked up in a safe environment (Randolph, 2009; Miles et al., 2014).

Triangulation was one of the techniques used by qualitative researchers to reinforce the study credibility (Creswell, 2013). There are five forms of triangulation namely; a) data triangulation, b) theory triangulation, c) investigation triangulation, d) methodological triangulation, and e) environmental triangulation (Patton, 2015). For this study, data triangulation was used. This type of triangulation involved the use of various information sources, with the goal of increasing the validity of the study and getting a more in-depth understanding of the phenomenon (Patton, 2015). Some of these sources included private citizens who were stakeholders as well as participants, community

leaders, other researchers, public health staff, other community members, and any other persons who were involved in the research process. The feedback from all the participants was used to compare areas in which they agreed and where they differed on the phenomenon, at the stage of data analysis. This was the most popular of the types of triangulation, as various sources of data are used, and it was the easiest to implement. Due to the multiple stakeholders and groups who were interested in the success of the program, data triangulation was more suited for this study (Patton, 2015).

Exit strategy for the participants included expression of appreciation for their time and participation in the study. At that time, they were also allowed to ask any questions they had related to the study. Since the participants' permission was required for recording to be conducted, before beginning, the disclaimer about the recordings of the interviews was read and the participants gave their permission to use the recordings. If volunteers did not want their recorded interviews to be employed in the study, the records were removed and deleted and only the notes that were handwritten were used. Food was prepared and taken to each of the participants on the day that the PI met with them, and those who expressed their intentions to withdraw from the study were still provided food or refreshment on that day before they left. If a participant expressed the desire to exit from the study, a discussion was held with them to assure them that they would be reconsidered for re-enrollment if they decided to return and enrollment was still open. No participants withdrew from the study and none expressed despondence during the study.



### **Issues of Trustworthiness**

Qualitative researchers have used the concept of trustworthiness to support the argument that qualitative research studies are just as important as quantitative studies, although they do not follow the same parameters as those set for quantitative research (Creswell, 2013). The researcher in any research study is obligated to demonstrate rigor and consistency in the methods and steps used in the study (Creswell, 2013). Although qualitative research is naturalistic, trustworthiness was applied through the concepts of reliability and validity in the same manner as in quantitative research (Patton, 2015). Four components were implemented to address the issues of trustworthiness in qualitative research (Onwuegbuzie et al., 2012). These four components, which included; (a) transferability, (b) dependability, (c) confirmability, and (d) credibility, were addressed in the study to ensure, the rigor, and trustworthiness in qualitative studies (Onwuegbuzie et al., 2012).

#### **Transferability**

Patton (2015) suggested that researchers could ascertain transferability of a qualitative study by the extent to which the findings could be generalized and applied to other studies. In a quantitative study, the positivists' concern is how the study is applied to the general or wider population, but since a qualitative study usually involves specific environments or small groups, the concept of generalizability is not a concern (Onwuegbuzie et al., 2012; & Patton, 2015). Other researchers could explore the findings from the qualitative study and apply the results to their situations if similar situations existed (Onwuegbuzie et al., 2012). To ensure that transferability was achieved, a vivid,

rich and an in-depth of the fieldwork was performed on the lived experiences of the participants' burial practices and the spread of the most recent Ebola epidemic.

Transferability was achieved by developing a transparent protocol, which was a critical step that was involved in conducting this study. The protocol was clear enough to be understood and easy to replicate by independent researchers. From the database developed and stored online, and accessible to other researchers, the findings were reviewed safely and efficiently, and the reader did not have to rely on handwritten notes (Onwuegbuzie et al., 2012; & Patton, 2015). Using the same procedures and methods in conducting open-ended question to interviews each participant, can ensure reliability.

### **Dependability**

Dependability in qualitative research is achieved through maintaining consistent and sound processes and procedures throughout the study (Onwuegbuzie et al., 2012; Noble & Smith, 2015). A qualitative researcher adopts dependability in a rigorous attempt to ensure reliability as in quantitative research (Patton, 2015). Dependability was established in this study by preserving all handwritten notes, audiotapes, and all Microsoft word documents were stored on the computers. A draft of the research questions was presented to the participants in the for review and suggestions, to increase the dependability of the instrument used for data collection. Data reviewers, who were part of the community and selected for their experiences in data review, examined the analyzed and interpreted data to review any comments, assumptions, and recommendations of the instrument for the data collection, as described by Bhana, Flowerday, and Satt (2013). This review of data was done to ensure that the information

provided was complete, and to eliminate any ambiguity. An audit trail was implemented by recording, documenting, clarifying, and reviewing every observation notes and responses from interviews, throughout the entire process of the study.

### **Credibility**

Patton (2015) suggested triangulation as the best option for ensuring the credibility of responses in a qualitative study. The accuracy of the results of the study based on the researcher's use of an evaluation of the primary research questions determined the credibility of the study (Creswell, 2013). To ensure triangulation, all the hand-written notes were matched to that of the audio transcription made from observations, then compared the information to the final comments by the participants. This type of checking of records and participants' verification of the results known as member checking, was used to verify and authenticate the credibility of the responses to the questions. With a clear description of the evidence provided in the study, a reader can easily follow and track how the research questions were developed, how the conceptual framework and design method were chosen, the type of interview data collection method and techniques, and finally the conclusion of the study (Patton, 2015).

### **Confirmability**

Confirmability occurs when other researchers who had conducted similar research studies, substantiate the results of your study (Onwuegbuzie et al., 2012). To establish confirmability, data was linked to the sources from which the data was obtained. Each participant's responses were reported from the subjective view, and not influenced by the personal interest, bias, and motivation. Member checking was performed, and the

participants were given the opportunity to review their statements, and to make any clarifications when needed.

### **Ethical Procedures**

As the research involves working with and meeting humans, ethical and policy issues may arise during the research process (Creswell, 2013). This research process involved meeting people to collect data about them, and from them. To maintain confidentiality of the participants, only their initials were used to identify them. The names of the participants were shared only with the people involved in the dissertation process, including those who were in the focus groups and had with contact them. Developing and maintaining the trust of the participants early, at the beginning of the study, helped the me to obtain rich and in-depth information from the participants and promoted the integrity of the study. For any ethical-driven study, the researcher is expected to avoid any misconduct and inappropriate behavior that could influence the result of the study. The rights, desires, values, unmet needs, and needs of the participants were taken into consideration and respected throughout the research process. Some of the ethical issues involved, obtaining personal and sensitive information from the members. With the information solicited in this qualitative e study, based on the personal information made from the participants with in-depth meaning based on their perceptions and statements. When this information was disclosed in the study, the participants' reputations and positions was visible as the study findings were shared with other researchers, stakeholders, or other people. To prevent this exposure, certain safeguards were enforced:

1. Participants were advised participants to sign a consent which described the voluntary nature of the study. Specification explained in the consent form included the autonomous nature of the information provided and the freedom to withdraw at any time from the study without any penalty. An early withdrawal, which is an ethical concern, was addressed through this safeguard. If any participants withdrew from the study, any information obtained from those participants would be destroyed and not used for the research. If the number of participants fell below the number of those identified, and no saturation was attained, the PI recruited new members from among those who were turned away, but met the study criteria.
2. All data was locked up in a safe place, and Microsoft word documents were saved under a heading protected by a password. Plan is to preserved for five years after publication or for seven years total, after which the data would be burned or shredded.
3. The objectives of the study and methods of data collection were discussed with the participants. The participants had access to the written interpretations and analysis of the data.
4. The Protocol for Human Subject in Research (PHSR) was obtained and submitted to the Institutional Review Board (IRB) at Walden University for approval to conduct the study.

## Summary

The aim for this research study was to contribute knowledge about possible ongoing EVD transmission risks from unsafe burial practices, which still exist among the Kono people. The RQs and the qualitative survey adequately addressed the problem statement. All the relevant information required to address the posed research questions in this study was gathered through face-to-face and focus group interviews, observations, the contents which were in the form of written documentation and audio recordings, were transcribed and analyzed thematically. Microsoft Word and NVivo 10 software were used to document the codes and themes. In this study, the need to address ethical concerns and protection of the rights and safety of the participants were discussed. After the IRB approval from the University and the MoH of Sierra Leone and informed consent forms were signed, the data collection processes and evaluations began. Chapter 4 involved both the data collection and analysis processes. Since this study was the first of its kind to analyze and explore the burial practices of a specific group of people regarding the spread of a deadly infectious disease, triangulation approach was used for review and to ensure the integrity, credibility, reliability, and validity of the contents analyzed.

## Chapter 4: Results

This chapter contains the results of the data collected from this study addressing the lived experiences of the Kono people regarding their burial practices and the spread of EVD in Sierra Leone. The findings are organized according to the research questions. Samples of participants' comments are also presented. In addition, I explain the pilot study, data collection techniques, participant demographics, study setting, codes, themes, and results of data analysis. The purpose of this study was to explore the lived experiences of the Kono people regarding their burial practices and the rapid spread of EVD in the area. The following RQs were used to guide the study:

RQ1: Based on the lived experiences of the Kono people who were purposefully surveyed, what were the Konos' traditional burial practices before the 2013 EVD epidemic in West Africa?

RQ2: Based on the lived experiences of the Kono people who were purposefully surveyed, did the burial practices influence the spread of the EVD in Kono, and how?

RQ3: Based on the lived experiences of the Kono people who were purposefully surveyed, how did the Kono burial practices change during the 2013-2016 EVD epidemic?

RQ4: Based on the lived experiences of the Kono people who were purposefully surveyed, when did the Kono burial practices change (again, if at all) after the 2013-2016 EVD outbreak?

RQ5: What, if anything changed regarding the Kono burial practices after the 2013-2016 EVD outbreaks based on the lived experiences of the Kono people who were purposefully surveyed?

RQ6: What are the future burial plans of the Kono respondents if there is another EVD epidemic in Kono based on the lived experiences of the Kono people who were purposefully surveyed?

In-depth face-to-face interviews, including open-ended questions and sub questions (Appendix B), were conducted to explore the lived experiences of 10 participants regarding their knowledge of the burial practices and how they might have contributed to the spread of EVD. In the first part of this chapter, I provide information about the pilot study used to refine the interview questions for the main study. Evidence of trustworthiness is also discussed.

### **Pilot Study**

After obtaining IRB approval from MoH of Sierra Leone and Walden University, I began the initial data collection process (pilot study) with five participants who were randomly selected from 20 who responded to the flyer. The pilot sample was similar in composition to the population in the main study. The participants included one member from each of the five groups (Christian, Muslim, traditional religion, public health professional, and community leader) from which the main study participants were chosen. Each selected individual reviewed the informed consent form privately or with me. Each participant expressed understanding of the contents and expectations before signing the informed consent form. Prior to each interview, I reviewed the consent form,



purpose of the study, confidentiality of subjects' identity, and participants' right to withdraw from the study at any time. The interview questions were administered to the participants in the main study in the same or a similar manner used with the pilot participants. The pilot study was conducted to evaluate the appropriateness, credibility, and clarity of the interview questions and to determine whether adjustments or changes were needed. The responses gathered from the participants in the pilot study provided insight into how the main study participants would understand and interpret the interview questions. The pilot study data were captured through a handwritten instrument and an audio recording device. The observed reactions and responses gathered from the participants did not indicate the necessity to change the questions for the main study. The data from the pilot study was not included in the main study.

### **Setting**

During the recruitment process, I sent letters to participants who met the inclusion criteria. The inclusion criteria were based on the participant's role in the Muslim, Christian or traditional religions, their involvement in the burial practices during the 2013-2016 EVD epidemic. They also either had experiences and knowledge of the health-care system, leadership role in the local community, and tribal or native status in Kono. Enrollment in this study was voluntary, and each participant expressed his or her willingness to participate without undue influence or coercion.

I conducted face-to-face interviews with selected individuals. I also conducted a face-to-face interview in a focus group setting. The interviews were conducted at the participants' preferred locations, which were mainly in a public setting that was private

and comfortable for individuals to share their story. The interview setting was in the natural habitat of the participants, where they felt safe and secure. The participants were given assurance of the confidentiality of the information they provided and that their responses would be used solely for research purposes. Before any interview began, there was a mutual agreement between the interviewee and myself about the interview location. The interviews were conducted during the day to reduce the risk of electrical power failure, which was more likely to occur at night. Because it was the rainy season in Kono during the time of the interviews, two participants rescheduled their interviews on two separate occasions to accommodate the rainy weather, which delayed the completion of data collection. None of the participants reported suffering any distress or discomfort during the interview. The data collected were transcribed, coded, and analyzed.

### **Demographics**

The participants included eight men and two women. The age range of participants was 21 to 64 years. Two men were Muslims, one man and one woman were Christian, one man and one woman practiced the traditional religious faith, two men were representatives of the MoH, and two men were members of the community who had knowledge of the Kono burial practices. All participants belonged to or were members of the Kono tribe and lived in the Kono district during the 2013-2016 EVD epidemic.

The Kono people were heavily affected by the EVD epidemic, which accounted for 119 EVD-related deaths reported in the Kono district (Stehling-Ariza et al., 2016). However, the report did not include the 87 abandoned corpses and at least 25 deaths in the local hospital (Stehling-Ariza et al., 2016). There was a population of approximately

500,000 in the Kono district, which was about 8% of the entire population of Sierra Leone, according to the 2004 census (GoSL, 2013). The Kono district is one of the 14 districts in Sierra Leone (Nielsen et al., 2015). During the 2013-2016 EVD epidemic, the Kono district was the least characterized site by the WHO and public health organizations as an area with increased risk of EVD. As a result, the initial focus of public health organizations was not immediately aimed at the Kono district (Nielsen et al., 2015). The rural village that was identified as the epicenter of the EVD epidemic in neighboring Guinea was within 50 kilometers of the Kono district, which put the Kono people at increased risk of the EVD epidemic (WHO, 2016).

All the participants were married at the time of the interview, but their spouses or partners were not involved in the interviews. The educational level of the participants ranged from high school certificates, to a Masters' degree. Each of the participants was employed full-time or had previously worked at a full-time job and was now retired. The ages of the participants were between 21-64 years of age. Before the participants were selected, flyers were sent to the target communities to introduce and reveal the purpose and goal of the study. The response from the flyer produced 20 prospective participants for the study. Five participants were chosen to participate in the pilot study from among the 20 that responded to the out-reach efforts. I met with each individual one-on-one and discussed the study purpose, criteria for inclusion, confidentiality, informed consent, and their rights or autonomy including the right to withdraw from the study at any time, if necessary. The pilot study was conducted to verify the reliability and credibility of the study protocols, and to ascertain the appropriateness, clarity, and level of alignment of the

research method, interview questions, and theoretical framework in addressing the RQs. The 10 participants who were chosen from the purposeful sample included 8 men and 2 women who met the study criteria and had the most knowledge of the phenomenon under study. Each participant opted for letter-based initials or were assigned coded letters that were used to identify the individuals throughout the study. Each of the participants were assigned an additional number and letter. The numerical values are the number of individuals interviewed, but not the sequence in which they were interviewed, and the letter represent the gender. The de-identifier code letter “m” stands for male and “f” for female. Letters “M, C, T, P, and K” were also added to the initials for coded identification the initials used were IJ M1m, ABM2f, HDC3m, RDC4m, KBT5m, AJT6f, RTK7m, JJK8m, NPK9m, and HCK10m.

The individual known as IJM1m identifier was a Muslim leader of one of the Kono mosques. He is 60 years old, married, with a family. He has a college degree in education and his work as the Imam includes conducting regular prayers and teaching young Muslims how to pray and read the Koran, for which the congregation paid him. He was also one of the leaders who conducted burial prayers for the deceased Muslims during the EVD epidemic. He lost some members of his congregation, including close family members to the 2013-2016 EVD epidemic.

The individual identified as ABM2f is a female leader among the Muslim congregation. She is 55 years old married, and has a family. She had a 12<sup>th</sup> grade education. She supervised the preparation of the dead bodies of Muslim women for burial. This was her role during the 2013-2016 EVD epidemic. She was also one of the

2013 -2016 EVD survivors and had lost close family members during the 2013-2016 EVD epidemic.

Subject HDC3m was a 58-year old Christian Methodist pastor. He was married, with a family of grown children and grandchildren. He had a master's degree (M.S. ED) in Theology. He was the leader of his church. He supervised the preparations and burial ceremonies of the deceased Christians in his congregation. He was not involved in the bathing of the dead body, but he was always present during the preparation of the deceased. Therefore, he experienced how the burial rituals were performed during the 2013-2016 EVD epidemic. He did not touch the dead bodies and did not lose any of his family members to the 2013-2016 EVD epidemic.

RDC4m was the other member of the Christian church. He was a 53-year old Christian leader with an M.S. ED in Theology who also officiated funeral rites and prayers for the dead. He was also a full-time high school teacher. Like the other Christian leaders, he did not participate in a physical contact in the bathing of the dead bodies but supervised the washing and preparation of the bodies for burial during the 2013-2016 EVD epidemic. He experienced the deaths of some members of his congregation during the 2013-2016 EVD epidemic.

KBT5m was a 62-year old male leader of the traditional religion. He had a 12th grade education and could read and write in English. He performed traditional burials, especially of people who held high positions in the community such as chiefs, and those who were members of their secret society. He was also one of the leaders of the male secret society called the "Poro" society. Membership in the Poro society was only limited

to a selected few. He was involved in the washing and preparation of the dead for burials during the 2013-2016 EVD epidemic. He was an EVD survivor, who still participated in the washing and preparation of the dead for burial. He was a retired civil servant and married with a family.

AJT6f was a 60-year old woman who was the traditional leader of the women's secret society known as the "Sande" society. She was a retired Nurse with a BSN degree. She directed the washing and preparation of the dead who belonged to the Sande society and other women from the Christian religion, upon request. Several women from the Sande secret society died of the 2013-2016 EVD epidemic. Throughout her officiating services or ritual, she always used gloves during the bathing of the dead. She did not lose any of her immediate family members to the 2013-2016 EVD epidemic.

RTP7m was one of the public health officers, with a master's in public health (MPH), who worked with the community during the EVD epidemic as a case officer and with the GoSL in the evaluation and identification of EVD cases. He was also part of the team that recommended and expedited the transfer of the EVD cases to the nearest treatment or quarantine center. He was involved in monitoring the fatality counts of individuals with EVD. Similarly, he monitored the burial practices and assessed new cases of EVD among the family members of the victims or deceased. Prior to this study, he also participated in a typhoid study conducted in Sierra Leone. He was very knowledgeable about the various customs of the Kono people and how the burial practices were conducted.

JJP8m was another public health officer with an MPH. He worked closely with the traditional leaders during the 2013-2016 EVD epidemic to promote health literacy awareness about EVD transmission. Health promotion measures, health education on hygiene, health-related counseling, and best practices on disease prevention were taught among the community members. This individual was well-informed and trained in the EVD intervention approaches.

NPK9m was a 34-year-old high school teacher who was one of the leaders of the young adults in the community. He was one of the pallbearers in several burial ceremonies during the 2013-2016 EVD epidemic before the government took over the burial role for safety reasons. Although he did not prepare the dead bodies for burial, he transported several EVD dead bodies wrapped in Shrouds to the graveyard for burial. He currently supervises the final burial processes and still helps as a pallbearer.

HCK10m was also one of the community leaders. He was a 58-year old businessman with a degree in accounting. He was also one of the chieftom leaders and presided over issues that were related to the community. He also monitored the number of cases of those who were diagnosed with the EVD, and took note of all the related mortality cases. He also belonged to the Muslim community as well as the traditional religion. He was also present in some burial ceremonies but did not officiate or physically come in contact with any of the EVD victims during the ceremonies. All the selected or enrolled subjects expressed clear understanding of their roles and rights for participating in the study. The participants also indicated that their participation was free of coercion, and merely voluntarily.

### **Data Collection**

After the IRB approval from both the MoH of Sierra Leone and Walden University, the recruitment flyers were sent to the five groups (M, C, T, P, & K) that were identified and discussed earlier. A formal invitation for enrollment of participants, which contained the informed-consent was sent to the selected individuals. The recruitment procedure and the interview process for the main study were the same as those used for the pilot study. The final 10 participants selected for the main study were from a purposive sample from the 15-remaining people who responded to the recruitment flyer. I discussed and reviewed the informed consent, the purpose of the study, participant's confidentiality, inclusion criteria, and the autonomy or rights to participate or withdraw at any time without any consequences with each participant. Each of the 10 participants were interviewed face-to-face in their natural setting, where they provided in-depth responses about their lived experiences of their burial practices and the 2013-2016 EVD related deaths.

After the informed consent was received, the participants' rights to voluntarily participate or withdraw at any given time without any consequences were again reinforced. They were informed of the estimated time to commit to the interviews if they chose to participate. The participants were also informed about the mode of data collection which included through hand written notes, direct observations, and audio recording. They were assured of their confidentiality, and that they were free to stop the interview process if they felt uncomfortable responding to the posed interview questions. Anyone who had any objections to the method of the data collection or questions was



free to express their opinion in the hope that any unanswered questions or concerns could be appropriately addressed. For all the interview sessions, no issues or concerns were raised or reported by the participants during the study.

Based on the participants' location preference, the face-face interviews with individuals were held in a private room at the local community center. A total of 10 face-to-face interviews were held in the backroom of the community center. All interviews lasted 45 minutes to 1 hour. During the interview sessions, four participants claimed they had private diaries containing information and documentations of their lived experiences of the 2013-2016 EVD epidemic, which they willingly provided to me for review. The diaries provided a wealth of in-depth information about the participants' lived experiences of the 2013-2016 EVD epidemic, and what they believed were the factors that contributed to the advent and transmission of the EVD in the country. The dairies were returned to the participants immediately after the review of the information and notes compared to the statements of the individuals. The information from the dairies were found to be the same as the responses of the participants to the research questions.

The same interview questions were used for each of the individual participants. There was no variation from data collection processes and protocols described in chapter 3 and no circumstances occurred that were unusual during the data collection. The data collected was transcribed and analyzed. The coded themes were identified based on the participants' responses. The data was audio recorded as well and transcribed into a Microsoft word document and saved in a secured password protected computer using a unique identifiable heading. At the end of the individual interviews, each of the

participants was recognized for their generous and voluntary participation. They were also reminded of the planned and scheduled follow-up focus-group interviews, which were also discussed earlier in the invitation letter sent to the participants.

The focus group interviews were conducted as described in chapter 3 using specific questions (Appendix C) which focused on the plans for the future of the entire community and the country as a whole. The data generated from the focus group interviews were audio recorded and hand written as well. Similarly, the focus group interviews were transcribed and analyzed. The first two focus group interviews, which involved 5 participants in each group, lasted for one hour, thus allowing sufficient time for each participant to contribute meaningfully to the discussion. The last focus group interview which involved the 2 members who were representatives of each of the 5 groups involved in the study, was held at various times and lasted for 30 minutes each. The use of the focus group interviews, with diverse individuals from the various groups allowed the individuals to discuss or share information that was beneficial about their mutual interests. The information they provided was focused on the improvement of quality of health in the community and could be used to prevent future diseases transmission. The audio recordings of the focus group sessions captured every spoken word mentioned during the interview. The recordings were replayed and reviewed with the groups to allow them to verify the trustworthiness and credibility of the responses. At the same time the body-language reactions and interactions with the group members to each other's responses were also captured and documented by hand-written notes. As member checking was important for credibility of data in the study (Richard, 2015), a

copy of the transcribed recordings was provided to each of the participants for their verification of accuracy of information. Data from the focus groups were transcribed, analyzed, and stored in a safe place. The entire interviews for the study were conducted within a period of one week, and no participant reported any discomfort from the research process.

At the time the interviews were conducted, I also observed the behaviors and body language of the interviewees. Observations made in the meetings were documented in my field notes, which included the reactions of the participants, their interactions with me and other participants, and their activities. These notes were reviewed and discussed with the participants after each meeting to avoid and reduce mainly researcher's bias in the study findings. All information collected were saved on a password protected computer hard drive, for which only the authorized person(s), had complete access. With the use of observation technique, I observed only the interactions, and activities of the participants. The observations made were discussed with the participants to clarify their actions and the perceived interpretations made for subjective interpretations, to reduce participants and researcher's bias, and to provide clarity to the meanings of the interactions and activities observed.

### **Data Analysis**

All data were organized by creating a log of all the transcripts and recordings of both the individual and focus group interviews. For this phenomenological qualitative study, the coding of the data was categorized and identified into themes. The themes were organized to create a meaningful information or pattern. The characteristic profiles of the

interview data were captured through a handwritten format and through an audio recorded device. The characteristic profile of the data captured also included observational notes and transcribed lived experiences described in personal dairies provided by some of the participants. The dairies were provided willingly to me by the participants who were eager to provide the most truthful and trustworthy information about their 2013-2016 EVD epidemic lived experiences, as a closure to the painful event. The following steps described by Janesick (2013) were used in organizing the data:

1. **Data Check:** Interview questions and corresponding responses were read and checked against the hand-written notes and recorded information.
2. **Data Storage and Maintenance:** The interview questions and corresponding responses for the individual interviews and focus group sessions were stored and maintained in a log using the Microsoft word document.
3. **Data Analysis and Interpretation:** The coded interview responses or data were imported in NVivo 10 software for thematization of the reoccurring pattern of key words or narratives.

With the Microsoft word document software, each of the RQs and participant's sub-interview questions were grouped alongside the responses. Each of the participants' responses were compared, to the interview questions to identify meaningful codes which were in the form of similar words, statements or phrases. In some instances, when the narratives provided for the same interview questions by different individuals were compared to one another, an alignment or similarity pattern to the responses were observed. Th aligned, or similar segments of the narrative that were compared were

highlighted, or numerically coded. Once a code was generated, it was repeatedly used if another narrative was similar to it or aligned to the codes defined in the operational construct. Patton (2015) and Creswell (2013) described coding as primarily a transitional process for data collection, analyses, and interpretation of information.

Some of the codes that were identified using word counts, and frequencies included; poverty, fear, disrespect of the dead and culture, poor hand washing, poor sanitation, cultural beliefs, inadequate assessment, funeral practices, abandonment, washing of dead bodies, bath water, a curse, invincible enemy, spirit of the dead, and lack of knowledge. At the completion of the identification and categorization of similar phrases, they were manually coded and saved electronically on the computer hard-drive, the interview questions and the corresponding derived responses were uploaded or imported into NVivo 10 software. The coding process was used to organize the themes generated from the participants' responses in an orderly structure. The ordering made it easier to identify themes from common response that were associated with each interview questions for all the participants. The themes extracted from responses using the NVivo software were compared to the manual transcripts, which showed substantial similarity. A line-by-line coding was used with NVivo to generate patterns and themes. According to Yin (2014) depending on the theory used, the theme coding for data analysis may vary, however, segments of the data could produce the same or similar information for various codes. The perspective of each individual could be similar or different, but their views of the phenomenon provided interpretive information (Yin, 2014).

For the data verification of creditability and trustworthiness, triangulation technique was used in comparing the information provided from documents (diaries), individual face-to-face interviews, focus group interviews, and observation notes. Triangulation approach applied in this study involved combination of various sources, verification of timed dates in the documents provided, and its alignment with the 2013-2016 EVD event timeline. According to Creswell (2013), reviewing qualitative or subjective narratives using different documentation approaches was important in enhancing the credibility and trustworthiness of the information. To advance the need for triangulation approach used in this current study, information described in Creswell (2013) on how multiple data sources are used in a qualitative study supported the idea.

The findings from the analysis were aligned with the RQs. The theoretical framework of the HBM was used to explain the phenomenon observed in this current study. The major themes emerged from the transcripts were analyzed and interpreted based on the following nodes:

1. Knowledge deficit of the EVD and transmission method from the nodes of knowledge, spirit of the dead, a curse, invincible enemy, and fear.
2. Importance of performing funerals and burial practices, from the nodes of beliefs, attitudes and culture.
3. Disrespect and distrust of the public health medical team view of the dead and culture from the nodes of distrust, culture, burials.
4. Lack of medical staff and logistics from the nodes of poverty, abandonment, and lack of support.

## 5. Community Preparedness

### **Evidence of Trustworthiness**

It was important to maintain the absence or reduction of bias in the process of the data collection and analyses. The components of trustworthiness, which included dependability, credibility, transferability, and confirmability were addressed in the study. To establish credibility in the study, after the IRB approval was obtained from the Walden University and MoH of Sierra Leone, the recruitment process began. Only individuals who signed the informed-consents were enrolled in the study. Also, a purposive sampling approach was employed, and each selected participant received comprehensive details of the study and purpose. The participants were provided basic information about the study and had several opportunities to ask questions and seek clarity for un-addressed concerns before and after signing the informed consent. Most importantly, the participants reserved the right to voluntarily participate or withdraw at any given time during the study, without repercussion. Data was collected in private and secluded areas, a setting arranged to provide privacy, confidentiality, and quietude. During the process of the study, participants were advised to contact or meet me privately should they need further clarifications about any issues or concerns. Information provided to the participants was included in the handwritten notes only if the individuals gave their verbal or written permission or authorization to do so. Among all the 10 participants interviewed, only two participants requested a meeting with me and had some questions which were personal in nature, but they did not want the information included in the

study, as it was not related to the EVD transmission. The methodology and approach selected also contributed to the integrity of the study's credibility.

To access the level of dependability, a pilot study was conducted with five participants to evaluate the integrity of the interview questions before it was used with the main r study population. The data collected from the pilot study provided information on how the participants would react to the study strategy, how the participants viewed the study, and their willingness to participate in the study. Based on the pilot study evaluation, the clarity and appropriateness of the interview questions, and the time and day of the week on which the participants were willing to meet for the interviews were determined. The interview questions, audio recorders, computer, Laptop, and writing materials were essential instruments for the data collection, recording, documentation, filing of data and validating the reported data (Creswell, 2013). In support of the dependability elements of the study, other measures such as transferability were applied to ensure data collected met the research standards in terms of validity, relevance, and dependability. Internal validity, saturation, data triangulation, and reflexivity were achieved on various occasions through recurrent engagement with the participants during the data collection process, by using the same data collection procedures for all the participants. It is important to emphasize that the same results may not be attained or achieved when the study is repeated and replicated or conducted at a different location, as factors such as differences in study participants, cultural practices, or biases may influence differences in the results or outcomes.



Transferability was achieved when the findings from a study are applied and compared to other studies using similar situations (Creswell, 2013). Transferability addresses generalization of the results. In this study, the small sample size (10 participants) used was consistent with the operational criteria of qualitative approach. With the qualitative method, generalization of observed phenomenon or outcome may not be determined because each participant's responses to the interview questions was subjective in nature. Moreover, an in-depth understanding of the phenomenon was obtained from a small sample of participants (Creswell, 2013). By using a small sample size (10 participants) for this qualitative study quality time was spent with each subject while exploring their personal lived experiences and understanding of the phenomenon investigated. With a qualitative study approach, when generalization of the observed findings or phenomenon was determined or considered with a single site study, it was possible that the study findings or phenomena may not be replicated in the same or different setting due to variability of subjective views and heterogeneity of the population (Creswell, 2013). Likewise, because current participants might not be accessible to other researchers in future, the results produced in such studies might be different (Creswell, 2013). Reporting the methodology and results of the study accurately might allow other researchers to replicate the study and improve transferability and dependability.

Confirmability was exhibited by accurately reporting the factual findings as expressed through subjective report of the lived experiences of the participants. During the interview process and data collection, continuous data-audit check enhanced confirmability of the results. Triangulation of data also enhanced confirmability.

Describing the study methods, procedures, maintaining transparency by disclosing the roles and biases, and discussing the steps taken to minimize or eliminate biases, supported confirmability. The steps outlined in the ethical procedures section of this dissertation were followed to ensure that protection of the human subject was maintained. Triangulation was used to code and describe transcripts and compare thematized data linkage to evidence identified (Patton, 2015). It was also important for an independent auditor to perform a counter-check of the interview responses and other characteristic profiles described in the narratives to help explore the validity and confirmability of the observation for possible replication purposes (Miles et al., 2014).

### **Results**

The results and analysis of the data collected were presented by discussing the participants' responses, derived themes, and alignment of the responses to the RQs. Each of the participants' lived experiences discussed and responses obtained from the focus group interviews were presented accordingly with the corresponding themes identified. Five categorized groups of themes identified from the data collected included: (a) EVD Knowledge deficit (b) Cultural-driven dignity and respect of the dead (c) Distrust of the government (d) Infrastructural deficit (e) Community preparedness. Based on the lived experiences' narratives or responses described by the participants regarding the burial practices for both the individual-based and focus group interviews, the thematized elements were interconnected and, in some cases, overlapped with the 5 identified categories of themes. The similarities between the themes helped in the organization of

the data and made the results more meaningful. Direct quotes from the participants are used and presented in response to the themes identified.

With the individual-based and focus group interviews, the experiences expressed by the participants revealed the lack of knowledge (knowledge deficits) about EVD and the mode of transmission of the disease, the importance of performing culturally-based funeral and burial rituals (dignity and respect of the dead), distrust of government or health care team by the community members (distrust of the government), overwhelming feeling of abandonment by the Government of Sierra Leone (GoSL) and the health care team at the national and international levels (infrastructural deficits), and the need of stringent health surveillance and safe public health practices during emergency situations (community preparedness) . All these codes from their responses were expressed explicitly in the 5 categorized themes stated earlier. The responses from the participants from the main interview questions (Appendix B) were used to understand and address the main research questions by analyzing the themes.

### **Participants and Focus Group Interviews**

RQ1. Based on the lived experiences of the Kono people who were purposefully surveyed, what were the Konos' traditional burial practices before the 2013-2016 EVD epidemic in West Africa?

From the discussions and interviews with the individuals and the focus groups, the analyzed information transcribed were reported verbatim. To the Kono people, burial was an activity accorded to the deceased with the utmost respect given based on the individual's mortal reign on earth. The Kono burial activities included the initiation of the

assembly of friends, families, and visitors at a designated gathering place to engage in prolonged periods of grieving ceremonies. At the gathering or assembly, food and other refreshments were served. Cultural performances were appropriate depending on the theme of the gathering. As people gathered at the scene, they consoled one another especially the family by touching, handshakes, embraces or hugs, and social network were advanced for social support needs. Burial ceremonies varied based on the deceased's religious and traditional belief system, but according to the participants in this study, all funerals involved washing of the bodies except for individuals whose deaths were related to their criminal acts and they died as punishment for their crimes (focus groups 1&2).

**Theme 1: Knowledge deficits.** Lack of health literacy and knowledge gaps about EVD and transmission was common among non-professional community, but good knowledge levels among community leaders and public health officials are necessary. RDC4m stated

I saw that many people were dying either from the same family or from the same group of people who lived and shared things like drinking cups, shook hands, embraced and participated in washing their hands in the same water used for washing the dead. I realized that this mysterious disease was being spread by contact of some sort between persons, but I was not quite sure. My suspicion was confirmed by the health care team when they came to talk to us about the disease.

**Theme 2: Cultural-driven dignity and respect for the dead.** The importance of cultural-driven values of traditional burial practices is customary, which explained how

unsafe burial rituals are common among the Konos. Participants' responses to RQ1 were similar in the description of the Kono burial practices. The description can be summed up in the responses which are described in the following statements:

KBT5m stated

Burial practices in our community depend on the religion of the deceased. We have Muslim, Christian, and traditional beliefs. In our traditional belief if a chief die, nobody has the right pronounce them dead except the societal leader. The corpse is taken care of in our ceremonial way. It involves a lot of ceremonies, which includes touching, washing and finally burial of the body. Only members of the Society can witness the burial ceremony. The water used for the washing of the dead body of a prominent secret society member is collected and used for various ceremonies which I cannot discuss with you now, but I can say that many people come in contact with the bath water.

HDC3m stated,

Before the EVD outbreak the burial practices included washing the dead bodies with soap and water. For Christian burials, the body may be buried immediately or kept in a mortuary to await the arrival of distant relatives. A male is washed and dressed by men and women appointed for that purpose dress females. The washing is done without any protection such as the use of gloves. A coffin is prepared, and the body is dressed in white linen, but sometimes a coat suit for men and pink or white linen for women is used. The body is then placed the coffin and family, friends, and sympathizers could kiss and touch the body after it is placed in the coffin. The body is then buried in a grave, which is

approximately six feet deep. For wealthy individuals, the inside of the grave is cemented with cement before the burial, but poor people do not have their graves cemented.

IJM1m reported,

The burial practices among the Muslims included washing of the body with soap and water. Usually an elderly person of the same sex is given the task to wash the dead. Others will assist him or her. After washing the body, it is wrapped in white cloth and placed on a clean mat. Those who washed the body also launder the clothes of the deceased on the same day. If the deceased was brilliant in Quranic recitation, the water used to wash the body is sprinkled on those people who want to emulate him and gain the knowledge of the Quran, and the charisma of the deceased. The body is then placed on a reusable stretcher and taken to the mosque for prayers. People can touch the body while it is wrapped in the cloth, to say farewell to the deceased. After the prayers, the body is conveyed to the cemetery for burial. In most situations the body is buried on the same day by two o'clock in the afternoon, before the evening prayers.

There was consensus among all the participants that washing and touching of the dead bodies was a practice that was undertaken by all the community members.

HCK10m reported,

One of the funeral practices involving society members required family members or relatives of the deceased washing their hands in a communal bowl after which they touched the face of the deceased, then touched their own faces. This practice is perceived as a 'love touch' that cemented unity between the living and ancestral spirits.

AJT6f also stated,

As I worked with some of the women from the various religious groups, I found in the instance of the death of a prominent person, such as a traditional leader, a Muslim cleric, or a societal leader, it was common for the mourners to lay over the corpse in the hope that some of the spiritual prowess or gifts would be transferred to them. The traditional belief also is that at the time of death, the family and friends are required to weep for an extended period for the decease. During that time, some of the relatives will touch the body as family members will lay over the body as they weep. The body is kept in the house in a room where children are not allowed access to it. The washing is performed by a senior member of the family, wife, or husband.

Given that the major mode of transmission of the EVD is through human- to - human contact with infected body fluids, the concept of the spirit of the dead and the burial practices, which involved washing and touching of the dead bodies, inadvertently contributed to the spread of the EVD in Kono (Coltart et al., 2017).

RQ2: Based on the lived experiences of the Kono people who were purposefully surveyed, did the burial practices influence the spread of the EVD in Kono, and how?

The responses from the individual and focus group interviews revealed that the burial practices that were in place prior to the EVD influenced the spread of the disease especially among the Muslims and individuals who practiced traditional beliefs. It was found from the research that the water used to wash the dead was disposed of at the back of the house, after other people had come in contact with it, by either washing their hands in it or rubbing it on their bodies based on their beliefs. The responses were reported from the themes addressed.

**Theme 1: Knowledge deficits.** Lack of health literacy and knowledge gaps about EVD and transmission was common among non-professional community, but there was good knowledge of the disease among community leaders and public health officials. The participants had similar description of what they knew about EVD, as a new infection. Some of the participants believed that the EVD was just one of the diseases that had been common to them such as malaria, yellow fever or typhoid fever, which was treated with antimalaria drugs or antibiotics. In some cases, individuals sought treatment for healing through prayers by the spiritual leaders, consultation with an herbalist, while others sought medical intervention from hospitals or clinic settings.

From the individual and focus group interviews, those who believed that the EVD was a curse or a supernatural event sought remedies through prayer and consultation with deities and gods through either a traditional healer or on their own.

IJM1m stated,

When we heard of the EVD, we thought that it was one of the ploys of the GoSL and the health care team, but when we realized that the whole families were dying from this mysterious disease, we resorted to prayers and consulting the oracle to save us from these evil spirits. We continued to touch the bodies of dead family members and did not hesitate to touch, hug and kiss the dead. We later understood that our lack of knowledge and practice of the burial practices contributed to the death of our people.

AJT6f responded,

I did not believe that the EVD was a disease because I was feeling well and people in our group were not among the first people affected. We were using herbs and



traditional medicines for others that were affected, and although they died, I believed it was destiny. When the government burial teams took over the burial of the dead and we were no longer allowed to touch the bodies, we realized that the number of people who were dying from the disease decreased. That was what made us we think about our practices and to believe that our burial practices most have played a role in the spread of the disease.

KBT5m stated,

When one of the women in our group fell sick and was having fever, diarrhea, and vomiting, the Witch doctor was consulted, and prayers were said for her. Although she was treated with the herbal medicines given to her, she died and 3 of the women who took care of her when she was sick, touched and cleaned her during her illness and after her death, also died from the disease. When the campaign and education about how the disease was transmitted and we saw images of some of the causes of the spread of the disease, I saw that all the things we have been doing were mentioned. These practices include; washing of dead, caring for a person infected with the disease, caring for someone infected with the disease, who was vomiting. All these touching of these people was done without any protective gear, especially gloves.

Many Africans believe that spirits exist and live among them. These spirits are either “evil” or “good” and they influence the lives of the people in a positive or negative way (Ekeke and Ekeopara, 2010). Therefore, when a disease of this nature occurred, it was like the spirits were angry with the people and a curse was on them. The signs and symptoms of EVD such as, diarrhea, vomiting, bloody stool, fever, body aches, poor

appetite, and sore throat were like other infectious diseases, except that approximately all the people affected in the initial stage died (WHO, 2014).

From the focus group interviews these responses were identified about the experiences of the participants: The responses were summed up by RDC4m who stated,

“Our people believed that the EVD was a divine curse for disobedience to God and resorted to self-treating with herbs, or prayers. It was only after we noticed the rapid spread of the EVD at the initial stage of the outbreak, that people began to listen to the public health teaching about what EVD was and how we could prevent its spread.”

According to (HDC3m),

“The EVD was perceived as an invisible enemy who was poised to wreck harm on our community irrespective of the efforts to contain it. When anyone was infected with the disease, there was no remedy but death. Victims were defenseless even in the presence of health care workers. Due to uninformed perception of EVD transmission among many Kono community members, several people died, deaths that could have been prevented”.

One of the participants NPK9m had the following comment to make about the cause of the EVD,

“The EVD was the result of the insurgence of borrowed culture resulting in transgression of the religion with reckless abandonment. One of these transgressions is the conflict in sexual orientation among the youths, which is a borrowed culture and wrongly copied by the youths. There was a consensus that the EVD epidemic in Kono was a curse by the gods for some of the transgressions espoused above.”

**Theme 2: Cultural-driven dignity and respect for the dead.** The importance of cultural-driven values of traditional burial practices is customary, which explained how unsafe burial rituals are common among the Konos. According to KBT5m,

“There is only a thin line between life and death. It is a transitioning from the world of the living to the spiritual world. Funerals and burials are crucial to our society. From the perspectives of the Kono people, the burial practices revealed that the transition was facilitated by the surviving relatives through the funeral and burial rituals. If the type of burial ceremonies performed for the deceased did not befit his position in society, the spirit failed to attain the more elevated rank of ancestral spirit, and the spirit was believed to return and punish the living. If an important person such as a chief or leader of the secret society die, secret rituals which I cannot discuss are performed prior to the burial of the body, but part of the ceremonies involve washing and touching of the dead body.”

HDC3m described the importance of burial practices in the following words,

“We believe that the dead must return to their maker, who is a supreme being. To embark on that journey, the dead needs to be washed clean and dressed in a clean robe. Failing to wash the corpse means that the dead will arrive unclean before his maker and he will not be given a good welcome. The dead will remain restless and wander between the dead and the living, causing destruction and ill-luck on those of his people who did not give him a final washing.”

RTK7m stated,

“Corpses were washed without any protective gear. The body of a loved one is touched by family members as they mourn. The washing of the body was mandatory. For

religious clerics, the water used for washing is rubbed on the forehead of those who want to possess the same charisma as the dead. The clothes of the person are removed, laundered, and distributed among the family members. The playmate or best friend of the deceased wears the clothes of the deceased for the three days immediately after the passing, without washing their clothes. Friends and families often talk about pleasant things about the life of the deceased to entertain mourners. If the deceased had a ring on, that ring is removed prior to the burial and given to the head of the family to wear as a sign of transfer of authority”.

RQ3: Based on the lived experiences of the Kono people who were purposefully surveyed, how did the Kono burial practices change during the 2013-2016 EVD epidemic?

The responses from the participants were very similar. Each of them confirmed that after the medical burial team took over the burial of all dead bodies, their burial practices changed. The responses were expressed by some of the participants as follows; HDC3m reported,

“Prior to the EVD outbreak, burial of the dead was a family or community affair. The way the community or family traditionally wanted to bury the deceased was dictated by the belief and position of the deceased in the society. When the medical burial team took over the burials of all, the body of the dead persons were not washed prior to burial. The bodies were sprayed with chlorine prior to burial, or they were cremated.”

Based on the responses generated from the focus group interviews, the participants confirmed that during the EVD epidemic, the Kono burial practices changed. KBT5m summed up the responses of the focus group 1 as,

“Burials were no longer family or community affairs, but the responsibility of the national government. No individual families could carry out any burials without the involvement of the government or medical burial team. After the individual was buried, the house was sprayed with chlorine, and the belongings of the deceased were burnt. The house is quarantined for 21 days, so no family or community members wanted to have anything to do with a dead body irrespective of their relationship with the corpse.”

RQ4: Based on the lived experiences of the Kono people who were purposefully surveyed, when did the Kono burial practices change after the 2013-2016 EVD outbreak?

I uncovered from the responses from individual and focus group interviews, that some drastic changes occurred in the burial practices starting in 2014, after the medical burial team took over the burial operation in Kono.

According to RTK7m,

“The Kono burial practices changed during the EVD epidemic control phase, when the health care professionals decided to take over the burial of the dead bodies. Corpse were collected by the medical burial team, and they were not washed. They were disinfected with chlorine and put in special body bags. No family or community burial team was allowed to get in contact with a corpse, irrespective of the cause of death.”

KBT5m’s response supported that of the other participants. He stated,

“The burial practice changed around October to November, 2014 when the death rate was so high that whole families were dying. This was when the Ministry of Health and the international health care team took a stand that no one was officially allowed to wash dead bodies, or bury them. All corpses were buried by the medical burial team without washing. The personal belongings of the deceased were either disinfected with chlorine or completely burnt. The other family members who had lived in the same residence as the deceased, were quarantined for 21 days.”

RQ5: What, if anything, changed regarding the Kono burial practices after the 2013-2016 EVD outbreaks based on the lived experiences of the Kono people who were purposefully surveyed?

Some of the changes that occurred regarding the burial practices after the EVD were described by the participants of their lived experiences in the focus group and individual interviews. NPK9m summed up the responses in these statements,

“Changes that occurred immediately after the EVD epidemic, suggested that people were afraid of the EVD survivors. The survivors were stigmatized and discriminated against and people did not welcome them in the community. After some time, people realized that the EVD survivors could live in the community without any adverse health events and that the survivors were not harmful to other members of the community. The survivors were however suffering from many health problems, but the government did not help them, especially the adults, who did not qualify for the government free health care program.”

HDC3m also substantiated the idea of the changes that occurred in the following words;

“After the EVD epidemic, the burial practices changed from medical burials to normal burial practices that were practiced before the advent of the EVD. When the EVD was declared over, the ban on burials was lifted. We now wash bodies and dress them in white cloth before burials. Mourners were again allowed to accompany the dead with no hindrance. Pastors, Imams and traditional leaders were allowed to come close to the grave and even lay hands on the dead.”

RDC4m also stated,

“After the EVD was declared over, we returned to the practice of touching, prior to washing of the corpse, washing the corpse with soap and wrapping the body with white cloth and allowed families and friends to touch the corpse. We resumed shaking hands with others and hugging people we know. We do not hug or shake hands with strangers, as the experience with the EVD has taught us to be careful about social contact, especially with strangers.”

The above RQs (RQ3, RQ4, and RQ5) are interrelated as demonstrated by the participants’ responses. Based on the participants’ lived experiences, the responses to the questions were obtained from the sub questions posed to ascertain the changes that occurred in the burial practices during and after the EVD epidemic. I uncovered from the responses from the participants that the medical team effort played a major role in bringing the EVD epidemic to an end. On the other hand, the method employed by the public health professionals and the medical burial team, angered the community because of the way’s burials were performed.

According to RDC4m,

“The government and the WHO took over the burial of practically every dead body irrespective of the cause of death. Every corpse was treated as suspected cases of EVD and body bags were used to bury the deceased, but most of the bodies were cremated. It was perceived that contact with the body fluids of a person who died of EVD would transmit the virus. All the people who died during the EVD epidemic were treated as potential infected persons, irrespective of the cause of death, in the absence of any confirmed laboratory investigations. Although this practice helped to halt the transmission of the disease to a significant extent, it caused distrust of the health care teams for categorizing every death as caused by the EVD.”

According to HDC3m,

“The EVD had an adverse effect on the lives of the people in my community. There were restrictions in movement, trade, and social interactions. Consequently, things became harder with food shortage, economic retrogression, and unemployment becoming prominent. Everybody around me was suspicious of the other until the epidemic came to an end.”

According to the focus group narratives as described by KBT5m,

“The changes in the burial practices dramatically occurred through the introduction of the medical burial team, which did not request the consent of the community members. The EVD control phase came about because of sensitization through radio discussion, community meetings, education by religious leaders, posters, and banners that facilitated dissemination of messages to promote knowledge and health literacy about the disease.” The responses as discussed in the themes supported the



documentation of how the Kono community members felt about changing their burial practice, because the culture and beliefs were challenged by the decisions taken by the health care professionals.

The responses based on the third theme provided information on the causes of the participants' resistance to change their culture and belief systems.

**Theme 3: Distrust of the government.** The Kono community or members of the Kono community had and developed distrust and resentment towards the governmental officials and public health agencies or medical teams. In Sierra Leone, each of the fourteen regions has a District Health Medical Team (DHMT), which responds to the health care needs of the district. During the EVD epidemic in Kono, the local health care workers in the district, in collaboration with the national and international partners, developed guidelines for patients' care and burial of the dead (WHO, 2015). Through interviews with individuals, most of the participants confirmed that in the efforts to reduce the spread of the EVD, the WHO in conjunction with the GoSL set guidelines defining how the bodies of the victims were to be handled and subsequently buried. RDC4m described the guidelines which constituted the medical burial practices as culturally incorrect.

He stated,

“Some of the measures in the guidelines such as cremation of the dead, are in direct conflict with the widely held views of life after death. Therefore, given the value placed on funerals and traditional burials, to maintain a cordial relationship with the dead, we believe that the medical team disrespected the culture and traditions of the Kono

people. To buttress the concept of the feeling of disrespect about the culture and traditional beliefs IJM1m stated, “the public health workers decided to disrespect our dead through unilateral protective measures. The measures were therefore interpreted as disrespectful as the community was not involved in the planning of the guidelines, which was all about them”.

AJT6f corroborated the feelings expressed by the previous participants about the idea of cremation of the bodies. She stated,

“My family members were taken away when they died and we understand that they were among those who were cremated. Their spirits will never rest in peace. I have been having dreams about them and they have been coming to other people in dreams to let us know that their souls are in torment due to the cremation. We have no graves to go to for pouring libation. All we have done to appease the spirits is cook food and keep in the rooms where they used to sleep, in order help them on their journey to the spirit world. We did not trust the government because they did not respect our traditions and culture.”

During one of the focus group interviews, NPK9m who appeared rather melancholic revealed that there was general distrust about the entire fight against the EVD. He stated,

“At one point we were told that whoever contracted the EVD had no chance of survival. Those who were affected were taken to the treatments center and sprayed with chlorine, which resulted in their deaths. No family members could care for a suspected

EVD case. We believed that there was a conspiracy to deliberately end a culture that we believe underpin our very existence.

With regards to whether the medical burial practices disrespected the dead during the EVD, ABM2m replied, “Distrust was obvious because the medical team disrespected our esteemed cultures, exposing us to the wrath of our ancestors.” There were mixed responses as to whether the prescribed medical burial practices helped to decrease the EVD infection rates. Those in the focus group who believed in the cultural beliefs claimed that the decrease was due to the mercy of their ancestors and a supreme being who decided to show mercy on them. A similar belief was held by the traditional leaders who believed that the surge in the rate of the EVD was due to the fact that the burial teams angered their ancestors. After much sacrifices to the spirits, they were appeased and the number of EVD cases started dropping (Koroma & Lv, 2015).

After the EVD epidemic, it was found that there was no change to the pre-EVD burial practices. From the responses, from the participants who were purposefully surveyed, it was ascertained that the Kono people believed that burials performed by the medical-burial team were disrespectful towards the dead and culturally insensitive. Thus, they distrusted the objective of the burial team. Nearly all participants reported that they refused to initially accept the fact that the EVD was real. People did not trust the EVD sensitization introduced by the health care team in the beginning, but after the sensitization and the death toll decreased, when the cultural practices began to change, the people believed that the EVD was real (Stehling-Ariza, 2016).

Notwithstanding, compliance to precautionary measures set by the WHO and the local government was inadequate. Overall, most of the participants reported that by 2014, all deaths were treated as suspected EVD cases and subjected to forceful medical burials (Stehling-Ariza, 2016). Body bags were used to bury the dead after all necessary medical procedures were performed, which did not include the burial culture or rituals of the Kono people (washing of the dead). It was a consensus among all the participants that the medical burials reduced the number of reported cases. The belief of the Kono people was summed up by HCK10m who stated,

“We do not want another EVD outbreak, but if it does reoccur, we are now better prepared to give dignified burials to our own dead. In the event of a future outbreaks, only a little support will be required from the health care system for burials. We will use the experiences and knowledge, skills, and experiences learnt from the previous outbreak.”

**Theme 4: Infrastructural deficits**, there were insufficient or lack of adequate essential medical supplies, staff, resources, technical assistance and logistics in Kono during the 2013-2016 EVD epidemic necessary to protect against EVD to reduce transmission rate. There was limited supply of medical equipment such as PPEs, trained health personnel, and burial team members to care for those suffering from the EVD and other non-EVD related diseases, due to limited government fund allocation for health care (WHO, 2015). Due to the lack of government resources, global assistance and the chronic poverty of the local communities, there were inadequate public health services

for the community, which also resulted in the lack of trust of the health care systems.

RTK7m stated,

“Poverty influenced the burial practices and in turn the spread of the EVD in Kono. The lack of body bags to put the bodies in, morticians, drivers, and burial team members caused corpses to be abandoned in hospitals and many health care workers left their centers and hospitals due to lack of appropriate and adequate PPEs. This lack of equipment and support resulted in families burying their own dead in unsafe manner.”

JJK8m also reported,

“The funds allocated and available health care teams’ spending determined the number and quality of doctors, nurses, clinics, hospitals, medicines, and supplies provided to any community. In Sierra Leone, public and private health spending is generally low, which affects the number and quality of healthcare personnel, medicines, supplies, clinic sites, and hospitals.”

Many years of underfunding have left the health care system critically short of the basic medical equipment, drugs, and operational logistics needed to implement daily health care and infection control measures (Stehling-Ariza, 2016).

IJM1m stated,

“At the beginning of the EVD we had only one ambulance in Kono district and it was mainly used to transport pregnant women to the clinics when they are in labor, so they did not deliver in the villages. There were very few gloves for protection, and the nearest EVD treatment center was in Kenema, which was far away by road, which resulted in people using their bare hands to touch the sick and dead. The transmission of

the EVD increased sporadically at the start of the disease based on the poverty, lack of protective equipment, and poor hand hygiene.”

RQ6: What are the future burial plans of the Kono respondents if there was another EVD epidemic in Kono based on the lived experiences of the Kono people who were purposefully surveyed?

**Theme 5: Community preparedness.** The Konos were more willing in 2018 (compared to the 2013-2016 event) to quickly revert to practicing safer burials if EVD future outbreaks were to return. To ascertain the future burial plans of the Kono respondents in the event of another outbreak of the EVD, the participants were engaged in focus group interviews. The responses were summed up by the following participants; RDC4m stated,

“We intend to adjust our burial practices in the event of an outbreak of any virus outbreak including the EVD. We would adhere to health advice of the health care team regarding our burial practices and when to seek care for any health issues.”

KBT5m similarly responded,

“We plan to form community burial teams supervised by medical personnel. We want the burial practices to be more respectful, safe, and reflective of our culture with contact of the dead only using protective equipment, to prevent any transmission taking place. We are praying that such a virus will not come to our country again, but if anything of this nature occurs, we have gained very valuable knowledge from the medical team to know that the EVD was controlled due to the medical burial teams’ effort.”

IJM1m also reported,

“We realize that after our burial practices changed and the number of reported cases dropped until finally the EVD was contained, we modified our behavior towards the medical burial practices introduced by the WHO. However, this change in our burial practices was temporary as distrust for the medical staff resurfaced soon after the end of the epidemic, with people reverting to their old burial practices. All the measures that were put in place by the government and the WHO have changed after the EVD ended. We have reverted to the cultural practices before the advent of the EVD especially the burial practices. If the EVD reoccurs, I think we will go back to the measures that were put in place that helped control the epidemic. The community is now more prepared to recognize, and report suspected cases of the EVD. I think the government now has a better system in place compared to what they had prior to the EVD. Each person in the community should be watchful for any new sickness and report to the health care team immediately.”

JJK8m likewise stated,

“Handwashing with soap and water and the use of hand sanitizers were introduced and enforced during the EVD epidemic. Practices such as, hugging, kissing, and touching each other was abandoned during the epidemic, but these practices have resumed, although people are more cautious in engaging in these practices. Hand washing and the use of the sanitizer is currently only being practiced by the health care personnel. Most of the protective suits and the medical supplies that were kept in storage in case of another outbreak are no longer available. In the event of another outbreak, we hope to continue and reinforce the practices of good hand hygiene and encourage the community to adhere

to health. Multiple sources were used to sensitize the community about health preventive behaviors. We will continue to provide education to the community on any virus and keep them informed of what to do in the event of another outbreak. Continuous training and education are in progress for medical staff and traditional healers on the prevention, identification, and management of any new outbreaks.”

In the same vein NPK9m responded,

“We have now learned what signs and symptoms to look for and we are no longer going to keep information of any suspicious diseases hidden. We plan to inform the health care team of any suspicious illnesses as soon as possible. We will not bury any of the dead if we suspect that the death was related to an unexplained disease without informing the health care team. We now have trained members of the community to survey the community and report and educate the families on what signs and symptoms to report to the health care team. Some men who are survivors of the EVD were told that they can still infect other people especially sex partners as they might still carry the EVD in their semen, so these men have not been able to marry even after the EVD was declared to be over. We have also seen other medical conditions such as blindness, headaches, and weakness. After witnessing the problems these survivors go through daily, we plan to continue medical burials if there is another outbreak.”

From the focus group interviews the views were summed up by JJK8m in the following statements:

“We hope the EVD does not come again so that we can uphold our cherished culture to give befitting burial practices to their departed ones. However, should there be



another EVD outbreak, we plan to form community burial teams to be supervised by medical practitioners to give burials some cultural touch. This will make burials more respectful, reflecting our culture, with physically contacting the dead.” He further went on to say that many things have changed such as awareness of the causes of the EVD, need for good hand hygiene, lack of touching and hugging, and the people are more aware and careful because of the education and trainings they received. The number of clinics and staff have increased, but the problem of inadequate medications and equipment for the staff to work with is still present.”

### **Summary**

The data presented in this study were obtained from the face-to-face and focus group interviews conducted with 10 participants related to their lived- experiences of the burial practices of the Kono people, and the transmission of the recent 2013-2016 EVD epidemic in Kono district. The sample consisted of 8 male and 2 female participants who met the criteria for the study. The five themes which included: (1) Knowledge deficits, was used to described the health literacy gaps about EVD outbreak and mode of transmission among the Konos, (2) Dignity and respect of the dead; described the cultural significance about funeral rituals and burial practices by the Konos as customary and invaluable; (3) Distrust of government; described the mistrust of the operations and intents of the government and public health officials in Kono District during the 2013-2016 EVD outbreak; (4) Infrastructural deficits; described the lack of or inadequate supply of basic medical materials such as gloves, medical equipment, staff, and logistics in Kono; and (5) Community preparedness: As of July,2018, there was an increased

willingness (compared to 2013-2016) to quickly revert to practicing safer burials if and when EVD outbreaks were to return to the Kono District. The described and identified themes were formulated from the information gathered from the participants regarding their lived experiences of the burial practices, and the transmission of the EVD outbreak. The process of how the data was collected and analyzed, and how the information from the themes were used to answer the main RQs was also addressed in this chapter 4. In chapter 5 of the dissertation, the interpretation of the research findings, recommendations, implication for social and policy change, limitations, and conclusions were discussed.

## Chapter 5: Discussion, Conclusions, and Recommendations

In this chapter, I interpreted the findings and present the limitations and recommendations for further research. I also explained the research process based on the theoretical framework (HBM) used for this study to enhance trustworthiness of the findings. I found that the 10 participants interviewed had enough knowledge of the phenomenon, to answer the RQs. The HBM supported the perspective of social cognition and suggested action and motivation toward positive social change in behavior or lifestyle.

Rosenstock (1974) indicated that perceived susceptibility to the disease is determined by individuals' perception. As evidenced by the lived experiences of those interviewed, the seriousness of the disease was not initially perceived by the people in the community until several people had succumbed to or died from the disease. The perceived susceptibility to the disease, which was partly influenced by burial practices, prompted the adoption of changes to burial practices and health-seeking behaviors implemented by the government and health agencies.

Findings from this qualitative study provided a better understanding of the burial practices of the Kono people and the aspects of the practices that influenced the 2013-2016 EVD epidemic. Findings also provided relevant information that could effect change in community-based policies regarding burial practices or unsafe cultural rituals. All of the participants expressed the need for stakeholders, policymakers, the federal government, the local government, and nongovernmental organizations to develop

culturally sensitive educational policies to promote EVD awareness, prevention, and intervention.

### **Interpretation of the Findings**

I summarized the most important components of the study, which included the five themes. I also discussed the limitations, conclusions, implications to social change, and recommendations observed as follows:

#### **Theme 1: Knowledge Deficit of EVD and Mode of Transmission**

Participants expressed varying understanding of EVD as either a natural or supernatural event. Participants who understood the EVD epidemic as a supernatural event ascribed the outbreak to attacks by evil spirits or satanic powers from their ancestors. These participants believed that the disease was related to a curse or punishment on them or their families and the community for some wrong perpetrated by their ancestors. These individuals sought treatment from spiritualists, tribal healers, Imams, priests, or other traditional healers such as witch doctors or herbalists.

On the other hand, those who believed that the disease was a natural event understood that it was a fatal and an infectious disease. These individuals were curious to understand the cause and treatment at the initial stage. They understood that the Ebola virus was transmitted through contact with body fluids from one individual to another through interaction either with infected health care professionals or patients with EVD. The individuals who understood EVD as caused by an infectious viral pathogen sought treatment and encouraged others to seek treatment from health clinics and hospitals. One male respondent suggested that he thought that unsafe exposure to chlorine disinfection

sprays may have caused some deaths that were attributed to EVD. This individual further suggested that the spray of bleach on suspected EVD patients caused an unintentional adverse health outcome rather than the intended outcome to minimize viral contamination and cross infection.

Similar to the findings from this current study, Coltart et al. (2017) reported that the fears of contagion from health facilities and mistrust of public health officials or government officials were barriers to health care seeking behavior, early diagnosis, and prompt treatment for disease control and prevention. The mistrust of government supported the themes identified in the current study. According to Phua (2015), the EVD epidemic continued unabated until unsafe burial practices were addressed. Unsafe burial practices also emerged as a key finding in the current study. Participants reported that deficient levels of EVD health literacy among members of the Kono district presents an ongoing threat to quality of life and infectious disease control. Community preparedness as a control measure for disease prevention was also emphasized Spengler et al. (2016).

## **Theme 2: Dignity and Respect for the Dead**

The participants unanimously reported that the motivation for the traditional funeral and burial rituals by the Kono people was cultural and religious. Prior to the EVD epidemic, physical contact with the dead was maintained until interment. During the 2013-2016 EVD epidemic, the unsafe culture-driven burial practices drastically changed, and virtually no traditional cultural practices or religious formalities were observed. Dead bodies of Muslims, Christians, and member of other belief systems were buried in one location known as the Ebola burial site. Family members' visits were restricted at the

burial site. The home of the deceased and surviving family members was quarantined for 21 days after EVD-related deaths. In addition, the belongings of the deceased were sprayed with disinfectants or burned to prevent cross infections. These practices by the medical team halted the spread of EVD but angered the community as their practice of washing the dead was restricted. Since the 2013-2016 EVD event, the Kono burial rituals are again being practiced. Because of the reversion to unsafe burial practices, the Konos remain vulnerable to future EVD outbreaks (Coltart et al., 2017) that would require the reimplementing of culturally sensitive safe burial practices for outbreak control (Nielsen et al., 2015).

### **Theme 3: Distrust of Governmental Officials and the Public Health Medical Team**

Other researchers described the influence of poorly equipped health systems and how it contributed to the EVD outbreak in Sierra Leone in 2014 (Coltart et al., 2017; Levy et al., 2015; Nielsen et al., 2015). Participants in the current study also emphasized that health systems in Kono were underequipped to manage and treat patients with EVD during the 2013-2016 epidemic. Participants expressed disappointment and frustration with the government and public health officials during the 2013-2016 EVD epidemic. Participants indicated that many people were afraid to report actual or suspected cases when they or their family members were sick because of the perceived stigmatization, poor treatment, or lack of treatment by health care practitioners. People were dying, and those suspected of having the disease were sprayed with chlorine at the treatment centers, which resulted in many deaths. Most participants, except for the public health workers, expressed distrust of the government and the global health care team based on the ways

medical team burials were conducted. The community did not trust the medical team's handling of the dead as burials were conducted without the full involvement of the community leaders or members of the family of the deceased. The culture and traditions of the people were ignored. Cremations in many cases were performed with body bags. There was no washing of the body before burial, and prayers for the dead before burial were ignored by the government medical burial team, all of which violated the culture and beliefs of the Kono people. The distrust of the government and the health care system dissuaded members of the Kono community from seeking care at health centers for suspected or active cases of EVD during the outbreak. It is therefore crucial for the government to be trusted by those being governed.

It was clear from the responses received from the participants that it was not only the community and traditional healers that needed education and training about the EVD. The public health professionals as well needed culturally sensitive education (culturally competent driven health literacy) involving the community leaders, to ensure the participation and adherence of the community. This observation was supported by Spengler et al. (2016) who had placed emphasis on culturally sensitive interventions to ensure success of programs tailored to and for the community.

#### **Theme 4: Infrastructural Deficits on Medical Staff and Supply Logistics**

The EVD epidemic was a strange event to the people. Currently, uncertainties still exist, and the cause of the emergence of EVD is still baffling to the Kono people and global health community. According to the subjects who participated in this study, health care facilities in Sierra Leone are underequipped and understaffed with a poorly trained

medical team. Most of the medical staff at many health facilities are poorly trained (Chan, 2014). Unfortunately, the international public health community got involved in providing medical assistance a little late as the EVD spread rapidly and mortality rate increased. Although the public health personnel tried to address the needs of the people as much as they could, they lacked resources needed or they were inadequate to stop the disease from spreading. The efforts of the global health were challenged by the health care workers, community leaders, and policy makers, as there was no known cure or standard mechanism or protocol to manage the disease. As the death toll worsened, panic set in among the people, as the ignorance about the mysterious disease that was killing people indiscriminately grew and introduced fear in the people. The ignorance generated fear and many people panicked during the 2013-2016 EVD epidemic, which resulted in mass flight of people including government officials and health care workers out of the suspected epicenter into the city or perceived safe environment (Chan, 2014). It was reported by the participants that when they realized that there was lack of trained medical staff, medical/epidemiologic logistics, and no cure for the disease, there was fear and panic among the public, which made it very difficult for the health care team to gain access to the public. People were refusing to contact the health care team as there was no confidence in the care the health care team suggested to provide to them. Several participants reported that there were no supplies such as gloves and other equipment that were needed for safe burials in the community. The lack of supplies was a concern reported by other researchers who had conducted previous EVD-related studies (Nielsen et al., 2015; Levy et al., 2015).



**Theme 5: Community Preparedness**

The findings from the study suggested that there was increased willingness as of 2018 compared to 2013-2016 for the members of the Kono community to quickly revert to practicing safe burial practices. They were referring to the burial practices which were introduced by the government medical team during the 2013-2016 EVD epidemic, and they plan to practice same practices, if EVD outbreaks reemerge in Kono district in the future. This finding suggests that despite some frustrations with the government and public health officials, the people realized that the government interventions, perceived by the community as a draconian approach to ensure safe burials, saved many lives in Kono district. Hence, the mutual goal was to ensure adequate community engagement and outreach, continued EVD surveillance, health education, and a commitment to ensure safer burials that are dignified and acceptable to all communities within Kono district. The current advancement in the community-driven EVD knowledge transfer supported the continuous efforts of the community leaders and public health teams to work together to provide community engagement, linkages, and promote safer burials rituals, in a culturally appropriate manner, (Nielsen et al., 2015).

**Limitations of the Study**

The study produced some valuable information that were credible from the lived experiences of the participants, but there are inevitably limitations as well. Inherently, the limitations of a qualitative method are interview-driven with a small number of people which may not represent the opinion or view of the target population. Such views are also interpretive and subjective. The information obtained pertained mainly to the burial

practices of the Kono people and was not a generalization of the burial practices of other tribes in Sierra Leone. Moreover, some of the participants, especially the traditional leaders were not willing to discuss certain rituals related to the burial practices that they reserved only for members of their secret society, which limited the information described. Another limitation was that the data collected was based on face-to-face interviews, which were self-reported. A self-reported data is not often reliable, as the presence of the interviewer may influence the response the interviewee (interviewee bias). In some instances, the responses could be provided to simply please the interviewer. Furthermore, when individuals self-report, their responses are based on their perception of right answer instead of what is genuinely or objectively fact-based rather than their perceived lived experiences. Subjectivism-driven response could be deemed as a limitation in the form of bias, which could decrease the credibility and validity of the information presented.

Another limitation identified was interview-time. All avenues were explored to make sure that there was enough time for conducting the interviews, documentation, and observations of the participant. Due to the length of time the participants were available, interviews were conducted every other day as was agreed upon between the PI and the participants. Moreover, the analysis of the study and the evaluation of data was based on the interpretative view of the evaluator or interviewer. Another evaluator or interviewer could have interpreted the same data differently and described finding narratives that are different than what was discussed here. I anticipated research biases due to cultural and language barriers. Fortunately, this was not a problem as I spoke the Kono language

fluently during the interview process when needed and some of the participants recognized me as part of the Kono community member from 30 years ago, when I taught at a school there. At that point, they were willing to speak the common language, which is Krio with me. If needed, I asked the participants to repeat the responses in English, which they did. No interpreter or translator was necessary for this study because I also spoke Krio and English fluently. The findings of this study were limited to the themes that were analyzed from the responses produced by the ten participants selected. Finally, the possibility that I could have introduced interviewer-based bias by having some prior knowledge of the culture of the Kono people was unlikely, because that did not become an issue. The participants were not intimidated by my presence and they were not coerced at any time provide their responses during the interview sessions.

Despite the limitation discussed above, the findings observed were credible and reliable from the views of the interviewee and interviewer. The method used for the data collection and analysis were thorough. The pilot study was conducted to assess the consistency and integrity of the interview questions which were used to validate other instruments (interview approaches) of the study. The study instruments (interview questions, protocols, researcher assessment, etc.) used to measure and attain reliability in the study were credible. The findings were applicable to other contexts, and the findings were confirmed by the participants as credible experiences, which ensured trustworthiness in the study. Data triangulation was incorporated, and credibility was ensured with repeated and multiple engagements with the participants to confirm research findings. The knowledge gained from this study provided an invaluable understanding

into the culture and burial practices of the Kono people from the lived experiences of members of community with various religious backgrounds and professions. It was established that it is critical for health care professionals and policy makers to involve members of the community for which any program is planned, to ensure cooperative participation of the community, and the success of the program or intervention.

### **Recommendations**

Findings from this study reflected the lived experiences of 10 individuals of how the Kono burial practices influenced the spread of the 2013-2016 EVD epidemic in Kono, Sierra Leone. Although the EVD had been in the news since 1976, the origin of the disease is still unclear. There is gap in knowledge among researchers about the clarity on the evidenced-base causes and MOT of EVD. Currently there is lack of knowledge of some aspects of the burial practices of the Kono people involved in or who are members of the secret societies. These people practice other secret rituals which were not disclosed in this study and knowledge of how those practices might have contributed to the transmission of disease is still unknown.

It is recommended that further studies be done to explore the lived experiences of other tribes in Sierra Leone and the spread of the EVD. Each of the tribes practice unique traditions and culture and although they have members who belong to the Muslim or Christian religion, the traditional cultures may be different. It is further recommended that future studies be done to explore the community understanding of the EVD and any future outbreaks of infectious diseases in relation to fear, burial rituals, and community resistant to seek care during EVD reoccurrence. There is also the need for further

research about any EVD-related vaccines that are currently available. It appeared that the vaccines and drugs that were used during the 2013-2016 EVD epidemic were not very effective. Study about the vaccines or cure of the disease may be useful in providing information on what is known about the disease to the community and thus, re-establish trust of the community in the government and the health care system.

### **Implications**

Despite the global concerns about the fatal nature of the EVD, the potential for reoccurrence of the disease still loomed high. Countries with poor socio-economic status, poverty and poor infrastructure, and shortage of medical personnel and equipment remained poorly-prepared (Dynes et al., 2015). As Sierra Leone is one of these poorly-prepared countries, I sought to understand the lived experiences of the Kono people of their burial practices and the mode of transmission of the EVD during the last epidemic. Since the disease initially broke out in Sudan in 1976, it has remained a challenge for health care practitioners to manage the EVD outbreaks. The information from this study may add to the existing knowledge to help stakeholders and policy makers in their decision-making process. Factors discussed in this study that contributed to the transmission of the EVD from the burial practices included; washing of the dead bodies of Ebola victims, touching of the body and body fluids, kissing of the body, wearing of the contaminated clothes of the deceased, poor hand hygiene, and human- to-human contact.

The application of the HBM was useful in articulating and describing the themes identified based on the modifying factorial components such as the individual belief

systems, and cues to action or inaction. The fatality nature of the EVD outbreak to the community were discussed through the lenses of the participants and their perceived susceptibility to the disease. Through these subjective lenses, behavioral changes were observed to promote informed decision-making processes and to advance positive social change among the members of the community. The responses from the focus group was summed -up to confirm the decision of the participants.

IJM1m on behalf of focus group 1 reported,

We have learned that we should all work towards preventing the EVD, because once it enters a community it is difficult to control it. We recognize that regular hand washing is essential for disease prevention, we encourage our people to continue to wash their hands and to be watchful, in case of any strange disease in the community.

Findings from this study would be useful in providing health education to the community members, families, and individuals in identifying signs and symptoms of EVD or any new infection, to prevent the spread of the disease. The findings could provide understanding for health care workers, community members, and policy makers to work in collaboration to plan strategies to contain and prevent future outbreaks. The implication for social and policy change is that the findings from this study could change unsafe practices and improve the awareness of the community. The social change could come about through health education and literacy efforts, policy implementation, individual and group- decision making processes. As the global health practitioners work in collaboration with the Sierra Leone government on policies on disease prevention and strategies for future outbreaks of infectious diseases, the findings from this study could

contribute meaningful elements and knowledge required to support these policies. The involvement of the community in implementing the findings may result in empowerment of the community to understand and cope with the threat of the disease. The lived experiences of the individuals provided an insight into their understanding of how the EVD outbreak affected their lives and the community. The knowledge gained may change the overall perceptions of the members of the community about EVD transmission and their burial practices as a mode of transmission of the disease. The knowledge from the study positively influenced the way the community people plan to approach any future EVD outbreak.

Attitudes towards the 2013-2016 EVD initially were overtly negative. Most of the participants expressed refusal to accept that the 2013-2016 EVD was real. After sensitization from the public health practitioners, the people learned about the 2013-2016 EVD transmission modes. Although the people became aware of the modes of transmission of the 2013-2016 EVD were mainly through contact with the fluid from infected humans and animals, it was difficult to abandon their cultural beliefs and practices in performing burial rites for the dead. I believed that had the WHO and the rest of the health care teams met with the community leaders, to inform them about the fatality of the disease and collaborated with them in forming the medical burial team, there would have been less resistance from the community. The lack of transparency from the health care professionals resulted to many hidden corpses and people dying because they refused to seek medical health. The findings from the study revealed that the community members distrusted the intent and reasons for the administration of the Ebola vaccines

and experimental treatment, which were unhelpful in fighting the epidemic rise. Although participants hailed the experimental vaccines, no one was ready to accept the vaccine to be administered to them or to their children.

I chose this research topic because I wanted to contribute some positive information to understand the disease that caused so much destruction to the people in so many countries around the world. By understanding the lived experiences of the people and allowing them to express their views and be heard, people are empowered to continue to engage in positive health behaviors. From the interviews with the participants, I realized that their culture was very important to them. Although their attitude towards their burial practices have not changed much, they acknowledged that they know what to do in case there is a reoccurrence of the EVD in future. Some of them do practice hand washing hygiene, but they have reverted to their burial practices that were in place prior to the advent of the 2013-2016 EVD outbreak.

### **Conclusion**

The finding from the study suggested that the people in the community understood that the 2013-2016 EVD was a deadly disease that killed many of the people in their community and destroyed their way of life. They also believed that their burial practices and the choices they made in their health-seeking behaviors during the epidemic had grave ramifications for the control of the disease. They further believed that although the restrictions on their traditional burials threatened their cultural sensibilities, they reluctantly agreed that the draconian measures probably helped control the outbreak and prevented more deaths. The pattern of health-seeking behaviors among the people was



based on their perceptions of the EVD as either a natural or supernatural occurrence. After sensitization and education about the disease and mode of transmission, the attitudes of the community changed, and medical burial protocols were enforced. The measures that were put in place by the WHO, the government of Sierra Leone, and global health professionals, which included medical burial protocols, quarantine of homes of the suspected and active cases of the disease, cremation, and hand hygiene, contributed in the containment of the disease. The purpose of the study was to explore the lived experience of the Kono people about their burial practices on the rapid spread of 2013-2016 EVD epidemic in the area. Data used to explore this phenomenon was collected through face-face interviews with individual-based and focus groups, as well as observations, and written documents from participants, the data provided relevant knowledge on the phenomenon that could be useful for discussions by policy makers, health care workers, and stake holders. My hope is that the information generated was accurate, valid, reliable and reproducible for the prevention of future EVD epidemic and other infectious disease outbreaks.

Several recommendations were made for the prevention of future outbreaks and for further research. Based on the information provided in this study, it was recommended that at the initial stage of the EVD outbreak, the causes and mode of transmission of the disease be identified. Early identification is critical for appropriate prevention and intervention and to prevent negativity towards the disease, which may result in negative health-seeking behaviors. It is hoped that the community people may adopt knowledge they acquired through their lived experiences to improve positive

health-seeking behaviors, to ensure positive social change in behavior. Moving forward, it is also expected that health practitioners should adopt steps to encourage positive thoughts and understanding of the diseases to improve the current and future preventive measures. It is also hoped that the health practitioners would utilize the knowledge gained from this study to plan culturally sensitive programs and educational materials for the communities. Approaches to health promotion interventions by health professionals should include inculcating the health values of the people, to ensure the cooperation, adherence or adoption of the approach by the intended audience. As the cause of the actual 2013-2016 EVD is still under investigation, and there are still no proven vaccines or cures for the disease, further research is needed to identify the causes and other modes of transmission of this deadly disease.

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~~MINISTRY of Health and Sanitation~~

17<sup>th</sup> May, 2018

TO: Comfort Panda

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Principal Investigator

Study Title: Kono Burial Practices and Spread of Ebola Virus  
Disease: A Lived-Experience

Version: April, 2018

Submission Type: First protocol version submitted for Review

Committee Action: Expedited Review

Approval Date: 16 May, 2018

The Sierra Leone Ethics and Scientific Review Committee (SLESRC) having conducted an expedited review of the above study protocol and determined that it presents minimal

risk to subjects, hereby grants ethical and scientific approval for it to be conducted in Sierra Leone. The approval is valid for the period, 16 May, 2018 — 15 May, 2019. It is your responsibility to obtain re-approval/extension for any on-going research prior to its expiration date. The request for re-approval/extension must be supported by a progress report.

For further enquiries please contact: [efoday@health.gov.sl](mailto:efoday@health.gov.sl)

GOVERNMENT

Office of the Sierra Leone Ethics and Scientific Review Committee

Directorate of Policy Planning and Information

5<sup>th</sup> Floor, Youyi Building Brookfields,

~~Ministry of Health and Sanitation~~  
Freetown Minist Health and

Sanitation

Review Comments:

- Amendments: Intended changes to the approved protocol such as the informed consent documents, study design, recruitment of participants and key study personnel, must be submitted for approval by the SLESRC prior to implementation.
- Termination of the study: When study procedures and data analyses are fully complete, please inform the SLESRC that you are terminating the study and submit a brief report covering the protocol activities. Individual identifying information should be destroyed unless there is sufficient justification to retain, approved by the SLESRC. All findings should be based on de-identified aggregate data and all published results in aggregate or group form. A copy of any publication be submitted to the SLESRC for its archive.



**GOVERNMENT OF SIERRA LEONE**

- The use of skype to conduct interv



**Professor Hector G. Morgan**  
Professor  
Chair

may be problematic

The use of Skype to conduct interviews

For further enquiries please contact: [efoday@health.gov.sl](mailto:efoday@health.gov.sl)



## Appendix B: Interview Questions

These interview questions will be used partly for the recruitment process and to obtain as well as conducting the study.

1. How would you like me to address you?
2. How long have you lived in Kono? Did you live in Kono District during the EVD epidemic?
3. How old are you? What sex are you? Are you a Kono?
4. Are you married or single? Do you have any children?
5. What is your understanding of the Ebola virus?
6. How were you involved with the Ebola epidemic?
7. How do you think the virus came to this country, and to your town or village?
8. How do you think Ebola is spread?
9. What do you understand by direct contact with a person or fluid?
10. What are body fluids? How do you contact body fluids?
11. What are the most common symptoms of the virus? When do the symptoms start to spread? How do the symptoms progress?
12. Can Ebola be spread from one person to the other? Can Ebola be spread through insects such as mosquitoes?
13. Can you briefly describe how you were affected and your role in the fight against this virus?
14. What do you think of the way the government handled the treatment of the virus?

15. Do you think the lifestyles, attitudes and cultural behavior of the people of this country contributed to the spread of the virus? If yes, can you identify the behaviors?
16. Is there a cure for this virus? What is your perspective of the experimental vaccines?
17. How has the experience with this epidemic changed your attitude and health practices?
18. What can you do differently to prevent the spread of this or similar virus in future?
19. What else would you like to add that we did not talk about?

### Appendix C: Interview Questions for First Focus Group

These are the questions that will be asked of the focus groups:

- 1. How do the people in the community perceive the burial practices and the mode of transmission of the Ebola virus before and after the emergence of the EVD?
- What do you want the Government to change in handling of future similar issues in your community?
- How have the attitudes of the people changed about those who are survivors or families of those who were infected by the disease?
- How do you plan to provide support for the survivors and families of those affected by EVD?
- If EVD were to return, what would your community do? What would you want the government officials to do? Who else should be doing something positive to prepare for possible EVD?
- What else can you add to this discussion that can be done to help your community?

Interview questions for the second focus groups. There are five groups, which comprise the second focus groups.

These are the questions:

- . What can you do differently if a similar disease appears in future? Did you change your behavior in terms of your burial practices during the EVD? What is your behavior now after the EVD was declared over?
- What changes have been put in place among your society members to prevent future disease transmission?
- What have you learned from these interviews that you can relay to the people in your society or group to help them achieve positive social change in healthy behavior?