

2021

Lived Experiences of Lassa Fever Survivors in Southsouth Nigeria

Albert Oamen Oyeribhor
Walden University

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Walden University

College of Health Professions

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Albert Oamen Oyeribhor

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Walden University
2021

Abstract

Lived Experiences of Lassa Fever Survivors in Southsouth Nigeria

by

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MSN, Walden University, 2016

BSN, Methodist College of Nursing, Peoria, 2013

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Nursing

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Abstract

Lassa fever, a viral disease, was first isolated in the late 1960s and affects 300,000 to 500,000 people, causing 5,000 to 10,000 fatalities annually across West Africa. Although there are studies on the causes and prevalence of Lassa fever, there is a paucity of studies regarding the quality of life (QoL) and lived experiences of survivors. The purpose of this qualitative study, guided by Leininger's culture care theory, was to describe the QoL and meanings of the lived experiences of Lassa fever survivors in the Southsouth region of Nigeria. Fifteen survivors of Lassa disease were interviewed. Data were analyzed using a qualitative descriptive method with the aid of the software program, NVivo (Version 12), which revealed seven categories and five themes. The five themes were: culture care and therapeutic communication, emotional support, physical symptoms, social activities, and work productivity. The participants' quotations were presented in their natural forms, with no attempt to correct their positions, to retain the unique original expressions. The findings provide an understanding of the meanings of these experiences necessary for healthcare providers to be informed and provide quality care that would be congruent with survivors' beliefs, values, needs, and satisfaction. Future study should follow these Lassa fever survivors over time to examine changes in their experiences as they progress with their follow-up treatments. Findings are useful for healthcare providers, especially nursing staff from the Southsouth region of Nigeria because they contribute to the understanding of the QoL, healthcare needs, and practices of Lassa fever survivors, which should lead to positive social change.

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Dedication

This dissertation is dedicated to the memory of my father, Pa Oyeribhor Egbiror, and everyone who helped and guided me through this trying period of COVID-19 pandemic in weathering through the creating of this manuscript. In particular, my family and close friends who stood by me throughout the time of my dissertation journey.

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This research would not have been possible without the support of my family living in Nigeria, especially Dr. Joshua Oyeribhor, my son, who served as the Liaison Officer and who never stopped encouraging me to push forward and to fulfill my dream. Finally, I thank all of the Lassa fever survivors who participated in this study.

Table of Contents

List of Figures	v
Chapter 1: Introduction to the Study.....	1
Background	1
Problem Statement	4
Purpose of the Study	5
Research Question	5
Theoretical Framework.....	6
Nature of the Study	7
Definition of Key Terms.....	8
Assumptions.....	9
Scope and Delimitation.....	9
Limitations	11
Significance of the Study	12
Summary	14
Chapter 2: Literature Review.....	15
Literature Review.....	16
Theoretical Framework.....	16
Propositions and Assumptions of Leininger’s Theory.....	20
Examples of Literature That Applied Leininger’s Theory	23
Conceptual Framework.....	26
Literature Review Related to Key Variables and/or Concepts	27

Summary and Conclusions	30
Chapter 3: Research Method.....	32
Research Design and Rationale	32
Research Questions.....	32
Research Tradition and the Rationale.....	33
Design	34
Role of the Researcher	34
Methodology.....	35
Instrumentation	37
Procedures for Recruitment, Participation and Data Collection Protocol	39
Data Analysis Plan.....	42
Issues of Trustworthiness.....	44
Credibility	45
Transferability.....	45
Dependability.....	46
Confirmability.....	46
Ethical Procedures	46
Summary.....	47
Chapter 4: Results.....	48
Setting	48
Description of the Participants.....	49

Data Collection	50
Data Analysis	52
Evidence of Trustworthiness.....	53
Credibility	53
Transferability.....	54
Dependability	55
Confirmability.....	56
Results.....	56
Theme 1: Culture Care and Therapeutic Communication	57
Theme 2: Emotional Support	59
Theme 3: Physical Symptoms.....	60
Theme 4: Social Activities.....	62
Theme 5: Work Productivity	63
Summary	65
Chapter 5: Discussions, Conclusions, and Recommendations	67
Interpretation of Findings	67
Limitations of the Study.....	69
Recommendations.....	70
Implications.....	72
Conclusion	74
References.....	76
Appendix A: Permission to Use Madeleine Leininger’s Work	87

Appendix B: Interview Guide.....	88
Appendix C: The Interview Questions	91
Appendix D: Details of Each Participant’s Description	92
Appendix E: Demographics of Participants	100

List of Figures

Figure 1. Leininger's Sunrise Model to Depict Dimensions of the Theory of Culture Care Diversity and Universality	19
Figure 2. Diagrammatic Connection Between Culture, Care & QoL.....	23

Chapter 1: Introduction to the Study

Lassa fever is endemic in West Africa. Persons at greatest risk are those living in rural areas with poor sanitary conditions and overcrowding. Lassa fever is a viral zoonotic illness and a significant cause of morbidity and mortality in countries across West Africa, namely Benin, Guinea, Liberia, Nigeria, and Sierra Leone (Bonwitt et al., 2017). Lassa fever can cause hearing loss among survivors. Since its isolation in late 1960s, studies have been focused on mapping areas of coverage, surveillance, public awareness, diagnosis, prevention, control, and treatments of Lassa disease (Mateer et al., 2018; Oladeinde et al., 2017; Olowookere et al., 2017; Peterson et al., 2014). However, so far, there has been a lack of information or study on the QoL of Lassa fever survivors and their lived experiences with coping and living with the damage that Lassa fever illness has caused. Little is known about Lassa fever survivors. My study findings may provide a better understanding of the everyday life experiences of survivors of Lassa fever, which can lead to an increased awareness of the resources these individuals need, which can lead to improved interventions for survivors and affect positive social change in their lives.

Background

Lassa fever is a disease that affects approximately 300,000 to 500,000 people and causes 5,000 to 10,000 fatalities annually across the West African region (Okokhere et al., 2018). *Mastomys natalensis*, a rodent of the *Arenaviridae* family, the reservoir host, is the major route of transmission of the Lassa virus to humans through direct exposure to the rodent fluids such as urine, saliva, and blood or by indirect exposure from surfaces

and foodstuffs contaminated by these fluids (Peterson et al., 2014). The signs and symptoms of Lassa fever are increased body temperature, bleeding, seizures, coma, and death (Mateer et al., 2018), and the disease affects all ages and is non-gender specific. Buba et al. (2018) reported that hospitalized clients had a higher mortality rate of 15% to 20%, which can reach up to 50% during epidemics. Pregnant women in their third trimester are more susceptible to this illness as 90% die after they are infected. According to Coyle (2016), Lassa fever is a global public health problem and one of the emerging infectious diseases. The Centers for Disease Control and Prevention (CDC) referred to it as a Biosafety Level 4 lab microbe and with scanty information available in areas of diagnosis, treatments, vaccinations, or control (Coyle, 2016).

The majority of Lassa fever survivors in Nigeria are the rural poor residents with little or basic formal education. Those who survive Lassa fever can experience disabilities such hearing loss, fear, and self-stigma. In a study carried out in Eastern Province of Sierra Leone, about 70% of Lassa fever survivors developed lateral or bilateral sudden-onset sensorineural hearing loss, and 29% of Lassa virus antibody-positive patients developed acute deafness in at least one ear for 5 to 12 days after the fever subsided (Mateer et al., 2018). Hearing loss alone can reduce a person's health status in Nigerian society. In another study, Lassa fever created self-fear or feared self and self-stigma among survivors, which resulted to self-health seeking behaviors and promoted engagement in self-medication or other unorthodox therapeutic alternatives such as traditional healing, and spiritual healing (Usifoh et al., 2019). The self-fear or feared self consists of a set of "attributes" the individuals fear they could portray or might

embody (i.e., the self one fears, they may become or may already be and that feared self-beliefs) may make individuals vulnerable to experiencing doubt (Nikodijevic et al., 2015). Seo and Song (2018) defined self-stigma as a state in which patients develop negative self-feelings as they deal with the disease and it can cause diminished self-esteem and self-efficacy, as well as a tendency to avoid disclosing the illness along with social withdrawal. Self-medication or unorthodox therapeutic wellness measures used by survivors may lead to poor or deteriorated health state. Self-medication may involve the use of over-the-counter drugs as well as native herbs and may lead to unhealthy pathway as well as negative outcomes such hearing loss and/or physical disabilities. In addition, self-stigma can lead to low self-esteem (Usifoh et al., 2019).

The effects of Lassa fever, such as hearing loss, self-stigma, use of unorthodox treatments, and self-medication, can affect physical and emotional well-being as well as work productivity of Lassa fever survivors and alter their quality of life (QoL). Fulton, Miller and Otte (2012) stated that QoL is a phenomenon central to nursing and fundamental to the human health experience which was a frequently cited outcome of nursing research and practices aimed at the preservation or restoration of an individual's overall sense of well-being. Lodhl et al. (2019) stated that QoL is affected by multiple factors depending upon cultures, such as age, gender, marital status, education, place of living, health status, employment, and socioeconomic status. In support, Zhong et al. (2017) noted that QoL, a commonly used measure of health outcome, reflected several dimensions of health, including physical, psychological, social, and cognitive function, as

well as general well-being, and also was associated with a wide range of factors, such as biological, psychological, and social factors.

Studies on Lassa fever have focused on mapping areas of coverage, surveillance, public awareness, prevention, control, and treatment (Oladeinde et al., 2017; Olowookere et al. 2017; Peterson et al., 2014). However, there is a lack of information on the QoL of Lassa fever survivors and their experiences with coping and living with the damages that the disease has caused. Most studies available on Lassa fever involved hospital-based surveillance that focused on who the disease affected, clinical manifestations, and transmission (Ehichoya et al., 2012).

Problem Statement

The problem is that there is a lack of knowledge about the QoL of Lassa fever survivors in West Africa. Knowing the experiences and QoL of those who have survived Lassa fever will help to improve understanding of their daily lives, including physical, social status, work productivity, and their well-being. Fulton et al. (2012) found that QoL was usually adopted in nursing, which was fundamental in human health and a frequently referenced outcome in healthcare research studies and practices with reference to the sustenance and restoration of individuals' overall measure of well-being.

In February 2019, while I was in Nigeria, I visited the research institute responsible for Lassa fever research/treatment the only institute dedicated to the study of Lassa fever in Nigeria. This research institute is affiliated to a specialist teaching hospital. During my visit, I had the opportunity to meet with the director/coordinator of Lassa fever research and control. In discussing my topic, the institute showed some interests

and reported a need for research on Lassa fever survivors. The director/coordinator stated that “this will be an interesting and wonderful study and that the study should cover the entire state, Edo State so that you could get enough participants.” However, the present study covered Southsouth of Nigeria, which comprised six states. I was informed how to identify and have access to survivors who usually come for follow-up treatments at the institute, in this case, first through the Ethics Committee. This study will contribute to the work of the institute by providing information regarding the needs and ongoing difficulties the survivors are experiencing in their lives.

Purpose of the Study

The purpose of this qualitative descriptive study was to describe the meanings of the lived experiences on Lassa fever survivors in the Southsouth region of Nigeria. In this study, I explored the impact of Lassa fever on survivors’ experiences on the QoL in their daily lives such as social, physical strength, work productivity, and their general well-being. Understanding the meaning of these experiences was necessary for health care providers to inform and provide quality care that was congruent with the survivors’ beliefs and gender.

Research Question

My research questions were as follows:

1. What are the lived experiences related to quality of life for adults affected with Lassa fever?
2. How do those who survive Lassa fever describe their lives?

Theoretical Framework

The theoretical framework for my qualitative study on QoL in those who survived Lassa fever was Leininger's culture care theory. Culture care diversity and universality were the creative outcome of independent thinking, a keen awareness of a rapidly changing world, and more than five decades of using and refining the theory. Propounded by Leininger in 2008, this theory was rooted in the reflections of the theorist's early and current nursing practice and drew upon the theorist's experiences and creative thoughts relevant to nursing and health fields. It was independently developed and soundly constructed as a highly relevant theory aimed at discovering the care and health needs of diverse cultures in hospitals, clinics, community settings, and the theoretical study of many cultures worldwide. Leininger (2002) postulated that human care is what makes people human, gives dignity to humans, and inspires people to get well and help others and further predicts there can be no curing without caring, but caring can exist without curing. This theory has two central concepts: culture and caring.

Leininger posited that culture is the broadest, most comprehensive, holistic, and universal feature of human beings while caring is held as the action mode to help people of diverse cultures. Furthermore, according to Leininger, culture and care together can be powerful theoretical constructs essential to human health, well-being, and survival. QoL differs from culture to culture, where each culture assigns levels of importance to various aspects of life. My study focused on Lassa fever survivors in the Southsouth region of Nigeria, and was concerned with how this terrible disease impacted them as individuals as well as their lived experiences with this disease. To understand the QoL of clients

affected by Lassa fever, I adopted the participant-centered approach model in my study. The participant-centered approach model posits that the participant is the source of control and is a full partner in collecting relevant information based on respect for participants' preferences, values, beliefs, needs, and level of literacy. To be able to conduct my study well and draw logical conclusions, therefore, I had to be culturally sensitive and competent. To be culturally competent, I strived to understand and be skilled in all these participants' elements: preferences, values, beliefs, aspiration, needs, and satisfaction.

Culturally congruent care (or cultural competency care) refers to culturally based care knowledge, acts, and decisions used in sensitive and knowledgeable ways to appropriately and meaningfully fit the cultural values, beliefs, and life-ways of clients for their health and well-being, or to prevent illness, disabilities, or death (Leininger, 2002). It is a process in which the healthcare provider continuously strives to achieve the ability to work effectively within the cultural context of a client. My study explored the aligned theory areas that enabled me to adopt or integrate best current evidence with clinical expertise in data or information gathering based on participants' preferences, values, beliefs, needs, and satisfaction.

Nature of the Study

This was a qualitative, descriptive study in which I conducted interviews using audio-recorded, semi structured interviews. Participants were individuals who had survived Lassa fever disease and live in the Southsouth region of Nigeria. The interview questions focused on the QoL of the participants since surviving the disease, which

included life satisfaction, well-being, happiness, relationships, and economic indices, to capture an encompassing view of a single individual. My study adopted a qualitative approach to discover the experiences that related to the QoL of adult Lassa fever survivors.

Definition of Key Terms

Client-centered care: An approach to service that incorporates respect for and partnership with clients as active participants in the therapy process (Pizzi, 2015).

Culture: Learned, shared, and transmitted knowledge of values, beliefs, and life-ways of a particular group that are generally transmitted inter-generationally and influence thinking, decisions, and actions in patterned or certain ways (Leininger & McFarland, 2002, p. 47).

Cultural care: Care that includes the cultural ways of the patient (Gunn et al., 2019).

Cultural competence: A gradual process, through which nurses develop the ability to provide quality, safe care to patients from different experiences and backgrounds (Gunn et al., 2019).

Culturally congruent: Nursing care that is in agreement with the preferred values, beliefs, worldview, and practices of the healthcare consumer (Marion et al., 2017).

Lassa fever: A viral hemorrhagic fever first documented in 1969 (Sogoba et al., 2016).

Quality of life: An individual's perception of his or her position of life in the context of the culture and value system where they live, and in relation to their goals, expectations, standards and concerns (Vanleerberghe et al., 2017).

Self-fear: An "attribute" of the individual fears a person could portray or might embody (i.e., the self that a person fears they may become or may already be). Self-fear beliefs may make individuals vulnerable to experiencing doubt (Nikodijevic et al., 2015).

Self-stigma: A state in which patients develop negative self-feelings as they deal with the disease. This can cause diminished self-esteem and self-efficacy, as well as a tendency to avoid disclosing the illness along with social withdrawal (Seo& Song, 2019).

Stigma: Refers to a negative perception about something being abnormal, out of the ordinary, or bad about a person (Seo& Song, 2019).

Assumptions

I assumed that the participants selected for this study would answer the interview questions with sincerity. Their answers, which were based on their experiences as Lassa fever survivors, depended on their beliefs, values, and on their lived experiences regarding Lassa fever disease. I also assumed that the participants would reflect a heterogeneous group of adult Lassa fever survivors residing in the Southsouth region of Nigeria.

Scope and Delimitation

The scope of this study was to describe the lived experiences and QoL of adult Lassa fever survivors residing in the Southsouth region of Nigeria. Because Lassa fever survivors would usually adjust their lifestyle to accommodate their working physical

environment and social lives, it was therefore important to understand their perspectives concerning their lived experiences. Transferability of this descriptive qualitative study was set to the degree that other researchers could generalize more studies in order to investigate the lived experiences of people who had survived Lassa fever disease. I also considered conducting an interpretive phenomenological qualitative study. In an interpretive qualitative study, the role of the researcher is to elicit the text from the participant in the form of the spoken or written word in a manner that gives full expression to the experience (Meyer, 2017). In such a study, it is the duty of the researcher to use the normative lived experience of that individual as expressed in words, actions, and expressions to describe the phenomenon and interpret meaning, whereas in a descriptive qualitative study, the participant describes and ascribes meanings to lived experiences of a phenomenon.

I delimited or restricted my study by only involving people who were infected and survived Lassa fever disease within Southsouth Nigeria. I used snowball sampling with an age restriction of 18 years or older, and without restriction related to ethnicity. This study involved the lived experiences and QoL of adult Lassa fever survivors. This study did not include individuals not infected with Lassa fever disease, those under 18 years of age, or vulnerable populations such as the prisoners. The objective of this study was to use a face-to-face interview approach to interview 12-20 people who had survived Lassa fever disease and were 18 years or older, which was appropriate for a phenomenological investigation (Cleary et al.,2014).

I chose Leininger's culture care theory for this study because this theory provided care measures that were in harmony with an individual's or group's cultural beliefs, practices, and values. It also recognized that people's success in health and curing was related to their beliefs, and those beliefs were essential to their outcome. One theory I considered but did not choose was Maslow's theory of self-actualization. Self-actualization was considered as one of the motivating elements to realize one's own maximum potential and possibilities and the process of achieving one's own full potential or the hidden potentials through creativity, autonomy, spontaneity and vibrant understanding of what one's desires and wishes (Tripathi & Moakumla, 2018). However, this theory did not explain the lived experiences of given situations of an individual or a group.

Limitations

Potential limitations and challenges included traveling, financial incentives, time, and face-to-face technological feasibility (tape recording device), which were barriers to accessing a representative population of individuals who survived Lassa fever disease. These limitations were resolved by having a durable recording device, recruiting participants scheduled their own interview times, and conducting interview sessions using a face-to face approach in naturalistic settings.

The interpretations of this study's findings were another limitation, due to the nature of qualitative interviews. Sandelwoski and Leeman (2012) stated that the interpretations of the study's findings were another limitation due to the nature of

qualitative interviews. The setting parameters of this study were limited acquaintances, relatives, and friends, in order to minimize biases during interview sessions.

Significance of the Study

Lassa fever is a relatively new disease in West Africa. Although the disease could have been inexistence for a very long time and may have caused deaths, these deaths may have been wrongly attributed to unknown causes or even superstition. Being able to diagnose and effectively treat Lassa fever is a welcome development to the people of West Africa. However, effective diagnosis and treatment are restricted to only a few health establishments located in the cities as well as the Lassa Fever Research and Control Institute in Nigeria. Therefore, the treatment is limited, and the low knowledge level of the rural populace has contributed to the gradual spread of the disease. Even with the latest treatment, mortality and morbidity are still very high particularly if sufferers do not report to the designated hospital early in the disease process. The affected person does not usually seek treatment until late stages of the disease because the signs and symptoms may be attributed to known diseases such as malaria. Treatment is usually a prolonged process and a sufferer may remain in the hospital for about 8days. That is inter-quartile range (IQR) 314 days (Dahmanea et al., 2014). Treatment is usually very costly in terms of finance and usually leads to huge financial indebtedness to resource-poor families who are forced to go borrowing to finance treatment (Dahmanea et al., 2014). In addition, Lassa fever was first described in 1969 in Nigeria. Since then, recurrent seasonal outbreaks have occurred in the Lassa fever belt of West Africa, comprised of Nigeria, Liberia, Sierra Leone, and Guinea (Usifoh et al., 2019). Since its

discovery, studies were mainly on awareness, diagnosis, mode of transmission, prevention, control, and treatment. Presently, studies are not readily available on the lived experiences and QoL on survivors.

Lassa survivors' QoL may also be altered by social stigma, which is a complex construct, referring to a social process of exclusion, whereby an individual or social group possesses a "deeply discrediting" attribute that contradicts what a broader social group deems to be "normal" (Broady et al., 2018). Self-fear consists of a set of attributes that the individual fears they could portray or might embody; i.e., the self an individual fears they may become or may already be (Nikodijevic et al., 2015). These attributes, as they relate to Lassa fever survivors, may be low level literacy or low economic status. Self-fear beliefs may make Lassa fever survivors vulnerable to experiencing doubt. Stringer et al. (2018) stated that self-stigma means harmful societal views were internalized and negatively impact the self-esteem and identity of the stigmatized. Particularly, self-stigma in lifestyle-related diseases such as Lassa fever illness can have various cognitive, affective, and behavioral components such as reduction of self-worth, self-medication, treatment avoidance, and reduced treatment compliance. This has usually been why some Lassa fever survivors resort to other unorthodox therapeutic alternatives and self-medication (Usifoh et al., 2019). Low self-esteem can lead to self-deficit, thereby resulting in poor QoL.

The Institute of Lassa Fever Research and Control is funded to prevent Lassa fever disease and its complications, but lacks the information needed to develop strategies to improve the lives of the survivors. The institute is eager to collaborate in

research efforts to improve an understanding of the needs of survivors. My study findings may provide better understanding of the everyday life experiences of survivors of Lassa fever, which can lead to an increased awareness of the resources that these individuals need, and which may lead to improved interventions for survivors and lead to positive social change including other countries, especially in West Africa.

Summary

Lassa fever was first isolated in late 1960s in West Africa. Today, it is on record as a viral hemorrhagic illness infecting 300,000 to 500,000 annually with yearly fatalities of 5,000 to 10,000. It is one of emerging global public health problems. Since its discovery, attentions have centered on awareness, surveillance, diagnosis, transmission, prevention, control, and treatments. There has been no attention or study on lived experiences and QoL on Lassa fever survivors. This study focused on describing the lived experiences and QoL of Lassa fever survivors. The participants recruited for this study were adults (men and women) of 18 years or older living in the Southsouth region of Nigeria. A literature review on available previous studies, information, and approaches is provided in Chapter 2.

Chapter 2: Literature Review

Several studies available on Lassa fever focused on awareness, surveillance, diagnosis, prevention, control, treatment, and its effects (Adewuyi et al. 2009; Coyle, 2016; Ehichoya et al., 2012; Oladeinde et al., 2017; & Olowookere et al., 2017). Studies were not readily available on QoL of Lassa fever survivors, hence this study. The concept adopted for my phenomenon of interest was QoL of individuals affected by this terrible disease. QoL had been studied and used as an evaluation metric regarding the effectiveness of interventions of the health environments. It served to analyze the impact of Lassa fever on clients' daily lives, using physical, social, work productivity, and mental indicators as well as their well-being. The elements of these effects on affected clients were reduced workdays, social life, physical strength, activities of daily living, and income. The overall consequence was reduced QoL, especially in participation in activities of daily living.

QoL is self-reported and also an objective measure of general health and well-being, in addition to a measure of treatment for specific illness and overall standard of living index. The QoL concept encompasses several subcategories such as life satisfaction, well-being, happiness, meaning, and economic indices. Bagwell (2019) noted that because QoL represented both a subjective and objective rating of a person's overall health and well-being, researchers were able to use it to capture an encompassing view of a single individual, group, or culture, or an entire nation.

The purpose of this qualitative study was to describe the meanings of the lived experiences of Lassa fever survivors in Southsouth region of Nigeria. This chapter

includes the literature search strategy and discussion of the following: theoretical framework, conceptual framework, and literature related to the research questions.

Literature Review

A search of the literature was performed to identify articles published in English between 2002 and 2020 using the databases and search terms. Twenty articles were searched.

The key words used in my search were: *caring, care, client-centered care, cultural care, cultural competency, culture, culturally congruent, Lassa fever, Leininger's theory, epidemic, quality of life, self-fear, self-stigma, stigma, vaccines, and survivors.*

The databases searched included: *Institute of Lassa Fever, Research and Control (Irrua Specialist Teaching Hospital); National Institute of Health (NIH); Nigeria Center for Disease Control and Prevention; U.S. Centers for Disease Control and Prevention (CDC); World Health Organization (WHO), Electronic databases of Walden Library, and Sage* were searched using the key words stated above in multiple combinations, in some cases with the Boolean operator AND, from 2002 to 2020. Limited recent (most cases within 5 years) original studies were found especially on theoretical framework.

Theoretical Framework

The theoretical framework for my qualitative study on the experiences of those who survived Lassa fever in the Southsouth region of Nigeria was Leininger's culture care theory. Also known as culture care diversity and universality, this theory was conceptualized in the late 1950s and developed for use by the early 1960s (Leininger,

2007). Since then, this theory has been used by many healthcare professionals worldwide and has generated nursing and healthcare knowledge. According to Leininger (2007), the theory was unique as the only nursing theory solely focused on culture care. Leininger (2007) affirmed that the theory was unique in its incorporation of social structure factors, such as religion, politics, economics, cultural history, lifespan values, kinship, and philosophy of living: geo-environmental factors, as potential influencers of culture care phenomena. Leininger (2007) further stated that the theory was a holistic, culturally based care theory that incorporated broad humanistic dimensions.

The purpose of the theory was to discover culturally based emic (insider) and etic (outsider) care phenomena that were congruent or meaningful to cultures, which influenced the life-ways of people. It is focused on recognizing the care values, beliefs, life-ways, and symbolic references related to culture care that lean on congruent care factors. The culture care theory was based on the premise that guided discovery of culturally based care that promoted and maintained the health and well-being of individuals, families, or groups. Noting the critical need for culturally based care, Leininger (2007) predicted that the theory should be the sound foundation of nursing science knowledge for the 21st century and well into the future.

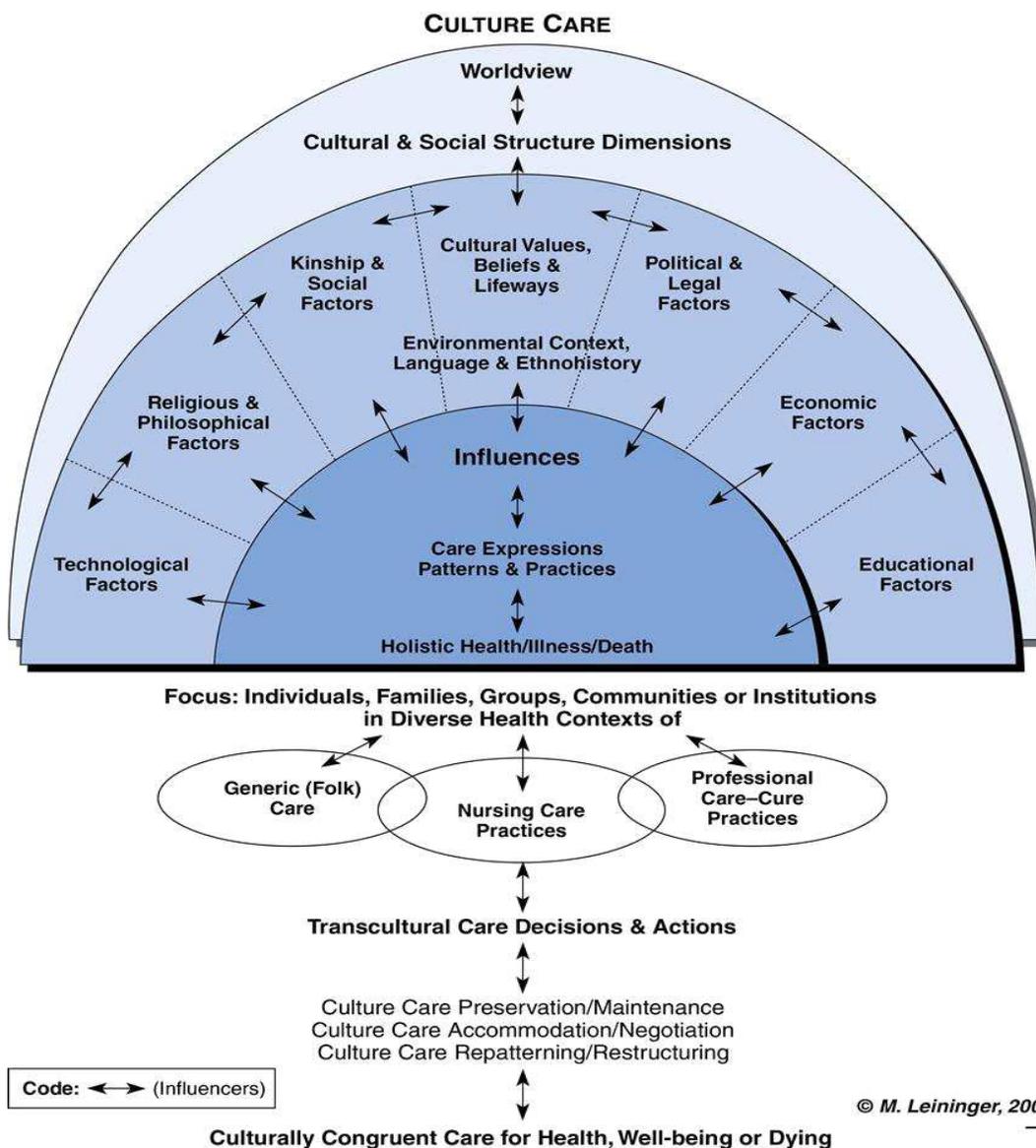
In addition, Broch et al. (2017) believed that the transcultural theory created by Leininger established a bridge between nursing as a profession of the official health system and the family that focused on care as a culture and on the phenomena of health and nursing. Care has characteristics that are universal for the maintenance of life and recovery of health, and it could be used in different social and cultural contexts, such as

in situations of violence, making it appropriate for use in this study (Broch et al. 2017). Zou (2017) stated that the major premise of Leininger' culture care theory was that there were diversities and commonalities such as values, beliefs, religion, and practices of care in transcultural care knowledge and practices.

Culture, the major concept of Leininger's theory, was defined as the learned, shared, and transmitted values, beliefs, norms, and life-ways of a particular culture that guided thinking, decisions, and actions in patterned ways and often inter-generationally. In addition, anthropologists have usually viewed culture, as a broad and most comprehensive means to know, explain, and predict people's life-ways over time and in different geographic locations (Leininger, 2002). The phenomenon of culture distinguishes human beings from non-humans but is more than social interaction and symbols, and more than ethnicity or social relations. Leininger's theory (see Figure 1) resembles a rising sun with rays representing the cultural and social structural dimensions of a culture care worldview. These rays are the basic elements of cultural assessment. Therefore, the convergence of these rays into a central core suggests that these interacting elements influence the unique care expressions and practices of individuals, families, groups, communities, and nations. Therefore, culture could be viewed as the blueprint for guiding human actions and decisions and included material and nonmaterial features of any group or individual (Leininger & McFarland, 2006).

Figure 1

Leininger's Sunrise Model to Depict Dimensions of the Theory of Culture Care Diversity and Universality



Note. From “Culture Care Theory: A Major Contribution to Advance Transcultural Nursing Knowledge and Practices,” by M. Leininger, 2002, *Journal of Transcultural Nursing*, 13(3), pp. 189-192(<https://doi.org/10.1177/10459602013003005>).CC BY 4.0.Reprinted with permission(see Appendix A).

Propositions and Assumptions of Leininger's Theory

Leininger (2008) proposed three modes for guiding researcher's judgments, decisions, or actions in order to provide cultural based care. They are cultural preservation or maintenance, cultural care accommodation or negotiation, and cultural care repatterning or restructuring. Cultural preservation or maintenance retains or preserves relevant care values so that clients can maintain their well-being, recover from illness, or face handicaps and/or death. This mode was the most essential in collection of my data. The assumptive premises of the theory are: (a) care is the essence of nursing and a distinct, dominant, central, and unifying focus, (b) culturally based care (caring) is essential for well-being, health, growth, survival, and in facing handicaps or death, (c) culturally based care is the most comprehensive, holistic, and particularistic means to know, explain, interpret, and predict beneficial congruent care practices, and (d) culture care concepts, meanings, expressions, patterns, processes, and structural forms vary transculturally, with diversities (differences) and some universalities/commonalties (Leininger, 2002). In this study, I sought to learn the values and needs of the survivors in order to keep the study patient-centered and patient-focused.

Cultural care accommodation or negotiation, the second mode, requires the providers to negotiate with the client for a beneficial or satisfying health outcome. Cultural care re-patterning or restructuring allows care providers to collaborate with patients to change health behaviors to achieve a new, different, and beneficial health care pattern (Nelson, 2006). This mode grounds recommendations from this study pertaining to future government policy and interventions for the survivors.

My study focused on Lassa fever survivors in Nigeria, and concerned the lived experiences of Lassa fever survivors in the Southsouth of Nigeria, especially the impact of Lassa fever on the quality of their daily lives. To understand the QoL of clients affected by Lassa fever, I adopted a participant-centered approach model in my study. This is because the participant-centered approach model posits that the participant has the source of control and is a full partner in collecting relevant information based on respect for participant's preferences, values, beliefs, needs and level of literacy.

QoL is an important concept in medical, social, and psychological research. Today, it is used as an umbrella concept, if applied in healthcare, usually mainly references to the physical component, occasionally extended with a psychological component. By adopting a multifaceted, holistic approach and stressing subjective perceptions, values and cultural contexts, the Quality of Life Group of the World Health Organization defined QoL as an individual's perception of his or her position in life in the context of the culture and value system where they live, and in relation to their goals, expectations, standards and concerns (Vanleerberghe et al., 2017). Today, QoL has been extensively studied and used as an evaluation metric, regarding the effectiveness of interventions of the health environments.

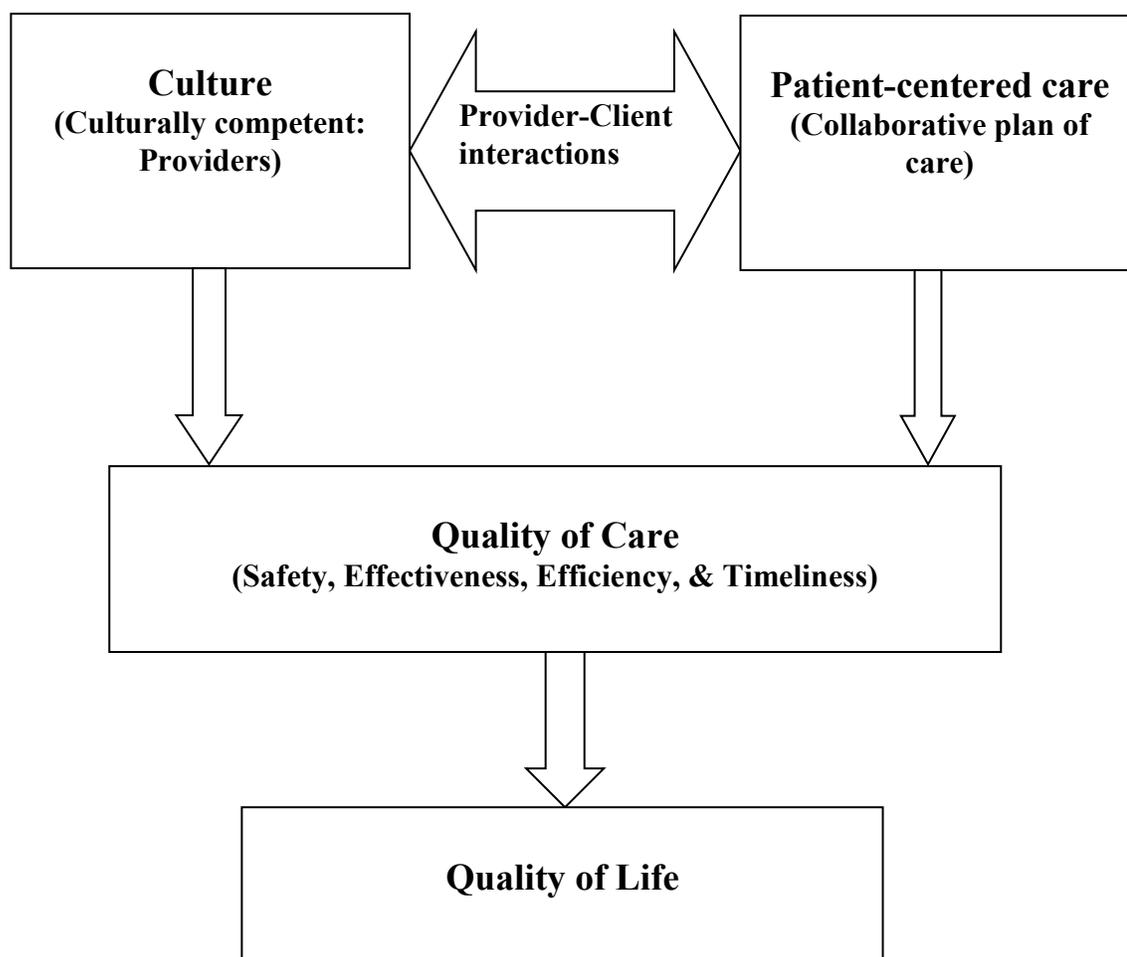
Health-related QoL is a regularly adopted measure of health outcome, and is a reflection of several aspects of health such as physical, psychological, social, cognitive function, as well as general well-being (Zhong et al., 2017). QoL is also significant to Lassa fever survivors. Leininger's culture care theory is an ideal theoretical framework in assessing the lived experiences of adults infected with Lassa fever disease. In this respect,

QoL and lived experiences Lassa fever survivors are inextricably linked. This study focused on the assessment of QoL within Lassa fever survivors and attempted to find out answers to the following research questions: (a) what are the lived experiences related to QoL for adults affected with Lassa fever? and (b) What is the meaning of survivorship for adults with Lassa fever?

QoL served to analyze the lived experiences of Lassa fever survivors in their daily lives, using physical, social, work productivity, and mental indicators as well as their well-being. I used this theoretical model to guide me in finding the lived experiences Lassa fever survivors' QoL in workdays, social life, physical strengths, activities of daily living, and income earnings.

Figure 2

Diagrammatic Connection Between Culture, Care & QoL



Examples of Literature That Applied Leininger's Theory

Carron et al. (2020) conducted an ethnonursing study based on Leininger's theory of culture care diversity and universality on study polycystic ovary syndrome (PCOS) in American Indian women. Findings revealed that adequate knowledge was needed about the cultural experiences, patterns, and practices of American Indian women with PCOS, so nurses could provide culturally congruent care. The article stated that the ethnonursing

research method was a direct application of the theory of culture care that translated the theory into organized research activities for investigating a specific domain of inquiry. The study identified three themes: control of PCOS symptoms is important for the culture well-being of tribal women, culturally congruent PCOS education and health care are important with variations in approaches to treatment, and tribal culture is important with variations in use of tribal practices. The findings of the study were two-folds: (a) the study added to the knowledge about culturally informed management of American Indian women with PCOS and (b) provided a beginning for an evidence-based foundation for developing woman-centered health care actions that are culturally congruent and holistically based to improve the health of American Indian women with PCOS.

Chiatti (2019) applied Leininger's theory in conducting a mini study to identify and described the culture care beliefs and practices of Ethiopian immigrants in the mid-Atlantic region of the United States as well as to advance the science of transcultural nursing. The study suggested nurses needed to inquire about culture, language preference, food and dietary practices, and family dynamics of Ethiopian immigrants living in this part of the United States seeking health care. The study concluded that in order to provide culturally congruent and meaningful care, it was important for nurses to recognize the significance of culture in meeting the health care needs of diverse patient populations. The study recognized that cultural competencies would lead to understanding of the health care and caring views, needs, and practices of individuals and groups, thereby, tailoring that care in the most beneficial, competent, safe, and reliable manner by health care providers in all practice settings.

Sensor (2018) used a qualitative descriptive design which was guided by Leininger's culture care theory. The study was designed to describe cultural beliefs, practices, and experiences with professional health care in the United States by migrants from the Dominican Republic because their practices were largely unknown to professional providers. The results supported findings from other studies and increased understanding of perspectives from the migrant Dominican population that were previously not well documented in the literature. The findings revealed that better understanding may improve the quality of care provided, improve patient-provider trust and communication, and help patients adhere to prevention and treatment.

Using Leininger's culture care theory better equipped my understanding of QoL as experienced by Lassa fever survivors in Southsouth region of Nigeria. As stated above, Nigeria made up of several ethnicity, dialects as well as cultural groupings.

Nigeria is a lower middle-income country with a population of about 180 million people. The Nigerian health system is, in principle, decentralized into a three-tier structure with distinct responsibilities at the federal, state, and local government levels. The country has one Federal Government, 36 + 1 State Governments, and 774 Local Government Areas. All three tiers of government: federal, state, and local share responsibilities for providing health services and programs in Nigeria (Okebukola & Brieger, 2016). According to Nwabunike and Tenkorang (2017), Nigeria is made up of diverse ethnic groups (374 ethnic groups) that occupy 36 different states. As a result, cultural and gender norms differ, and traditional attitudes. The three predominant ethnic groups that constitute approximately 70% of the Nigerian population are: the

Hausa/Fulani (30%), Yoruba (21%), and Igbo (19%). The rest including the Ibibio, Ijaw, Kanuri, Edo, and the Tiv (Nwabunike & Tenkorang, 2017). (Coyle, 2016). According to Coyle (2016), the CDC referred to it as a biosafety level 4 lab microbe and with scanty information available in areas of diagnosis, treatments, vaccinations, or control.

Conceptual Framework

Individual's cultural beliefs, practices, and values play a significant role in how he or she make decisions, behave, and interact in certain environments. Leininger (2002) observed that transcultural theory proposed that health professionals or researchers can provide better care or interactions if they are in tune with the culture, beliefs, and practices of the specific individual or group. Culturally competent interactions can only occur if the participants' practices are incorporated in the study approach. Health professionals or researchers have to commit to learning and offering culturally competent approach (Leininger & McFarland, 2006).

This theory was of importance in this study because it addressed Lassa fever survivors of different ethnicity, culture, values, and attitudes trying or dealing with Lassa fever disease. It was important to understand how survivors feel during interview sessions or as study lasts. Survivors were asked their experiences before and as Lassa fever survivors and if the researcher involves was cognizant of their cultural beliefs and values. This guided the understanding in whether the study researcher was aware of the survivors' cultural background.

Literature Review Related to Key Variables and/or Concepts

Lassa fever was first described in 1969 in Nigeria, since then recurrent seasonal outbreaks had occurred in the Lassa belt of West Africa comprised of Nigeria, Liberia, Sierra Leone, and Guinea (Usifoh et al., 2019). Since its discovery, studies were mainly on awareness, diagnosis, transmission, prevention, control, its effects and treatments. Studies are not readily available on experiences on Lassa fever survivors. Buba et al. (2018), conducted a retrospective descriptive review of clinical records of laboratory-confirmed cases of Lassa fever during the 2015 to 2016 outbreak in Nigeria and determined factors associated with mortality. During the period under review, 47 Lassa fever cases were documented, 28 died (cases fatality rate – 59.6% with mean age of 31.4 years). Results showed that the youngest and the oldest were the most likely to die, with 100% mortality in those aged 5 years and younger and those aged 55 years or older. The study concluded that effective and well-coordinated response reduced mortality from the Lassa fever outbreak.

Oladeinde et al. (2017) assessed the public awareness of Lassa fever in three rural communities of Okada, Ogbese, and Utese in Edo State of Nigeria. Three hundred and eighty participants were recruited to complete questionnaires. The results showed that television was their primary source of information about Lassa fever. Thirty-two percent of the participants reported mosquito bites (transmission vehicle), dog bites (25%), eating of rat-contaminated foods (7.1%) and 7.1% had no knowledge of how Lassa fever was transmitted. The study recommended renewed efforts on educating the public on how Lassa fever was being transmitted. Olwookere et al. (2017) conducted a descriptive cross-

sectional study to assess the knowledge, attitude, and practice in respect to control, practices, and prevention of Lassa fever in Ile-Ife community, Southwest Nigeria. The instrument used was an interview questionnaire administered to 400 adults with a response rate of 90%. The findings showed that 76% had inadequate knowledge about Lassa fever, 54% had a negative attitude about Lassa fever and 51% exhibited poor practice for the disease. Ijarotimi et al. (2018) assessed the availability of infection prevention and control (IPC) measures and their uses in health centers at affected Local Government Areas during Lassa fever outbreak in the Ondo State of Nigeria. The study included all primary and secondary health centers and their healthcare workers in the affected areas. Data were collected from respondents using self-administered questionnaires and checklists to assess the IPC measures at the health centers. The results showed that the knowledge of healthcare workers about Lassa fever, its management and the IPC practices at health centers in areas studied were inadequate and placed healthcare workers at risk for hospital-based transmission. Recommendations were addressed to the Ondo State Government of Nigeria to ensure all healthcare workers received refresher training on IPC regularly, and also set up IPC committee in each area that would ensure all health centers in the state meet the necessary IPC requirements.

Peterson et al. (2014) explored the effects of certainty of diagnosis, oversampling in a well-studied region, and error balance results of mapping exercises. The three factors assessed were: overestimating risk in southern, humid zones in West Africa, and underestimating risk in drier and more northern areas. This article presented a series of insights into how Lassa fever transmission could or should be reconstructed across space

to produce risk maps. The analyses illustrated the importance using a rigorous conceptual framework of ecology and biogeography that could consider the biases inherent in occurrence data for any modeling and mapping exercises. The authors noted that careful consideration of these biases was essential in creating and interpreting distribution and risk maps. Furthermore, the understanding of the Lassa fever virus reservoir host has been complicated by the existence of numerous morphological identical species and sub-species of *Mastomys* in sub-Saharan Africa, which often led to misidentification and consequent errors in recording occurrence data. Tambo et al. (2018) conducted a study to assess the current trends in re-emergence of Lassa fever to understand the spatio-geographical reservoir(s), risk factors pattern, and Lassa virus incidence mapping, inherent gaps, and challenges posed by Lassa fever in healthcare systems. The study showed that Lassa fever peak endemicity incidence and prevalence overlapped the dry season (within January to March) and decreased during the wet season (of May to November) annually in Sierra Leone, Senegal to Eastern Nigeria. Results showed a scarcity of consistent data on rodent (reservoir)-linked Lassa fever outbreak, weak culturally and socio-behavioral effective prevention and control measures integration, weak or limited community knowledge and awareness of adequate preparedness capacity and access to affordable case management in affected countries. Robust sub-regional leadership commitment and investment in Lassa fever was urgently needed to create a rapid response approach practice coupled with pest management and phyto-sanitation measures to combat the Lassa fever epidemic. According to the authors, this would offer new opportunities in understanding human-animal interactions in

strengthening Lassa fever outbreak early detection and surveillance and improve warning alerts and rapid response implementation in vulnerable areas.

Those who do survive Lassa fever have a number of complications from the disease such as sore throat usually accompanied by objective inflammatory or exudative pharyngitis, frequent retrosternal pain and cough as well as pleural effusions (Adewuyi et al., 2009). Survivors of Lassa fever return to their homes and must live with the stigma of Lassa fever. Little is known about how the survivors of Lassa fever. Little is known about the QoL in those who survive Lassa fever. However, Adewuyi et al. (2009) in their study noted that Lassa fever disease caused sensorineural hearing deficit in some survivors. In conclusion, , there has not be a study conducted on QoL and lived experiences on survivors infected with Lassa fever disease.

Summary and Conclusions

Leininger's culture care theory guided this study and provided an understanding of the meanings and feelings of Lassa fever survivors' descriptions of their health, social, and physical well-being. Learning and understanding the cultural beliefs, attitudes, and values, the Southsouth Nigerian people could be used to develop approach that would focus primarily on Lassa fever survivors. Existing literature revealed the disease surveillance, awareness, diagnosis, control, prevention, and treatment. Related studies provided insights on how survivors of Lassa fever experienced stigmatization and hearing loss.

Since the late 1960, researchers have made great strides in obtaining knowledge about Lassa fever. In an extensive review and search of the literature, I found no studies on QoL and lived experiences of Lassa fever survivors.

In Chapter 3, I present detailed information on the method of the inquiry: a descriptive approach and the rationale for its choice for the study as well as the role of the researcher. The participants' selection logic is presented in addition to the data collection technique and data analysis method. Finally, the instrumentation for the study, the issue of trustworthiness and ethical procedures are presented.

Chapter 3: Research Method

The purpose of this descriptive qualitative study was to describe the meanings of the lived experiences on Lassa fever survivors in the Southsouth region of Nigeria. This study was imperative because no research on this subject was yet available. In this chapter, I present the descriptive qualitative study design and rationale for the choice of this design. In addition, the procedure for the recruitment of participants and data collection strategies is discussed, together with data analysis measures. Issues of trustworthiness credibility, transferability, dependability, and confirmability follow.

Research Design and Rationale

Research Questions

The following research questions guided this study:

1. What are the lived experiences related to quality of life for adults affected with Lassa fever?
2. How do those who survive Lassa fever describe their lives?

I used a phenomenological approach to describe the life experiences of Lassa fever survivors. The phenomenological approach is a process of learning and constructing the meaning of human experience through intensive dialogue with persons who are living the experience and is based on the assumption that there is a structure and essence to shared experiences that can be narrated. My goal was to understand the meaning of the experience as it is lived by the participant (LoBiondo-Wood & Haber, 2014). Adopting phenomenological approach provided me a thorough description and meaning of Lassa fever disease using lived experiences.

Research Tradition and the Rationale

The qualitative approach using a descriptive design was considered appropriate to answer the research questions for this study. Qualitative methods are usually adopted to address peoples' experiences, understand the various aspects of individuals regarding a concept or phenomenon, and deduce the impact of experiences, attitudes, and life context on people's needs and actions (Grossoehme, 2014). The descriptive study design was employed to obtain the answers to "how" and "what" questions about perceived experiences of Lassa fever survivors.

A qualitative descriptive study is a description of a phenomenon (i.e., a situation) in its naturalist real world setting, particularly when the boundary between the phenomenon and the context are not distinct (Yin, 2014). In this study, the descriptions were the Lassa fever survivors' experiences with Lassa fever illness. The descriptive study design effectively enhances the description of a phenomenon within its context through one-on-one interviews with every participant. This one-on-one interview was adopted for enough data collection which allowed the participants to express their feelings using words and nonverbal expressions. The choice of a qualitative method was necessitated by its flexibility in terms of spontaneity and adaptation between the research and the study participants. Secondly, using a qualitative approach allowed the generation of data in the form of words, not numeric data, which provided rich content for the purpose of analysis. (Yin, 2014).

Design

The design for this qualitative study was based on Husserl's transcendental approach. Lafontant et al. (2019) stated that Husserl recommended that a researcher use "bracketing" to prevent bias and allowed the researcher to focus on the participants' account of the lived phenomenon during the interviews. Limberg et al. (2018) mentioned that a central philosophical principle of transcendental phenomenology was the effort made by the researcher to assess, monitor, and neutralize subjectivity to prevent (i.e., transcend) biases from influencing the object of study. Therefore, the goal of my chosen design was to summarize participant daily experiences and provide a fairly detailed collective description that included the "what" and "how" of their experience.

Role of the Researcher

The qualitative researcher is expected to reveal essential aspects of professional roles, personal biases, assumptions, expectations, and experiences that may affect his or her eligibility to conduct the inquiry (Sutton & Austin, 2015). The researcher in a qualitative investigation should disclose whether his or her role is emic—an insider and full participant in activity, program or phenomenon—or the function is more etic—from an outsider perspective (Patton, 2015). In this study, I operated as a subjective outside viewer. I employed both guiding questions and probes to describe the lived experiences of adult Lassa fever survivors' selection. The data I obtained and interpreted were within the context of study and resulted findings reported objectively.

For this study, I adopted the principle of rigor. Ang et al. (2018) stated that rigor established trust and confidence in the results of a research study. For credibility to

prevail, therefore, I engaged in self-reflection during data collection and data analysis so that any possible interference in the study process was avoided. I employed triangulation to ensure credibility through the recording of field notes on observed nonverbal communication to maintain the needed completeness and accuracy of any findings. In addition, an audit trail was maintained to achieve dependability and transferability. Confirmability was achieved by presenting participants' actual words and using one or two other researchers in data analysis. Finally, broad open-ended questions, prompts, and verbatim transcription strategies were used to achieve authenticity. I adopted solely my interview guide (see Appendix B). I made any changes to the interview guide based on the participant's answer. During the recruitment stage, each prospective participant was informed of a compensatory amount of \$20 after full participation in the study.

Methodology

Population and Setting

The population for this study was adults aged 18 years or older who had survived Lassa fever . The geographic setting was Southsouth Nigeria. There was no second-hand information or telephone interview in this study. The study was open to adults (men and women) in Southsouth Nigeria who had survived Lassa fever infection.

Sampling Strategy

This study was the first attempt to obtain Southsouth Nigerian participants' views on the lived experiences of Lassa fever survivors with Lassa fever disease. I recruited participants for this study upon receiving Walden University's Institutional Review Board's (IRB) approval. I purposively sampled Southsouth Nigerian adults identified as

Lassa fever survivors. I recruited 15 participants. Moustakas (1994) stated that there are no solid rules for choosing research participants; choosing participants should include age, race, religion, ethnic and cultural factors and gender, political, and economic factors. Moustakas also noted that the essential participant selection criteria are that the research participant (a) has experienced the phenomenon, (b) is intensely interested in understanding its nature and meanings, (c) is willing to participate in a lengthy interview and possibly a follow-up questions, and (d) grants the investigator the right to videotape the interview and publish the data in a dissertation and other publications.

Participant Selection

Participants were selected equitably, thereby assuring confidentiality about participants' identities (Yin, 2016). Participants for this study were recruited from among adults, 18 years or older, men or women who had been infected and survived Lassa fever disease and who lived in Southsouth Nigeria.

Sample Size

Patton (2015) argued that sample size should be determined by the intention and objectives of the study together with how the results will be utilized and the resources available for the study. Therefore, the sample size for this study was 15 participants for one-on-one and face-to-face interviews, which allowed the gathering of detailed information and increased the depth of insight into the cases and contexts of study (Patton, 2015). My decision was based on the need to probe deeply into the lived experiences of Lassa fever survivors' activities of daily living and context of the inquiry within the time and availability of resources.

I recruited participants after posting a flyer at Irrua Specialist Hospital located in Southsouth Nigeria with my phone number at the bottom of the flyer which enabled willing prospective participants to contact me. To increase sampling rigor, potential participants who responded to the flyer went through a screening process to filter out those who did not meet the criteria or were not prepared to share their lived experiences as Lassa fever survivors. I notified those who met the criteria after a thorough screening process (see Appendix C) of those I selected by phone and informed them to meet with me at the interview location of their choice and to sign a consent form upon arrival.

Saturation and Sample Size

Saunders et al. (2017) stated that the concept of data saturation was considered vital due to its potential in revealing that a study was based on an adequate sample to demonstrate content validity. Malterud et al. (2015) stated that neither the number nor size of sample, the time expended on each participant, nor document should determine when to adjudge data saturation. Therefore, data saturation was determined by the amount of information gathered, the aim of the study, sample size, use of an established theory, the quality of the conversation, and the strategy of analysis. For this study, an in-depth interview of 30 minutes with each of the 15 recruited participants resulted in 450 minutes (i.e., a total of 7 hours 30 minutes). Therefore, field work yielded enough detailed description to culminate in saturation.

Instrumentation

Yin (2011) stated that the researcher in a qualitative study was the principal instrument for data collection. With this statement in mind, I developed an interview

protocol (see Appendix B) that I adopted for data collection for this study, based on the research questions and on construction of knowledge as described by the theoretical framework. The protocol comprised 13 open-ended questions (see Appendix C), which were derived from the research questions. These open-ended questions provided opportunities for participants to express the needed diverse views and opinions of their respective lived experiences as Lassa fever survivors. Patton (2015) acknowledged that open-ended question tended to provide avenues for the researcher to learn the terminologies and judgments of the participants together with the intricacies of their personal views and encounters. LoBiondo-Wood and Haber (2014) stated that open-ended questions are used when the researcher wants participants to respond in their own words or when the researcher does not know all of the possible alternative responses. LoBiondo-Wood and Haber further mentioned that interviews that used open-ended questions often used a list of questions and probes known as an interview guide. This interview guide helped during my interview sessions. At the end of each interview session, every participant was allowed to ask questions, provide comments, and share recommendations, and had ample opportunities to clarify any concerns.

I adopted the face-to-face semistructured interviews used in person format, and gathered relevant information from all participants, which made it easier to compare responses and qualifications. With this approach every participant was asked the same questions initially, but follow-up probes were different with each participant. This approach ensured that similar information was obtained during each interview session. I added some explanation to clarify the participants' understanding before asking further

probing questions. This offered them the opportunity to fully answer my questions, thereby obtained more meaningful data.

The issue of content validity may be raised in respect to these questions. Kuzmanic (2009) stated that an interview is a joint venture engaged by the interviewee and the interviewer, so that the questions posed form merely the opening gambit in a conversation in which both parties engage. Interpretations of these questions by the interviewee, additional information offered though not ask-for by the interviewer, and follow-up probing questions by the interviewer all contributed to the construction of knowledge that occurred during the interview experience (Kuzmanic, 2009).

Kuzmanic (2009) suggested that one cannot really determine a specific stage when validity should or could be assessed in an interview and instead, it should be addressed throughout the entire research process. Therefore, the interview questions used in this study presented content validity to the extent I understood the issues to be addressed and by my humble ability during interview sessions and conveyed issues to participants, and participants' ability to communicate to the interviewee their understanding of those issues.

Procedures for Recruitment, Participation and Data Collection Protocol

The Interview Process

Each interview session lasted 30 minutes and I used my interview guide (see Appendix B). During the interview sessions, all distractions were prevented such as no cell phone used. Participants were given the respect they deserved during the interviews. I adopted snowballing method to recruit participants and each participant signed an

informed consent form. According to LoBiondo-Wood and Haber (2014), when a few subjects with the necessary eligibility criteria are found, the researcher asked for their assistance in getting in touch with others similar criteria which is also called networking sampling.

Data Collection

The length of time for data collection process was one month which was modified due to COVID-19 pandemic. The data collection process began with a meeting with the Irrua Specialist Hospital, Nigeria Ethical Committee Head/Director to present the purpose and goals of my study. I applied for permission or approval to conduct the study and recruit Lassa fever survivors who visited the hospital for follow-up appointments. Upon the Ethical Committee approval, I met with Lassa fever survivors and those who met the criteria and voluntarily accepted to participate were interviewed. Each individual was informed about the goals, objectives, data collection process, and the nature of the study. The recruited participants then provided me with their availability, so I could arrange the date and time of the interview. I conducted the interview and collected the data using a face-to-face interview approach.

Upon meeting with each participant, I provided him or her with a copy of consent form to sign and keep a copy. The consent form included a statement that informed the participants that if they decided to withdraw from participating in the study, they would be able to do so without penalty. In addition, I informed the participants in advance that their interview would be audio-recorded. I met each participant in a mutually agreed location, time, and date to ensure confidentiality and privacy I used the open-ended

questions so that participants could talk at length about their experiences as Lassa fever survivors. The open-ended questions were followed by prompts so that I could get in-depth responses. The interview ended when the participant started to recall already stated experiences. The one-to-one interview lasted 30 minutes and I asked each participant 13 open-ended questions (see Appendix D) as well as follow-up questions..

The interviews were audio taped (Patton, 2015). To conclude the interview session and exit the study, I thanked the participants for honoring and agreed to participate in the study and reassured them once again of utmost confidentiality of their responses to the interview questions. I asked each participant to feel free to reveal any information he or she considered vital for me to know which I might have omitted. I also informed them that they would be given an opportunity to review the transcript of their interview to confirm its accuracy.

For this study, the sample size was 15 participants. I used a convenience sampling method. LoBiondo-Wood and Haber (2019) stated that convenience sampling was the use of the most readily accessible persons or objects as subjects. Convenience samples use voluntary participation would increase the probability of researchers recruiting those people who feel strongly about the issue being studied, which may favor certain outcome (LoBiondo-Wood & Haber , 2014)..

I recruited participants for my study at the Irrua Specialist Hospital, where the gatekeeper was located in Southsouth of Nigeria. Lund et al. (2016) stated that a gatekeeper was someone who had the power and control over access to communities and key respondents in a particular location selected for research. I used purposive sampling

to recruit individuals who were interested in my study as well as snowball sampling to gain a larger sample size. Purposeful sampling can be used to gain in-depth information and target a population (Barry et al. 2016) which was Lassa fever survivors. Donald et al. (2017) stated that snowball sampling is a widely used method of sampling in qualitative research that involved current participants giving the researcher information about others to contact for the study. Snowball sampling may allow participants willing to share their experiences because the researcher is now known to someone already interviewed. Therefore, I used snowball sampling to help me locate potential or willing Lassa fever survivors outside Irrua Specialist Hospital who resided Southsouth Nigeria areas. Saturation sampling strategy was used to ensure that the sample would be credible in capturing the principal demographic and experiences variables that might have the tendency to influence each participant's lived experiences. Creswell (1998) recommended 5-30 participants for a study which could help a researcher estimate how many participants needed, but ultimately, the required number of participants depends on when saturation is reached. Patton (2015) stated that maximum saturation sampling strategy produced a valuable detailed description of each case essential for documenting exceptions as well as vital themes that transcended cases and derive their significance by emerging heterogeneity.

Data Analysis Plan

My intention was that the interview recordings would be transcribed manually. Creswell (2013) stated that data analysis in qualitative research has different stages: preparing and arranging the data; coding and reduction of the data into themes and

presenting the data as a discussion. Miles and Huberman (1994) stated a more detailed procedure of data analysis entails writing marginal notes, preparing summaries of field notes and recognizing relationship among classifications. Documenting and tracking ideas that emerge while gathering data are all aspects of field work and the qualitative analysis begins with it (Patton, 2015). Phenomenological analysis involves the use of fracturing strategies that help the researcher break down the data and rearrange it into categories that facilitates comparisons across cases. Holistic, contextualizing strategies involve interpreting the narrative data within the context of a whole context. It also involves a search for common patterns using a combination of three approaches (Polit & Beck, 2012). These three approaches included noting, theming, and categorizing.

My analysis plan for my collected data for this study involved the following: prepare data by transcribing interview scripts and utilize member check to confirm, modify and verify the interview transcripts. All collected data were grouped and connected to specific research questions.

The Use of Triangulation and Expert Debriefing

During the initial analysis of collected data, I used reflexivity and an audit trail to increase the trustworthiness of this study. Once the initial analysis was completed, I sent the analysis along with my personal narrative to two other Lassa fever experts to engage in further dialogue regarding the trustworthiness of my initial analysis. Prior to this stage, these selected experts signed a confidentiality agreement. The reflexivity at this point in the process included extensive dialogue, both in person and through electronic recordings that allowed the research experts to consider whether or not that data analysis is a

trustworthy representation of the themes identified in my journal and note taking. During the dialogue session, the experts considered many questions that related to the complex nature of researching human beings. Fawcett and Hearn (2004) discussed that attention must be given to historical context and to the maintenance of a critical relation to the research topic. In this way, the experts reflected on issues of culture that kept hidden meanings I could not uncover during interview sessions which could be difficult to understand because of the history or cultural perspectives of Lassa fever survivors in Nigeria.

Coding and Qualitative Data Analysis Software

First hand-coding was adopted during data collation. I coded the data digitally using NVivo 12 software program. During interview sessions with participants, data were collected through attentive listening, observations, tape recording, note taking, and marked diagrams such drawings and line formation for references.

Issues of Trustworthiness

Trustworthiness or rigor of a study refers to the degree of confidence in data, interpretation, and methods used to ensure the quality of a study; and in each study, researchers should establish the protocols and procedures necessary for a study to be considered worthy of consideration by readers (Connelly, 2016). The goal of qualitative analysis is find commonalities and differences in the interviews, and then to group these into broader, more abstract, overarching categories of meaning, sometimes called themes, that capture much of the data. I adopted this format during and after each interview session (LoBiondo-Wood & Haber, 2014). Connelly (2016) explained trustworthiness in

terms of credibility, transferability, dependability, and confirmability, as detailed in the following subsections.

Credibility

Credibility refers to truth of the data or action or the participant views and the interpretation and representation the data by the researcher. In qualitative research study credibility may be explained by asking if the account of the study was valid, and by whose standards (Creswell, 2013). To validate my future findings, I will adopt reflexivity process. Darawsheh (2014) described reflexivity as the process of examining of both oneself as a researcher, and the research process itself. In this my study, I was responsible for reducing potential biases to safeguard validity by taking notes of, journaling my thoughts, experiences, feelings, and impressions of each participant.

Transferability

Transferability means findings that can be applied to other settings or groups (Patton, 2015). That is, a study has met this criterion if the results have meaning to individuals not involved in the study and readers can associate the results with their own experiences. In my study, transferability was established when I reviewed the comprehensive detailed accounts of Lassa fever survivors' experiences in surviving Lassa fever disease in Southsouth Nigeria. I ensured transferability of my study by providing a detailed description as narrated by the participants. Patton (2015) stated that the concern was mainly to focus on demonstrating that findings of a study can be transferred to a wider population.

Dependability

Dependability strategies ensure the constancy of the data over similar conditions. This can be achieved when another researcher concurs with the decision trails at each stage of the research process. According to Anney (2014), establishing dependability in qualitative research was not targeted at the possibility of obtaining the same findings by different researchers; rather, it was intended to confirm whether the results are reasonable about the data collected.

Confirmability

Confirmability refers to the researcher's ability to demonstrate that the data represent those participants' responses and not the biases or viewpoints (Connelly, 2016). Patton (2015) stated that it was imperative for the researcher to reconsider the limitations of the choice of research design and influence on the data availability for analysis in the interpretation of the findings. Therefore, confirmability was established in this study by acknowledging the beliefs underpinning all decisions taken concerning the methods to be employed in the study report. Therefore, I established confirmability of this study by clarify my biases as a citizen of Nigeria and ensured to keep the findings of this study in the context in line with the tenancies of qualitative analysis.

Ethical Procedures

While conducting a qualitative study like this one, some ethical issues usually emerge in respect to human objects treatments. In February 2019, I traveled to discuss my study with the Coordinator, Lassa Fever Research Institute and the Head, Ethical Committee, Irrua Specialist Hospital in Nigeria. The hospital has the sole mandate in

diagnosis and treatment of Lassa fever patients. Lassa fever Research Institute is affiliated to this specialist hospital. The essence of this initial visit was to inform the hospital authority of my study as well as explained the purpose of the study. I indicated that the decision to participate was voluntary. I was instructed to formally submit an application with prescribed application on or before November 30, 2019 for consideration and approval. In addition, submit Walden IRB the study proposal for consideration and approval. For this study to formally conducted and high ethical standards maintained, I formally received approvals from the Walden IRB (Approval#: 05-15-20-0508304) and Nigeria protocol No: ISTH/HREC/20201805/070 after a comprehensive explanation of the study and written consent. Participations in this study was voluntary.

Summary

The qualitative study processes for this research were discussed in this chapter regarding the method, research design and rationale, ethical protection of participants, participant selection logic, instrumentation, data collection, and analysis. The results obtained from this study are presented in Chapter 4.

Chapter 4: Results

The purpose of this qualitative study was to describe the meanings of the lived experiences on Lassa fever survivors in the Southsouth region of Nigeria. In this chapter, I present the setting of the study, participants' demographics, data collection and analysis, and results. Furthermore, the chapter includes descriptions of processes for participant recruitment, interviews, data collection, and data transcription. In addition, I explained data analysis processes such as codes development, development of categories, and finally, themes. Measures taken to ensure that the findings were credible and trustworthy are also discussed. Finally, detailed descriptions of the QoL and experiences of Lassa fever survivors with follow-up care while demonstrating thematic patterns in relation to the research questions are presented.

Setting

Data collection in a qualitative study is usually done in a naturalistic setting (LoBiondo-Wood & Haber, 2014). Often, the setting for data collection is the participant's home. For this study, the setting was modified due to the COVID-19 pandemic. I interviewed participants in two settings at a large government facility where care is delivered to Lassa fever survivors: a large, secured conference room where I recruited the participants and a secured room where the interviews were conducted on one-on-one basis. Lassa fever survivors are usually scheduled for follow-up treatments/check-ups on Mondays, Wednesday, and Fridays. Three weeks before my arrival in Nigeria, the study flyers (posters) were displayed in approved designated locations in the hospital and on the research institute premises. Before my arrival,

potential volunteer participants indicated their interests to participate in the study through the director/coordinator of Lassa Fever Research Institute. I recruited the participants and gathered the data using the procedures described in Chapter 3, as approved by Walden University.

Description of the Participants

A total of 15 participants, nine male and six female survivors, were recruited to participate in this study. They were between the ages of 18 and 49, all were fluent in English, and they lived in Southsouth areas of Nigeria. Nine men participated in this study with average length of illness, comfort with the English language, and range of time of diagnosis 2017-2019 with one outlier 2007 while six women participated with average length of illness, comfort with the English language, and range of time of diagnosis 2017-2019. For details on each participant, see Appendix D and the table in Appendix E.

It is important to note that Nigeria is a heterogeneous society with three major religions, namely, Christianity, Islam, and tribal religions (Akah & Ajah, 2019a; Akah et al., 2020). Islam dominates in the North with a number of supporters in the Southwestern Yoruba part of the country; whereas Christianity dominates the Southeast and Southsouth areas (Akah et al., 2020). Yesufu (2016) stated that religion is a faith-based reward that satisfies an individual's mode of worship, freedom of association and room for interaction with others, thereby satisfying some of the human needs. Therefore, it was not a surprise that all 15 participants stated that they were Christians, since they lived in Southsouth Nigeria, a predominantly Christian region.

Data Collection

To begin the data collection process, I informed participants about the purpose of the study. After obtaining a signed written consent form from each recruited participant, I conducted semistructured interviews in English for about 30 minutes with each participant in an approved comfortable secured room. Data collection focused on obtaining culture care beliefs and practices based on Leininger's (2002) culture care theory, explicating demographics, kinship, social, cultural, religious, economics, and worldview. I gathered the data by asking each participant 13 structured and open-ended questions (see Appendix C) as well as follow-up questions where necessary to clarify their responses. Examples of my interview questions were (a) "When did you contract Lassa fever disease?" (b) "What has helped you seek out and received care?" (c) "What experiences did you have with the disease?" (d) "What do you think helped in accessing Lassa fever disease treatment(s)?" and (e) "What are your thoughts about this disease and your whole experiences?"

Data collection consisted of audio-taped narrative, personal notes, and semistructured interviews with 15 participants. Before each interview session commenced, I thanked each participant for voluntarily finding time to participate in the study. In addition, I assured them of the utmost confidentiality regarding their responses to the interview questions. Furthermore, participants were informed that the interview session would be audio-recorded and notes taken. At the end of each interview session, the participant was thanked for accepting to participate, as well as for their patience and

time. Also, at the end of the interview, each participant received \$10 (US dollar) both for transport fare and to thank them for their time.

I had planned to use hand-coding for my data analysis but I recognized that hand-coding is pain staking, time consuming, and tedious, through grouping, use of themes, and categorization. Therefore, I coded the data digitally and aligned the data with my theoretical framework. Stuckey (2015) acknowledged that coding by hand could take hours, weeks, or months depending on the size of the dataset. Houser (2015) stated that coding includes labels, descriptions, or definitions assigned to data that allow them to be categorized and analyzed in qualitative research. The choice for NVivo (Version 12) was because of its potential in facilitating data storage, coding, retrieval, cross analysis, and connecting. This software helped enrich my understanding of this study and reduced time spent on data analysis. It was effective in interview data analysis. It can easily facilitate amendments, notes, tag speakers using a specialized editor and directly transcribes files in NVivo (Hilal & Alabri, 2013).

Finally, I carefully, diligently, and thoughtfully scrutinized data for both supporting and discrepant evidence and negative cases. The discrepant cases that could be accounted for or resolved by the established themes or categories were analyzed and reported in the study narrative. Patton (2015) noted that reporting identified discrepant data served as a means of authenticating the inductive qualitative analysis. To minimize the influence of my judgment, intuition, and bias, an external audit trail was engaged. Kozleski (2017) stated that audit trails help to assure that researchers engaged in specific studies, as well as the participants for their studies, are aware of reflexive subjectivity

through careful documentation of how the researcher's assumptions have been affected by the data.

I conducted a code-recoded procedure on my data during the analysis stage of the inquiry. With this process, segments of the data were coded one at a time, and I returned to it after a short duration of 1-2 weeks to recode the same segments and compare the two results. Anney (2014) noted that the resemblance of the coding results increases the dependability of the study, grants the inquirer a better insight of the data categories, and enhances the presentation of the participants' views.

Data Analysis

I used thematic analysis to identify, examine, and interpret themes in the qualitative data (Braun & Clarke, 2014). Immediately after the interviews with the participants, the audio recordings were transcribed by a professional transcriptionist to prepare the data for analysis (Holloway & Galvin, 2016). To transcribe the audio recorded interview data, I utilized a web-based platform, www.rev.com. Thereafter, I meticulously reviewed all the transcripts, cross-checked with the recorded interviews along with personal notes taken during each interview session for accuracy and completeness. Then, I searched for generally used words, keywords in phrases, personal notes, and sentences used by participants with specific meaning and as well as importance in their QoL and lived experiences as Lassa fever survivors. During each interview session, each participant laid bare their experiences such as progressively worsened conditions during the course and treatment of the disease and the significant impact on their QoL.

Furthermore, I organized the data by arranging and ascribing them to the study research questions. In addition, read through the transcriptions thoroughly and closely several times to be familiar with the content and made notes. The coding was done as indicated in Chapter 3 using NVivo 12 software program. Prior to using this software, I attended a two-day scheduled Zoom tutorial appointment with an expert on NVivo 12 at the Academic Skills Center Tutoring. I constantly double-checked coding consistency to avoid human fatigue and errors influences. According to Miles and Huberman (1994), rechecking coding consistency should be undertaken to prevent mistakes. I further rechecked the data for recurrent patterns, saturation synthesized, and interpreted the data (McFarland & Wehbe-Alamah, 2018). This process revealed isolated themes reflecting the QoL and lived experiences. The essential five themes include (a) culture care and therapeutic communication, (b) emotional support, (c) physical symptoms, (d) social activities, and (e) work productivity.

Evidence of Trustworthiness

The criteria used to establish trustworthiness were credibility, transferability, dependability, and confirmability as defined by Lincoln and Guba (1981) and described by Korstjens and Moser (2018).

Credibility

Several techniques within the naturalistic paradigm are used to create the true value of research findings (Creswell, 2013). To build credibility, during every interview session with each participant, I adopted long-lasting engagement also know as prolonged engagement strategy. That is, investing sufficient time to become familiar with the setting

and context, to test for misinformation, to build trust, and get to know the data so I could obtain rich data (Korstjens & Moser, 2018). One way that ensured trustworthiness was spending adequate time during the recruitment of participants in a large secured conference room to introduce myself, the study, and to develop a rapport. To further improve confidence in the precision of the data, no priori sample size was established. However, when certain experiences appeared to contradict the emerging themes, these experiences were scrutinized further to establish whether they represented disconfirming cases (Creswell, 2013). In other words, these were done through follow-up questions or restating such question(s).

Transferability

The next criterion for trustworthiness is transferability, which is the extent of applicability of the results of a study to various settings or the degree to which the results of qualitative research can be transferred to other contexts or settings with other respondents (Korstjens & Moser, 2018). The aim of this study was providing baseline awareness of lived experiences of Lassa fever survivors. In addition, in keeping with the principles of naturalistic paradigms, the main focus of this study was depth, and not breath and generalizability of the findings to other Lassa fever survivors. To allow trusted determinations of transferability, I adopted thick and detailed descriptions of the study setting and characteristics of the participants to allow readers to make decisions regarding the extent to which the findings applied to their context. Korstjens and Moser (2018) stated that thick descriptions mean describing not just the behavior and experiences, but

their context as well, so that the behavior and experiences become meaningful to an outsider.

I have provided a rich account of descriptive data, such as the context in which the study was carried out, its setting, sample, sample size, sample strategy, demographic, socio-economic, and clinical characteristics, inclusion and exclusion criteria, interview procedure and topics, changes in interview questions based on follow-questions, and excerpts from the interview guide. Creswell (2013) stated that the thorough descriptions of the research methods provide the reader with sufficient information to establish if the findings of this study apply to their situation. Finally, to evaluate the scope of findings presented in this study apply to other settings and environments, additional study may have to be carried out as only through numerous studies may there be increased certainty of applicability of the findings to other contexts.

Dependability

To improve the dependability of my findings, all planned methods laid out initially were strictly followed so I consistently followed the study protocols and interview guides and semi-structured interview questions for each participant to address the research questions. There were no deviations from the protocols to carry out the study, and the protocol discussed extensively in the methodology. In addition, the demographic characteristics of participants have been discussed in details. I adopted the audit trail strategy; meaning transparently describing the research steps taken from the start of a research project to the development and reporting of the findings (Korstjens & Moser, 2018). The records of my study procedures were kept throughout the study.

Confirmability

confirmability is that the findings of the research are the true representation of the views and ideas of the participants and not the personal values and biases of the researcher (Elo et al., 2014). Furthermore, confirmability serves as a means of determining whether the conduct of a study was influenced by the researcher's bias, because of the assumption that qualitative study allows the researcher to accommodate his or her unique perspective in the study. A criterion for confirmability is the degree of acceptance of the researcher of his or her predisposition (Miles & Huberman, 1994). It is important for the researcher to reconsider the shortcomings of their choice of research design and the influence on the data available for analysis in his or her interpretation of the findings (Patton, 2015). Besides contributing to the credibility of the findings, saturation procedures and prolonged engagement with the participants contributed to the confirmability of the results. The study flyers (posters) displayed in approved strategic places and adequate time spent in a secured conference room led to the enrollment of participants and enabled the recruitment of the participants until the point of data saturation was reached. The rapport developed with the participants also contributed to the openness and genuine nature of the responses and the actual experiences of the participants thus ensuring that the data collected did not reflect my biases.

Results

A total of 15 adults who survived Lassa fever disease participated in this study. Through the in-depth interviews and analysis of the raw data led me to the discovery of five themes: 1) culture care and therapeutic communication, 2) emotional support, 3)

physical symptoms, 4) social activities, and 5) work productivity. The participants' quotations were presented in their natural forms with no attempt made to correct their positions to retain the unique original expressions.

Theme 1: Culture Care and Therapeutic Communication

Participants credited the quality of the care they received, the cultural sensitivity of the healthcare providers, and their religious beliefs for their survival of Lassa fever.

Category 1: High Quality Care

Culture care and therapeutic communication by healthcare providers, especially the doctors and nurses during interview sessions was essential to the survivors' sense of well-being. Responses from all participants interviewed, took early signs and symptoms such as fever, headache, and loss of appetite to be that of malaria, hence, resulted to self treatment by ways of traditional remedies. Participant 1 and 15 stated, "I started taking traditional herbs", Participant 10, "I started treatment with traditional medicine", Participant 13, "So we have family drugs that we used to take", Participant 14, and "I started with traditional like 'agbo'".

Category 2: Culturally Appropriate Care

Participants expressed positive aspects of their health care experiences during their hospital stay. They appreciated the availability of high level care and agreed that therapeutic communication by doctors and nurses contributed to their well-being as well as saved their lives. Participants acknowledged healthcare providers demonstrated caring by spending time with them, showed respect, asked about their cultural preferences, beliefs, and traditions, explained procedures and treatments, and informed or told them

what to expect. As participants expressed, from all the participants, “The doctor ordered blood test, my sample sent to Irrua and result came positive for Lassa fever. Immediately I was transferred to Irrua for treatment.” From all interviewed participants, “I was given 10 doses of ribavirin for 1 week and they encouraged me to drink plenty water, 20 Sackets of pure of per day. The nurses also encouraged me to walk around the ward”. Participant 1, “I feel the doctors and the nurses around me helped me actually”.

Participant 14, “The doctors and nurses were always very busy, helping and calming us down”. Participant 8, “The doctor came and said to me, you have swollen lymph, you may take longer than necessary in this Lassa ward”. Participant 7, “Being hospitalized at Irrua was what saved my life. The doctors, nurses, and everybody there were great. The treatment was excellent especially the drug, ribavirin. I call it the miracle drug. The nurses, the ways they helped and encouraged patients was wonderful. They are very patient with us and constantly encouraged us to drink plenty of water”.

Category 3: Religious Beliefs

During treatments, participants deeply relied on their faith or religion beliefs. Regardless of their religious affiliation, all participants concurred that religion played a central role to their healing and as survivors. In interview sessions, I noted that prayer was the essence of religion, the vehicle for asking God for good health, and a source of comfort and strength. As some participants stated: Participant 2, “I thank God for my life. It was the help of God”. Participant 3, “I was praying at home with my family. I think because you know we practice faith a lot. We do not war against fresh and blood. I am talking to you as both spiritual and a physical human being and person”. Participant 5,

“Thank God we have a treatment center. If this treatment center was not here, many people would have not known they have Lassa fever”. Participant 6, “I felt is a natural but backed up with spiritual powers. So, I felt it’s not ordinary. That is for my own believing. Because in a place whereby 10 in hospital, four will survive, six will die, is not ordinary”. Participant 13, “I was telling my friends to pray for me, I don’t want to die like this”. Participant 14, “Requested for my reverend father for spiritual interventions”.

Theme 2: Emotional Support

Participants felt the importance to continue the traditional practices of close neighbors helping Lassa fever survivors. All participants when initially diagnosed of Lassa fever disease felt frustrated due to condition which was related to the fact that the disease could be treated but for a long period of time. The frustration was they did not know how they caught the disease and what could speedily help them get better. They described their feeling scared, shocked, and sad. Participant 5, “I thought I was going to die, seeing others dying.” Participant 13, “It’s like I’m going to die. It’s like my life is going out of me.”

In Southsouth Nigeria, participants were used to living in large family groups and residing in close proximity to extended family and friends. These patterns were evident among the Lassa fever survivors as well: maintaining networks of support, joint decision making by spouses, family members, and friends, and treating people with respect. Family and friends sometimes lived some distance apart and participants have had to work hard to maintain networks of support in Southsouth Nigeria. As some participants expressed: Participant 1, “My wife suggested I go to hospital for treatment and it was just

the support of my wife. My supervisor came to see me twice”. Participants 2 and 3, “My family and neighbors took care of me”. Participant 4, Participant 6, “My husband and my parents took me to a nearby private hospital for treatment”. “My husband and neighbors told me to go to hospital”. Participant 5, “A doctor friend advised me to seek further treatment at Irrua hospital”. Participant 12, “My family members were always with me”. Participant 13, “Immediately, one of my bosses now say that they should test me for Lassa fever”.

Participants shed more light on the range of emotions they experienced while undergoing treatment and how they coped with their negative emotions. When they were initially diagnosed with Lassa fever disease, all the participants identified their emotions at the time: “I was a little bit more depressed than now”. “I thought I was going to die”. Participants 1, 3, 4, 6, 7, and 10 felt “sad and frustrated because, I thought I can’t do all the things I used to do before”. Fear of suffering and bad outcomes were commonly felt among the survivors. Participant 1, “Some of my co-workers were not associating with me”. Participants 4 and 14, “I was afraid that I was going to give up”. Participants 6, “I thought I will not survive the disease because 4 people died”. Participants 5 and 7, “I thought I was going to die”. Participant 8, “I went through a lot of stress”.

Theme 3:Physical Symptoms

Participants described debilitating effects they experienced before treatments and while undergoing Lassa fever disease treatment. Some of the commonly effects were physical pain, headache, fatigue, abdominal pain, vomiting, changes in appearance, and gravely witnessed the demise of patients who were unable to survive this terrible disease,

as described by the participants in the following: The effects caused by the disease as narrated by all participants like generalized weakness, muscle and joint pain, sore throat, fever, severe headache,, abdominal pain and invasive procedures as IV access on the arms for fluids and medications were quite painful. Participants 8 and 14, “At a point feeling dizzy and on the 3rd day while in the hospital”. Participants 6, 9, 11, and 12, “I vomited a lot especially at night”. All the participants experienced loss of appetite, “I don’t have the appetite to eat, even if it is my favorite food”. All participants explained that their physical strength was affected, “I was very weak, not have the energy and mood to do anything”. Participant 8, “I was having swollen lymph and my legs”. Participants 5 and 6, “At a point loss of memory, temporary forgetfulness”. Effects also include changes in physical appearance: Participant 15, “My hands started shaking and went into seizures two times. The color of my hands and eyes changed; pale and yellowish (eyes). In my right eye, if I look somebody just like, I seen this shadow of black”. Participant 2, “I look purple and very weak, and I was given 2 units of blood out 4 units ordered by the doctor”. Participant 6, “I was given dialysis 2 times”. “At present, I am not working. My husband instructed me to stay at home. I am strong to work. I am okay. I just got married, and my husband stops me from my fashion and design work.”

Physical symptoms formed a major part of how Lassa fever conditions affected participants’ QoL. The participants reported that their condition caused them general body weakness, abdominal pain, joint pain, severe headache, sore throat, loss of appetite, fatigue, seizures, swollen lymph, chest pain, and loss of strength. Participant 1, “Very weak with joint pain and sore throat.” Participant 3, “I couldn’t even stand, and so weak.”

Participant 5, “I had general body weakness.” Participant 7, “I had no stamina and very weak.”

Theme 4: Social Activities

Lassa fever interfered with their lives and their involvement in their communities. Some of the participants highlighted the changes in relationships that they experienced with their family and friends during course of the disease. Due to the strict restrictions in the ward, and the disease is contagious; they could not meet their family and friends as often. Participant 4 reported, “I was breastfeeding a baby when I had the disease and have limited access to my baby, occasionally breastfeeding time and I thank God the baby never have the disease”. Despite these limited interactions with family and friends, Participants 11 and 12 stated, “My family and friends were there with me and they want me to feel happy”. Participant 14, “Pray constantly with my wife and my mother”. Other social activities experienced by some participants included; absence from school and church services, along with strict visiting restrictions in the ward, limited interactions between the participants and their friends. Participant 7, “I totally missed classes and it was around exam time. Unable to sit for my final exam in Post-Graduate Diploma (PGD). I first got the direct, and that man said I should not worry, if I recover that they will go to sit on it and discuss how I’m going to have the exams”. Participant 9, “Missed classes”. Participant 2, “I could not attend my church services”. Participant 3, “Unable to perform my pastoral duties such as officiating church services and wedding ceremonies”. Participant 10, “Unable to even attend church services as well as visit friends”.

Participant 12, “Because during that time when I was in the hospital, we were having exams. So I did not write the exams”.

In relation to the impact of disease condition on QoL, participants reported that the disease had negatively affected their social activities. Some also noted how they felt too wary to explain to friends, or others that they had Lassa fever disease. According to some participants, they felt down and ashamed of themselves to interact with friends.

Theme 5: Work Productivity

Reduced work productivity while with the disease and during the course of their treatments. As expressed by some participants, Participant 1, “I was unable to go to work as well as attend to my birds. I am also a poultry farmer”. Participant 2, “I closed my grocery store, not able to go to my store to sell things”. Participant 7, “Unable to do my usual daily activities, I totally neglected my farming activities”. Participant 10, “Unable to work and go about my usually daily activities. I could not do my electrical work”. Participant 15, “Unable to do my farm work”.

The participants reported the disease effects on their QoL and day-to-day activities presented a challenge to them and stated that it was difficult and impossible to perform their daily activities. Participant 2, “No, no, I couldn’t go to work for about three weeks.” Participant 2, “Not able to go to my store to sell things.” Participant 7, “Unable to do my usual daily activities. I totally neglected my schooling and farming activities.”

QoL represents both a subjective and objective rating of a person’s overall health and well-being. Researchers can examine QoL to capture an encompassing view of a single individual, groups or culture, or an entire nation (Bagwell, 2019). QoL is self-

reported but also an objective measure of general health and well-being. QoL was used in this study to analyze the impact of Lassa fever on survivors in respect to financial hardship, self-esteem issues, hardship for their families, in addition to the community response and neighbors.

Participants recounted the financial hardships they underwent during the course and treatment of Lassa fever disease. These included lost earnings as a result of the disease. Participants 2 and 10 were self-employed. Participant 2, a grocery store owner, “Not able to go my store to sell things” while Participant 10, an electrical work contractor, “Unable to work and go about my usual daily activities. I could not do my electrical work.” Participant 8 summed it all, “So the financial burden was much, but I thank God I survived it all and there was no loss.” This meant reduced earnings and financial hardships during the course and treatment of the disease. Participant 7 experienced self-esteem issues. A post-graduate student (in Education) had these to say, “When I returned back to school, I was trying to distance myself, I don’t shake people. If I’m trying to communicate to people, I distance myself so that they don’t contract it through me.”

The participants described their roles as parents, spouses, and caregivers for others family members and grappled with defined expectations to fulfill those roles for other people. Participant 4 described her experience, a nursing mother, “I’m someone who needed to be cared for at a point in her life when she is expected to care for others as a mother and wife.” In addition to the disease impact on individuals and families, the disease also impacted significantly on communities. According to Participant 3, a Pastor

to one of the community churches, said this, “The stages of grief are the same no matter who was affected, and I see a lot of those who have not progressed from the first blame and anger phase of grief.” All the participants acknowledged that the burden of Lassa fever disease was challenging both physically and psychologically because of the nature of the disease at diagnosis, associated symptom burden and during the course of treatment. These factors impacted the roles, responsibilities, and dynamics within the participant-caregiver relationship. According to the participants, during the course of the disease, they become more dependent and required additional support during their unpredicted illness trajectory, family/friend caregivers became the cornerstone in optimizing the health and QoL of their loved ones. According Participant 3, a poultry farmer had this to say, “As a poultry farmer, I couldn’t carried out my poultry farm, some of my neighbors were helping.”

Summary

In this chapter, I described how the data were collected and reported the findings of this study. I explained how I conducted the interviews identified and the demographics of the participants. A total of 15 adults who survived Lassa fever disease participated in this study. Through the in-depth interviews and analysis of the raw data led me to the discovery of five themes: 1) culture care and therapeutic communication, 2) emotional support, 3) physical symptoms, 4) social activities, and 5) work productivity. The participants’ quotations were presented in their natural forms with no attempt made to correct their positions to retain the unique original expressions. In Chapter 5, I present

an interpretation of the findings, including how the results compare with the existing literature and how this study contributes to the existing knowledge.

Chapter 5: Discussions, Conclusions, and Recommendations

This qualitative study was carried out to describe the QoL and the lived experiences of Lassa fever survivors in Southsouth Nigeria. Leininger's culture care theory guided this study. I used semistructured interviews with 15 participants who survived Lassa fever disease to describe their lived experiences with the disease. The aim of my study was to better understand experiences of Lassa fever survivors in order to identify strategies for improving their well-being.

Despite the information that Lassa fever affects approximately 300,000 to 500,000 people and causes 5,000 to 10,000 fatalities annually across the West African region (Okokhere et al., 2018), there are no previous studies describing the lived experiences of survivors. Therefore, this study was conducted to fill the research gap by seeking an in-depth understanding of the lived experiences of Lassa fever survivors in Southsouth Nigeria.

Interpretation of Findings

Leininger's culture care theory was used as the theoretical framework to guide this study in encouraging Lassa fever survivors to describe their lived experiences with the disease and as survivors. The theory guided question development to capture aspect of their lived experiences related to culture and data analysis. Through this, I aimed at building on the current literature to learn about the experiences as survivors and to gain further information about how to survive the disease.

Five themes were identified in this qualitative study. Participants expressed concerns about their treatment outcomes and fears about the disease leading to their

untimely death. They also experienced a variety of symptoms that affected their abilities to perform essential daily activities. Participants reported many inconveniences associated with Lassa fever disease, mostly related to physical activities, social life, work productivity, and their emotional well-being. The findings of this study help to better understand the impact of QoL from the disease and how participants experienced a range of negative reactions and concerns associated with the disease.

The previous studies about Lassa fever viral disease in the literature review focused on mapping areas of coverage, surveillance, public awareness, prevention, control, and treatments (Oladeinde et al., 2017; Olowookere et al., 2017; Peterson et al., 2014). Another study available on Lassa fever involved hospital-based surveillance, which focused on who the disease affects, clinical manifestations, and transmission (Ehichoya et al., 2012). Other research on Lassa fever that has been conducted focused on signs, symptoms, and mortality (Mateer et al., 2018) and on age and non-gender specific disease. Coyle (2016) noted that scanty information was available in respect to the disease diagnosis and vaccination.

A study conducted by Usifoh et al. (2019) found that Lassa fever disease created self-fear or feared self and self-stigma among survivors, which resulted in self-health seeking behaviors and promoted engagement in self-medication or other unorthodox therapeutic alternatives such as traditional healing and spiritual healing. My findings were supported by Usifoh et al.'s study, which showed that individuals in the early stages of Lassa fever relied on self-health seeking behaviors and engaged in self-medication or other unorthodox therapeutic alternatives such as traditional healing, and spiritual

healing. Three participants, as mentioned by Usifoh et al., experienced self-fear or feared self, and self-stigma.

My findings also supported by those of Coyle (2016) because there was limited diagnostic laboratory access, hence self-diagnosis, which led to missed diagnosis and culminated in their being treated for malaria or typhoid disease, instead of Lassa fever disease. The majority of the participants in my study also stated that Lassa fever disease caused fatality, which supports findings from Buba et al. (2018).

Usifoh et al. (2019) noted the importance of traditional and spiritual healing among Lassa fever survivors. Participants in my study mentioned that their traditional culture has a significant influence on their lives and guides their relationships, values, and beliefs as survivors.

Limitations of the Study

This study described the lived experiences of Lassa fever survivors with regard to culture care and therapeutic communication, emotional support, physical symptoms, social activities, and work productivity. The findings of this study are self-reported data from the participants who are living evidence of Lassa fever disease. Though all the participants shared experiences that were in accord with the descriptions of the procedures of this study, this study was limited geographically to the Southsouth areas of Nigeria, specifically involving Lassa fever survivors living in six states that make up this geographical region.

A small sample size was adopted (15participants); therefore, the findings cannot be generalized to all Lassa fever survivors in Nigeria in particular or in West Africa

region in general. However, this was a qualitative study, so its intent was not to generate findings that can be generalized to the entire Lassa fever survivors' population in Nigeria.

Generalizability of findings in qualitative research is a controversial topic since this is a key aspect of the positivist tradition within social sciences (Carminati, 2018). In this study, however, I did not seek to generate findings that were generalizable to the entire country, Nigeria, but focused on offering in-depth description and meanings of the lived experiences of Lassa fever by participants.

The other limitation to the trustworthiness of the findings of this qualitative study is selection of participants. Purposive sampling was used to select participants. According to Carminati (2018), the use of a nonprobability sampling technique can easily introduce bias in qualitative research. To avert selection bias, therefore, the inclusion and exclusion criteria were clearly stated. The selection process led to the identification of potential individuals who survived Lassa fever disease in Southsouth areas of Nigeria. I have provided a thick and rich description of the participants' responses.

This is my first qualitative study. During interview sessions, it was challenging for me to listen and take notes while trying to proceed to the next important question. This may have limited my opportunities to probe further and gain new insights. However, this limitation may be addressed by conducting further research in future regarding the lived experiences of Lassa fever survivors.

Recommendations

There has been a lack of studies on the QoL and experiences of Lassa fever survivors. Future research studies should be designed to move beyond describing the

experiences of Lassa fever survivors with their living status to describing the relationships between the various themes (i.e., the impact of their interrelationship on Lassa fever survivors). Without understanding these relationships, it will be challenging to deduce whether the presence or absence of one aspect can influence the experiences of survivors with the other.

My study has provided knowledge regarding the lived experiences of Lassa fever survivors with their living standards. Future research could focus on how the healthcare providers perceive lived experiences of Lassa fever survivors. The research should involve healthcare providers working in different settings and should include a large sample to obtain findings that can be generalized.

It is also important to evaluate the lived experiences of Lassa fever survivors with other groups, such as those under 18 years old with the disease. This current study focused on the lived experiences of Lassa fever survivors aged 18 years and above. It would be essential to understand how younger or vulnerable survivors, such as the prisoners, experienced Lassa fever disease. An additional site to enhance the understanding of the lived experiences to Lassa fever survivors is describing the experiences and meanings of those in other areas of Nigeria. The current study only focused on Lassa fever survivors in Southsouth of Nigeria. Besides focusing on a particular geographical area, the study involved a small sample size, so the findings cannot be transferred to the whole Lassa fever survivor population in Nigeria. Qualitative research, however, provides data that is useful as a guide to an awareness of the lived

experience of surviving Lassa fever, the assessment of potential needs of other Lassa fever survivors, and planning of care for these populations.

The strength of this study lies in its design as well as in its qualitative descriptive nature, which permitted the participants to provide detailed narrative stories regarding their experiences with various stages of Lassa fever. Future studies should address how health care providers can work together and involve Lassa fever survivors to improve their recovery and knowledge with the disease. A final recommendation is that future qualitative studies could be conducted longitudinally to better understand views of Lassa fever survivors and health care providers regarding the lived experiences.

Implications

The participants' experiences with Lassa fever disease in the early course of the disease were similar. Every participant interviewed stated they thought it was malaria. Earlier symptoms of this disease are similar to malaria: fever, headache, and weakness. Hence, they started self-medicating for malaria. In some cases, when initially hospitalized and misdiagnosed, and malaria treatment continued until later stages of Lassa fever when their blood sample was sent to the designated hospital responsible for diagnosis and treating Lassa fever patients. An analysis of the themes with special reference to culture and therapeutic communication revealed that participants stated that Lassa fever designated hospital experience was effective. The hospital experience includes healthcare infrastructure, treatment, and cultural acceptance. The findings indicated high level care at the facility and expertise of the medical personnel as well as nursing staff.

According to Leininger's culture care theory (2008) as described by Leininger (2007) the theory was unique in its incorporation of social structure factors, such as religion, politics, economics, cultural history, life span values, kinship, and philosophy of living, and geo-environmental factors, as potential influencers of culture care phenomena. The theme of culture care and therapeutic communication demonstrated the congruency of the Lassa fever survivors' values systems with the healthcare providers' values systems in providing the needed care to Lassa fever patients and survivors.

The findings of this study have potential impact for positive change at the individual, family, national, and global levels. The potential social change at the individual level is that people who survived Lassa fever disease will learn from experiences of the participants, and know what to expect and prepare for during their recovery. I hope to share the findings of this study through research journal publications and presentations. Knowing about the experiences of others may help Lassa fever survivors be more prepared to help others so that care can be improved care following hospitalization.

The potential for positive social change at the family level is that the family of Lassa fever survivors will have a better understanding of what the Lassa fever survivor experiences. The family members usually render needed support to those who survive Lassa fever disease, in order to that they can have better experiences with treatments and care. I hope to improve the understanding of family members by sharing my findings of this study at seminars or meetings and discuss how families can support their loved ones during the disease and during the course of treatment.

The findings of this study have the potential to improve awareness regarding the lived experiences of Lassa fever survivors on a national level. The findings showed that Lassa fever survivors faced challenges such as poor communication between healthcare providers, and insufficient diagnostic sites and tools as well as difficulties in arranging appointments due to lack of knowledge of early stages of the disease which made their recovery more difficult. Therefore, providing information on how communication and care affected treatment and care of Lassa survivors can improve treatment received.

The potential for positive social change at global level will improve the general awareness of this disease .By having information and knowledge of the lived experiences of Lassa fever survivors, relevant health care policies can be formulated and revised to ensure the provision of quality care. This study can serve as a blueprint for other studies on the views and experiences of Lassa fever survivors leading to a better understanding of the disease. I plan to share the findings of this study with government and non-governmental organizations that can assist in developing policies to improve a better understanding of Lassa fever disease and its survivors.

Conclusion

This study described the meanings of the lived experiences of Lassa fever survivors in the Southsouth region of Nigeria and their experiences. The main findings included the following five themes: culture care and therapeutic communication, emotional support, physical symptoms, social activities, and work productivity. Physical symptoms are just one of the debilitating aspects of Lassa fever disease, while emotional distress, reduced social activities, and non-work productivity are also frequently reported.

Together, the physical symptoms and emotional distress caused by Lassa fever disease presented a serious barrier to Lassa fever patients' day-to-day activities, work productivity, and healthy social lives. Findings from this study may provide better understanding of the everyday life experiences of survivors of Lassa fever. A better understanding of experiences of Lassa fever survivors can lead to an increased awareness of the resources that these individuals need which will lead to improved interventions for survivors and affect positive social change in their lives. My study showed that Lassa fever disease substantially impacted survivors' QoL across several dimensions during the course of the disease condition. This study can serve as an example for other studies on the views and experiences of Lassa fever survivors which could lead to better understanding of the disease. Future studies should focus Lassa fever survivors' longitudinally to evaluate changes in their lived experiences as they progress with their follow-up treatment and recover from Lassa fever. Specifically, the experiences of Lassa fever survivors should be examined so that healthcare professionals can better understand and provide care for individuals with Lassa fever disease and their family needs.

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Appendix A: Permission to Use Madeleine Leininger's Work

Welcome to Dr. Leininger's Resources

Dr. Leininger has carefully composed information specifically for students and faculty interested in the nursing discipline of Transcultural Nursing. You are welcome to use these materials for educational purposes. Please site the source of the materials.

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Source: www.madeleine-leininger.com

Appendix B: Interview Guide

The followings shall be my interview guide (a draft):

- To start with my script
- To collect consent
- To use some type of recording device and only take brief notes so that I can maintain eye contact with the interviewee.
- To arrange to interview my respondent in a quiet, semi-private place.
- To be sure that both the interviewee and I blocked off many uninterrupted times for the interview.
- Have genuine care, concern, and interest for the participant I am interviewing
- To use basic counseling skills to help my participants feel heard
- To keep it focus
- To maintain attentive listening and
- To end the interview with my script

In conclusion, remember when others open up their lives for us to investigate, it is a gift for both the speaker who is heard and for the listener who learns something from the investigation.

Interview Guide Worksheet

1. Restate the RQ, and define the phenomenon of interest.
 2. Review your literature on the phenomena of interest.
- Identify recurring patterns, conflicting ideas, or unique findings

- Choose 3 to 5 of these as potential topics for developing questions
 - Identify keywords and phrases that will form the basis of your questions.
3. Review your theoretical/conceptual framework
 - Identify 3 to 5 concepts or assumptions that are fundamental to the framework
 - Identify keywords and phrases that will form the basis of your questions.
 4. Review methodological sources of your approach.
 - What are the structural or key points that need to be included in the interview guide so that it is consistent with the approach?
 5. Arrange the literature topics, framework concepts and methodological points into beginning, middle and end of interview.
 6. Modify each concept so that it becomes an open-ended question. Use these guidelines as well as Patton's examples (Chapter 7) to make sure the phenomenon of interest is thoroughly investigated.
 - Make every question open-ended.
 - Make every question neutral. Avoid leading questions, and avoid using words that direct how the participant should answer.
 - Ask only one question at a time.
 - Make sure that the content of the question is consistent with the participant's level of education and culture.
 7. For each question you ask, follow up with one or more of the following probes (probing questions encourage the participant to describe specific events and examples of the phenomena).
 - Can you give me a specific example of ...?
 - Tell me about a typical day when [the phenomenon] happens to you?

- What did that experience mean to you?
8. Formulate an introduction to the interview. Start with an accessible, answerable question.
 - Begin the interview with a “warm-up” question—something that the respondent can answer easily and at some length (though not too long). Make sure the question pertains to the phenomenon of interest, and will put you and the participant more at ease with one another to make the rest of the interview flow more smoothly.
 9. Review the concepts questions, and consider which concepts will be hard to talk about? Embarrassing? Move these concepts towards the middle of the interview.
 10. Consider how you want to close the interview (“Is there anything else you’d like to share with me before we finish this interview?”). What can you say that will let the participant know they were “heard” and respected?
 11. What do you need to communicate to the participant to “debrief”? This typically includes (1) how you will get in touch in order to have the participant verify the accuracy of the interview; and (2) what you will share with the participant once the study is completed.

Appendix C: The Interview Questions

Hello,

My name is **Albert Oyeribhor**. Thank you for agreeing to participate in this interview today. In this rapport building, I will present a nonthreatening, icebreaking question (e.g., “What is your favorite food and why?). Before I start, ask “do you have any questions about what is going to be happening here today?”

1. How old are you?
2. What is your religion?
3. Your occupation before the disease?
4. Are you gainfully employed now?
5. Your marital status?
6. Number of children? If yes, how many?
7. Level of education?
8. When did you contract Lassa fever disease?
9. How did you contract the disease?
10. What has helped you seek out and received care?
11. What experiences did you have with the disease?
12. What do you think helped in accessing Lassa fever disease treatment(s)?
13. What are your thoughts about this disease and your whole experiences?

Closing remarks

The End.

Appendix D: Details of Each Participant's Description

A total of 15 participants were recruited to participate in this study, comprised of 9 men and 6 women.

Participant 1 was a 42-year-old married male, a catholic who contracted the in 2007. He was a Security Guard before the disease, and now holds same job position as a survivor. He described his experiences with the disease as a Lassa fever survivor. First, the symptoms were fever and headache and started treating malaria using traditional herbs. In his words, “when things were not going well, my wife suggested I go hospital for treatments”, which he did. It was in the second hospital, malaria treatments continued until his blood sample was sent to lab at Lassa fever Research Institute, an affiliate of Irrua Specialist Teaching Hospital (ISTH). The only hospital in Nigeria designated for Lassa fever research and Lassa fever patients' treatments. In initial two hospitals, he stayed for 2 and 8 days respectively. The symptoms intensified: high fever, severe headache, joints pain and weakness, and abdominal pain. The lab result came positive for Lassa fever viral disease; he was immediately transferred to ISTH for further observations and treatments. At ISTH, he stayed for 2 weeks after which tested negative for the disease before being discharged home. Participant 1 said, “The disease signs and symptoms are similar to malaria disease and on the whole the disease kept down for 4 months”.

Participant 2 was a 46-year-old married female, a catholic who contracted the disease in 2018. She said her husband had the disease in 2016 and was treated at ISTH. She was teaching before the disease, and now self-employed as a baker. The first signs or

symptoms were headache and fever. Having fairly information through her husband, she went straight to ISTH for blood test and test result was positive for Lassa fever viral disease. According to her, her situation was worse than of her husband; very pale, severe headache, loss of appetite, general body weakness (unable to walk), blur vision, and dehydration. While at ISTH, she was given 2 units of packed red blood cells. During her stay in which lasted five weeks, 4 patients died.

Participant 3 was a 47-year-old married male, a Christian, pastor as well as a poultry farmer who contracted the disease in 2018. The initial signs experienced according to the participant were fever and headache. Admitted into 4 different hospitals and while they treated him for malaria and typhoid fever. When no improvements with severe headache and abdominal. According to the participant, “My head was banding while my stomach was as if slashing”. It was when he was admitted into fourth hospital his blood sample was sent to ISTH and came positive for Lassa fever and immediately transferred to ISTH for close observation and treatments. At ISTH according to him, he stayed for six weeks.

Participant 4 was a 37-year-old married female, a Christian who contracted the disease in 2018. She was self-employed before the disease and as a survivor managing a groceries store. She developed the following signs and symptoms; fever, loss of appetite, general body weakness, night sweats and temporary loss of memory (now resolved). During the time she contracted the disease, according to her, “I was breast-feeding a baby, but the disease never affected my baby”. At home initially she was self medications (over-the-counter). “I took malaria drugs and antibiotics for three weeks”. No

improvement, then her husband and neighbors advised to seek further care at ISTH.

Immediately on arrival, the doctor ordered blood test, and the result came out positive Lassa fever disease. Lassa fever disease treatment started immediately, “I am alive today probably because I came straight to Irrua Specialist Teaching Hospital”.

Participant 5 was a 42-year-old married male, a Christian who contracted the disease in 2018. He is a government healthcare work before and after the disease. Symptoms experienced according to him were fever, body weaknesses, loss of appetite, loss of food taste, loss of memory (temporary forgetfulness – “This has resolved”. Thought it was malaria, started self medications. “I was taking malaria drugs and I decided to go to a nearby private hospital and stayed for 4 days treated for malaria. Yet there was no improvement. By the order of my doctor, my blood sample was taken to ISTH for analysis. The result came positive for Lassa fever disease. Then, “I was immediately transferred to ISTH for further treatments, and while here 6 people died of the disease”.

Participant 6 was a 23-year-old married female who contracted the disease in 2018. She works as a fashion and design. She vividly described her experiences with the disease and as a living Lassa fever survivor. According to her, the initial signs and symptoms were severe headache, fever, and abdominal pain. In the advanced stages of the disease, the symptoms overwhelmed her resulted to general body weakness (unable to walk), insomnia, serious banding headaches, fever, worsen abdominal pain, vomiting, and became unconscious at one occasion. According to her, “My urine turned dark yellow in color”. Treatments started by self medications for malaria. Admitted into four

different hospitals, all treated for malaria and typhoid fever. In her words, “It was when I was hospitalized in the fourth hospital that my blood sample was sent ISTH for Lassa fever test”. The result came positive for Lassa fever viral disease. Immediately she transferred to Irrua Specialist Teaching Hospital for observations and comprehensive treatments. According to Participant 6, “At Irrua Hospital they me dialyzed twice”. In her words also, during her stay at ISTH, 6 people died in her ward or unit.

Participant 7 was a 37-year-old single male, a Christian who contracted the disease in 2018. Before the disease, he was teaching in a private school as a high school teacher as well as a student (post-graduate diploma). As a survivor of Lassa fever disease, he is still a student and now a farmer growing some annual crops. According to him, the first signs or symptoms experiences were fever and headache. Thought he had malaria or typhoid fever, started treating self with malaria drugs. 6 days on self medication, “My condition deteriorated to very severe headache, high fever, chest pain, sore throat, high blood pressure, joints pain, general weakness and loss of appetite. At this point, he decided to go to a nearby private hospital, while admitted into this hospital malaria and typhoid treatments continued. It was while he was admitted into the third hospital that his blood sample was sent to ISTH. The result came positive for Lassa fever disease. Immediately he was transferred to ISTH for further intensive treatment for Lassa fever disease. While being hospitalized at ISTH, according to participant 7, “People admitted with me died of this terrible disease, about 5 in number”.

Participant 8 was a 49-year-old married male, a Christian of Latter Day Saints who contracted the disease in 2017. He worked before the disease and till date as a Social

Worker at ISTH. According to him, he probably contracted the disease through one of his sons who first contracted the disease. He recalled that he once assisted a doctor during lumbar puncturing of his son using bare hands holding his son down who was sweating, crying and scratching and kicking all over his body. Signs and symptoms started with severe headache, fever, general weakness, and abdominal pain. As a worker at ISTH, immediately checked himself in ISTH, immediately on arrival, his blood sample taken for analysis. The result came positive for Lassa fever viral disease. Treatment for Lassa fever disease commenced immediately. On the third day in the hospital, noted his bilateral lower extremities and lymph were swollen. He was given aggressive treatments which decreased his swollen lower extremities and lymph within 24 hours. According to him, “During my stay in the hospital, 15 people admitted, 5 survived, my stay 13 admitted and 4 of us survived the disease”.

Participant 9 was a 30-year-old single male, a Catholic who contracted the disease in 2018. He contracted the disease as a student and still a student as an undergraduate. The earlier symptoms according to him were fever, headache and loss of appetite. Knowing these symptoms are associated with malaria, “I started self medication treating malaria”. Three days later, “My condition worsened”, which resulted to severe headache, high fever, joints pain and weakness, watering bloody stool, bloody urine, abdominal pain, and vomiting. At this stage, according to him went straight to hospital. While being admitted here in this hospital for 3 days, his blood sample was sent ISTH for analysis and came positive for Lassa fever viral disease. As soon as possible, he was transferred to

ISTH for close observation and treatment. Participant 9 told me that his junior brother also died of this disease in 2016.

Participant 10 was a 29-year-old single male, a Catholic who contracted the disease in 2019. He was a self-employed as an electrical contractor before and as a survivor of Lassa fever disease. According to him, the initial symptoms were like that of malaria; fever, headache, and general weakness. His initial treatments were traditional herbs for treating malaria. Within few days, the symptoms intensified to joints pain, weakness, severe headache, and loss of appetite. It was at this stage according him, his mother advised him to go to hospital. On admission into this local hospital, they started treating him for malaria and typhoid fever. There was no improvement even with 3 days hospital stay. It was at this juncture, his blood sample was sent ISTH for analysis and which came out positive for Lassa fever viral disease. In his words, “The disease is terrible, and a killer. During my stay at ISTH, 6 people infected with disease never survived”.

Participant 11 was an 18-year-old single female, a Catholic who contracted the disease in 2018 as a high school student. She is awaiting her High School Diploma result. Initial symptoms were severe headache and fever. Two days later, it became very serious; abdominal pain, high fever, loss of appetite, general weakness, and sore throat. “My parents thought I was pregnant”. Immediately, according to her, she was taken a nearby private hospital where she admitted. “Here I was treated for malaria fever and when my condition was not improving, my blood sample sent to ISTH”. The result came positive for Lassa fever viral disease. “Also, my monthly period came, which ruled out

pregnancy”. She then transferred to ISTH for further treatment. During her stay at ISTH 6 infected people died.

Participant 12 was a 19-year-old single female, a Catholic who contracted the disease in 2019. She contracted the disease as an undergraduate student studying nursing and a student cum a self-employed in catering as a survivor. Initial treatments were over-the-counter medications for malaria and typhoid fever for two weeks with following symptoms; fever, headache, general weakness, and joints pain. The situations worsen to abdominal pain, loss of appetite and vomiting along with aforementioned symptoms. Then, went to a private hospital and while here malaria continued for another days before “the doctor ordered Lassa fever test”. Her blood sample sent to ISTH and result came back positive for Lassa fever viral disease. Immediately, she was transferred to ISTH for close observation and treatment.

Participant 13 was a 48-year-old married female, a Christian of Deeper Life Faith who contracted the disease in 2018. She is employee of ISTH as a horticulturist before the disease and as a survivor. The signs and symptoms were fever (39 degree Celsius), headache, joints pain, general body weakness, and loss of appetite. “I was rushed to ISTH Emergency Unit by a friend because I am a staff”. Immediately, the ordered her blood sample sent to lab for analysis, and came out positive for Lassa fever viral disease. As a staff, the commence Lassa fever disease immediately. According to her, “This probably saved my life”. Her hospital stay was three weeks.

Participant 14 was a 45-year-old married male, a Catholic who contracted the disease in 2018. He was self-employed as a bricklayer before the disease and as a

survivor. The experienced symptoms are fever, headache, joints pain, and body weakness. He started with traditional malaria until things went out hands. These included severe abdominal pain, loss of appetite, dizziness, and fainted while been hospitalized in a private hospital. On fourth day in this private hospital and no improvement, the doctor ordered his blood sample sent to ISTH. The result came back positive and he was immediately transferred to ISTH for further treatment. According to him stay at ISTH which lasted three and a half weeks 4 people died as a result of Lassa fever disease.

Participant 15 was a 26-year-old married male, a Christian of Assembly of God faith who contracted the disease in 2017. He worked as a government worker before and now a farmer (crop production) as a survivor. The initial symptoms were fever, headache, general body weakness, and joints pain. He started self medication using traditional herbs treating malaria. According to him, his became worse with the following symptoms; shaking hands, three seizure episodes, unable to walk, blur vision, vomiting, and followed by a severe headache. He admitted into two hospitals and spent 2 and 3 days respectively. While spending the third day at the second hospital, his blood sample was sent to ISTH for analysis and came back positive for Lassa fever viral disease. He was then immediately transferred to ISTH for Lassa fever disease treatment. He was hospitalized for 10 days at ISTH and discharged with his blood sample was negative for Lassa fever disease. He became diabetic and stayed for another 2 weeks at ISTH.

Appendix E: Demographics of Participants

P	G	Age	R	OB	OA	MS	#C	EL	YCD
1	M	42	C	Security guard	Same	Married	3	1 st degree	2007
2	F	46	C	Teaching	Self-employed	Married	3	Diploma (Catering)	2018
3	M	47	C	Pastoral worker	Same	Married	3	1 st degree	2018
4	F	37	C	Self-employed	Same	Married	2	1 st degree	2018
5	M	42	C	Health worker	Same	Married	None	Associate degree	2018
6	F	23	C	Fashion & design	Same	Married	None	High school diploma	2018
7	M	37	C	Teaching/student	Farming/Student	Single	None	1 st degree	2018
8	M	49	C	Social worker	Same	Married	4	1 st degree	2017
9	M	30	C	Student	Same	Single	None	High school diploma	2018
10	M	29	C	Student	Same	Single	None	1 st degree	2019
11	F	18	C	Student	Same	Single	None	High school diploma	2018
12	F	19	C	Student	Same	Single	None	High school diploma	2019
13	F	48	C	Horticulturist	Same	Married	3	Higher national diploma	2018
14	M	45	C	Self-employed	Same	Married	1	High school diploma	2018
15	M	26	C	Civil servant	Farming	Married	2	Elementary school	2017

Note. P = Participant; G = Gender; R = Religion; M = Male; F = Female; C = Christian; OB = Occupation before contracting the disease; OA = Occupation after surviving the disease; MS = Marital status; #C = Number of children; EL = Educational level; YCD = Year contracting the disease.