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Walden University

College of Health Sciences

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Ann Mugo

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Walden University
2016

Abstract

Obesity Among Women in Rural Kenya: Knowledge, Beliefs, and Perceptions

by

Ann Mugo

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Health

Walden University

February 2016

Abstract

Obesity or being overweight is a prevalent health concern around the world. Despite the growing problem in developing countries such as Kenya, there is scant literature available on obesity or being overweight among women in rural Kenya. This research study provides information necessary for bridging the gap in understanding the perceptions, beliefs, and knowledge of obesity among women in rural Kenya. This study used the social cognitive theory (SCT) framework to assist in understanding the impact of obesity or being overweight among women living in rural Kenya. Participants were women aged 20 to 45 recruited from a local church in rural Subukia. Using a phenomenological inquiry, in-depth interviews were conducted. Data obtained were analyzed by open coding. Themes that emerged from data analysis showed that less than half of the study participants had an appropriate knowledge of obesity. Participants desired to have big round bodies, as it was perceived as desirable and as being healthy. However, this perception put these women at increased risk of obesity and associated health risks. Implications for positive social change include the use of study findings by policy makers to develop obesity prevention programs. Such programs may promote obesity awareness and obesity prevention strategies. This promotion may include providing education on topics such as healthy nutrition and the importance of physical activity. Policy makers may develop obesity prevention programs aimed at not only educating, but also empowering rural communities to practice healthy lifestyles based on their cultural and social norms. Such empowerment may encourage the adoption of obesity reducing lifestyles and positive behavior change.

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Dedication

This study is dedicated to my loving husband, Dr. Sikahala, who has always been there for me in good times and in hard times. My husband has been supportive and always encouraged me to push on throughout this dissertation process. I dedicate this to my beautiful daughter, Caroline Wanjiku who is and always will be my inspiration. I hope you follow the same path as mommy and daddy. Finally, I dedicate this to my loving parents, who always taught me to leap high no matter what, as the sky is the limit.

THANK YOU ALL!

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Chapter 1: Introduction to the Study

Introduction

Many developing countries in Africa have continuously faced the problem of malnutrition and hunger due to poverty. In contrast, many developed countries are faced with the problem of obesity and people being overweight, which has caused chronic disease, morbidity, and death. Being overweight and obesity is measured using the body mass index (BMI; National Heart, Lung and Blood Institute, n.d). According to the Centers for Disease Control and Prevention (2012), a BMI measure is obtained by dividing an individual's weight in pounds by their height in inches (squared) and then multiplying by 703, which is a conversion factor. The higher the BMI measure, the higher the rate of obesity. An individual's weight to height ratio differential range determines where an individual falls within the being overweight or obese category (Centers for Disease Control and Prevention, 2012).

With the spread of globalization and enhanced technology, many developing countries have experienced rapid growth in urbanization, which has also resulted in these developing countries facing the problem of obesity and people being overweight. Developing countries like Kenya, that continue to experience high rates of urbanization due to the increasing rates of education and higher incomes, are now having to deal with higher rates of obesity and people being overweight (Mbochi, Kuria, Kimiywe, Ochola, & Steyn, 2012). These communities learn and adopt lifestyles associated with urbanization. These may include physical inactivity, higher consumption of processed food, and easier access to high caloric foods (Jayne, Scrimgeour, Polhemus, Otieno, &

Bovill, 2011). This transition from traditional living to the "western" lifestyle may be attributed to an increase in obesity and people being overweight in some developing countries. As a developing country, Kenya continues to experience an increase in the rates of obesity and people being overweight and more women than men are impacted by this trend. Several researchers such as Scrimgeour, Polhemus, Otieno, and Bovill (2011), Steyn, Nel, Parker, Ayah, and Mbithe (2011) and Mbochi, Kuria, Kimiywe, Ochola, and Steyn (2012) have conducted studies on this growing concern among urban women in Kenya. However, there is limited literature on the problem of obesity and people being overweight among women residing in rural areas of Kenya.

An extensive review of literature on the problem of obesity and people being overweight will be conducted in Chapter 2. This detailed literature review provides more information, as to the lack of literature on obesity and people being overweight among women in rural Kenya. This study may contribute knowledge to this scantily researched area. Study findings may be useful in reducing the problem of obesity and being overweight among rural women. The findings may help prevent the rising trend of obesity and people being overweight from spiraling out of control, which may be costly to society and health care in the long run. This study's findings may be used by policymakers to design obesity prevention programs that may promote positive behavior change. Study findings may also shed light on obesity among rural dwellers in Kenya, which may call for further research studies into the topic.

The study is based on the social cognitive theory (SCT) theoretical framework as a means of understanding the perceptions and knowledge of people being overweight and

obesity among the study population. This study applied the general phenomenological strategy of the qualitative inquiry approach because it assisted in understanding the study population in their natural setting. A standardized open-ended, in-depth interview was the tool used for data collection for the study. Audio recording was also used as a supplement to transcribed interview responses. Audiotaping helped capture information that may have been otherwise overlooked during the verbal interview session. Data collected were sorted, categorized, and analyzed using Nvivo 10. Analyzed data were interpreted and presented as study findings.

Background

According to the World Health Organization (WHO;2013), people being overweight/obesity is the fifth leading cause of death worldwide. In their study, Pawloski, Curtin, Gewa, and Attaway (2012) reported that in 2008, approximately 1.5 billion adults (over the age of 20 years old) worldwide were overweight and 500 million adults worldwide were obese. WHO's latest report on global obesity was based on the year 2008 and are similar to the findings by Pawloski et al. (WHO, 2013). Based on the increasing trend in people being overweight/obesity, by the year 2015, the number of adults in the overweight category will increase to 2.3 billion and over 700 million adults will be obese (Pawloski et al., 2012). Among the people being overweight and obese adults, 200 million were male and 300 million were female, which is double the reported estimates in 1980 (WHO, 2012).

While obesity-related deaths are a global concern, lack of adequate health care, poverty, and lack of knowledge on the importance of health care are among the several

factors that increase mortality rates in developing countries. In their study, Christensen et al. (2008) indicated that obesity and people being overweight rates were higher among women than men in Kenyan rural areas and that obesity rates among these women increased with advanced age. Similarly, Kaduka et al. (2011) conducted a study on metabolic syndrome prevalence among urban dwellers in Kenya and found that more women than men suffered from metabolic syndrome. This was attributed to low education level, low socio-economic status and age-related hormonal changes (Kaduka et al., 2011). In addition, Steyn et al., (2011) indicated that rural women consumed a higher rate of carbohydrates compared to urban women, probably due to the ease of obtaining these food products, which in turn increased obesity rates among them. BeLue et al., (2009) reported study findings on heart-related diseases in Sub-Saharan African countries. In their study findings, they indicated that women were more prone to heart diseases than men due to factors such as obesity (BeLue et al., 2009). This finding showed that poverty, limited or lack of health promotion programs, and poor health care infrastructures were among factors that contributed to the increasing death rates (BeLue et al., 2009)

Obesity is an ongoing problem in the developed countries and is a new and growing problem in the developing countries (WHO, 2013). Study findings, such as the ones presented in this section, have shown that more women than men tend to be impacted by obesity and people being overweight. However, although studies have been conducted to address the growing problem of obesity and people being overweight in developing countries, there is a lack of studies conducted in the rural areas in these

developing countries. For this study, I focused on obesity and people being overweight among women in the rural areas of a developing country. This helped bridge the gap that existed in the lack of knowledge on obesity and people being overweight among women living in a rural area within a developing country. This study's findings may result in a hypothesis that could lead to future larger studies and/or interventions.

Problem Statement

Although obesity continues to be prevalent in most developed countries, it is an emerging and growing problem for developing countries, such as Kenya (Ziraba, Fotso, & Ochok, 2009). According to the Kenya demographic health survey for 2008-2009, which is the latest and most current data available at this time, over 25% of women between the ages of 15 to 49 fall within the category of overweight or obese (Kenya National Bureau of Statistics [KNBS], 2011). Researchers such as Smith, Shelley, Sloan, Leahigh and Begay (2010); Maina and Nyandieka (2010); Perrault et al. (2009); and Richards et al. (2010) among others, have conducted studies on diseases among the Kenyan population and have focused on infectious rather than chronic diseases.

Although 78% of the total 38 million of Kenya's population reside in rural areas, the few studies on chronic diseases conducted in Kenya by researchers, such as Mathenge, Foster and Kuper (2010) and Kaduka et al., (2012), have focused on urban dwellers (WHO, 2010). Studies conducted in rural areas of Africa indicated that urbanization and growth in the economy played a role in the increasing obesity and people being overweight rates in these areas (Ntandou, Delisle, Agueh, & Fayomi, 2009). According to Malaza, Mossong, Barnighausen, and Newell (2012), globalization has

fostered a partnership of developed and developing countries. As a result, multinational corporations from developed countries introduced cheap, highly processed and refined foods and food products; affordable transportation means; convenient equipment; and devices such as microwaves, to the developing countries (Malaza et al., 2012). These factors may have attributed to less physical activity and higher sedentary lifestyles (Ntandou et al., 2009). Malaza et al., (2012) also noted that cultural factors and beliefs among rural dwellers in Africa could be attributed to rising obesity and people being overweight rates. Such study findings may indicate that assigning prestige, respect, and high levels of dignity to obese and people being overweight could encourage women in rural areas to strive to be obese in order to feel like they belong (Malaza et al., 2012).

While most of obesity-related studies in developing countries are conducted in urban areas, very few have been conducted in rural African countries. Study findings on Kenyan rural areas are scant. This research study; therefore, provides vital information that was necessary for bridging the gap in understanding the perceptions, beliefs, and knowledge of obesity among women in rural Kenya. Findings from this study may also be used by the Kenyan government's policymakers to design obesity prevention educational programs. In addition, the study's findings may also be used for future researchers to develop a hypothesis for larger studies and/or interventions on obesity and people being overweight.

Purpose of the Study

In their study, Steyn et al., (2011) noted that obesity was becoming an increasing concern among Kenyan women residing in both urban and rural areas. Obesity is one of

the risk factors of heart disease, a leading cause of death among women (CDC, 2012). Since obesity among rural dwellers in Kenya is a topic with scant literature available, I used this study to explore the level of knowledge on obesity among rural women in Kenya.

I explored people being overweight and obesity knowledge levels and associated risks among study participants. In order to understand the impact of the day-to-day life and activities on obesity and people being overweight rates, study participants were asked questions pertaining to their belief system, perceptions, and their general lifestyle. These questions were designed to inquire about factors such as nutrition, activities, and gender roles in the community, taboos, religion, and formal education among others.

Research Questions

1. How knowledgeable are adult women in rural Kenya regarding obesity or being overweight, and associated health risks?
2. What are the perceptions of adult women in rural Kenya related to obesity or being overweight?
3. How do lifestyle and daily activities of adult women living in rural Kenya affect their health behaviors related to obesity?
4. How do beliefs of adult women living in rural Kenya affect their health behaviors related to obesity?

Theoretical Framework for the Study

This study is based on the SCT as a means of understanding the perceptions and knowledge of obesity and people being overweight among the study population. The SCT

ascertains that self-efficacy is the driving force attributed to behavior change (Bandura, 2012). According to Case and Mendez (2009), women in developing countries such as South Africa were five times more likely to be obese and overweight compared to their male counterparts in the same environment. These researchers link the trend to cultural beliefs, values, and beliefs that associate larger body frames as ideal (Case & Mendez, 2009). Women living in rural Africa may be predisposed to the cultural belief that bigger and wider bodies denote better health, respect, and being motherly, compared to smaller body frames (Malaza et al., 2012).

SCT is suitable because it helped provide avenues to explore such cultural beliefs and how they intertwine with unhealthy diets among other factors to promote obesity among the study group. For example, Subukia is a highland area with a rainy and cold climate that may limit external physical activities and may promote less physical indoor activities (climate-data.org, n.d.). Incorporating these factors within the SCT framework helped me understand the study population's personal factors (personal lived experiences/cultural factors) on obesity and people being overweight. It also helped me understand how their environment (globalization and urbanization) and the behavior (response to stimuli) influenced their self-efficacy towards obesity (Bandura, 2012). SCT is presented and discussed in more depth in Chapter 2.

Nature of the Study

In conducting this study, I used a qualitative design and a phenomenological approach. A qualitative phenomenological approach was suitable for this study because it assisted in understanding the study population in their natural setting (Khan, 2011, p. 53).

A general phenomenological perspective assisted in obtaining information on lived experiences and the meaning of these experiences as told by study subjects (Creswell, 2009). Discussions on preferences of body frames, staple food, daily activities, and daily schedules, helped me to understand the participants' perceptions, beliefs, and knowledge. It provided a lens into their lives from their point of view and its relation to the phenomenon. The phenomenon of interest for this study is obesity and being overweight among women in rural Kenya. Furthermore, a phenomenological qualitative inquiry assisted me in observing and learning how other factors such as family intertwined with perceptions and attitudes.

I recruited women as study participants. The number of participants enrolled in this study was within the range of similar studies conducted previously. Dalen et al. (2010); and Chaidez, Townsend, and Kaiser (2011) are examples of researchers who conducted obesity-related studies using 20 study participants or less. Sample sizes of at least six participants are ideal for phenomenological studies because not only are they able to provide diverse perceptions of social processes but are also capable of achieving saturation (Mason, 2011). Smaller samples are appropriate for qualitative studies because unlike quantitative studies that aim to compare, quantify, and generalize findings, qualitative studies aim at providing meaning and understanding to a population's way of life (Fox, Hunn, & Mathers, 2009).

To obtain necessary data for this study, semistructured, open-ended, in-depth interviews were conducted on adult women in rural Kenya. This method of data collection was suitable for this study because it allowed study participants to express their

thoughts and experiences in as much detail as possible. Since the interviews were standardized, the questions for each participant were identical. Providing identical questions to all participants helped maintain consistency and relevance to the topic (Turner, 2010). Audiotaping of interviews was used to supplement transcribed interview notes. Audiotaping was also suitable for this study because it helped capture information that may have been overlooked during the verbal interview session.

Data collected using the above-listed sources were organized using Nvivo 10, which allowed for an effective analysis. Nvivo 10 is a software program designed to assist in the analysis of data (Ulin, Robinson, & Tolley, 2005). Nvivo 10 was useful in analyzing data collected from structured interviews. It provided the ability to organize collected raw data into a format that made sense through a coding process. Additionally, Nvivo 10allowed for entry searches (Ulin et al., 2005). Content analysis advanced this study forward into the next step of representing findings. Narratives from participants' responses provided data that was interpreted using the SCT theoretical framework.

Operational Definitions

Beliefs: A belief refers to a value that is held common among community members that creates a sense of identity by steering individuals towards common preferences (Benabou & Tirole, 2011). This study explored study participants' beliefs on obesity and people being overweight in their community.

Cultural factors: Refers to a set of factors that play a role in a community's way of life. Cultural factors encompass a community's beliefs, language spoken, and values among others. In most rural areas, behavior is normally governed majorly, but not

predominantly, by cultural factors. Cultural factors encourage conformity and create a sense of belonging (McKenzie, Pinger, & Kotecki, 2008). Members who choose not to abide by the communities cultural factors may be viewed by their fellow community members as "outsiders" and maybe alienated.

Developing country: The United States Library of Congress (LOC) defines developing countries as countries where most residents have and earn lower income, own fewer material possessions, thrive on lower incomes, and lack proper basic infrastructure compared to other industrialized countries (Library of Congress, 2008). This study was conducted in Subukia Kenya, a country listed as a developing country under the Library of Congress (LOC, 2008).

Health care infrastructures: Refers to the health care services and facilities set aside for providing and promoting health-related services. This includes hospitals and clinic buildings, clean water supply, and safe refuse management sites among others. In Kenya, rural areas have old dilapidated buildings used as hospitals and clinics with equally old and nonfunctional equipment. The government allocates minimal funds for improvement of such health care infrastructure and due to mismanagement and corruption; some allocated funds never reach the intended rural areas (Luoma et al., 2010).

Health promotion programs: Refers to planned efforts aimed at improving a community's health (McKenzie et al., 2008). These planned efforts include an educational, regulatory, social, and sometimes culturally components. These programs are aimed at informing members of a certain health problem/s within their community

and provide them with means, resources, and avenues of how to reduce, prevent, or eradicate the problem.

Knowledge: Knowledge refers to information that is known. This information could be learned through learned experiences, formal or informal education, skills, facts, and/or through general use of reason. Study participants may know some of their community members dealing with obesity and people being overweight. The study gathered information on the kind and level of knowledge that participants had regarding the extent, consequences, cause, and the impact of obesity and people being overweight within their community.

Obesity: An adult is considered obese when their height to weight ratio or BMI is 30 or higher. (CDC, 2012).

Overweight: An adult is considered obese when their height to weight ratio or BMI is 30 or higher. (CDC, 2012). Physically, adult women with a waist measuring 35 inches or over and adult males with a waist measuring 40 inches or over are considered overweight (Siegel & Silins, 2011).

Perceptions: Perceptions are based on how individuals view and interpret life experiences and their environment (Kersten & Yuille, 2011). Day-to-day experiences provide a foundation by which knowledge is built upon (Siegel & Silins, 2011). Knowledge derived from life experiences allowed individuals to create a rationale to justify why and how things happen in their environment and create perceptions (Siegel & Silins, 2011).

Rural: According to WHO (2009), an area that is not within the urban boundaries is referred to as a rural area. Remote rural areas are normally inhabited by individuals of lower social economic status compared to the adjacent urban area and have limited access to infrastructure and adequate services such as quality health care services. WHO's (2009) definition of rural area describes Subukia, a small remote rural area in Kenya.

Self-efficacy: Self-efficacy is the driving force attributed to behavior change (Bandura, 2012). As discussed in the theoretical framework section of this study, women living in rural Subukia were predisposed to the cultural belief that bigger and wider bodies denoted better health and motherliness, compared to smaller body frames. These women were driven by the predisposition to gain weight leading to obesity and people being overweight.

Social economic factors: Refers to a measure of one's resources within a certain setting. Social economic factors provide a measure for an individual's social hierarchy level within a community. These factors may include education, income, personal assets, ranks within a community, and power among others (McKenzie et al., 2008). Social economic factors influence one's behavior because it has an impact on one's access to various goods and services. For example, in the rural areas, individuals with higher social economic status can afford to drive long distances to major cities for better health services**.**

Assumptions

I assumed that I would have feasible access to women in rural Kenya. Feasible access meant that women in the identified rural area were physically available and open

to participate in the study. This assumption was based on the fact that study participants had lived in the target rural area most of their lives and were good sources of needed data.

My assumption was eligible women would be willing to consent and enroll in the study as participants. Since the sample was selected from the larger community, I assumed their responses were based on genuine opinions of their perceptions and beliefs. Eligible participants selected for the study were informed that their participation was voluntary. Once they agreed to participate, an informed consent was read and discussed with them. For approval, they were asked to consent verbally while being audiotaped.

I assumed enrolled participants would be truthful and honest in their responses to the study interview questions. Honesty ensured valid and reliable data for the study findings. Since study participants were selected from the community, I assumed that their lived life experiences would be a source of rich, detailed data relevant for the study. I assumed data gathered from their responses would provide information on obesity and people being overweight from their point of view.

I assumed enrolled participants would be willing to discuss their lived experiences within the context of an audiotaped interview. According to Creswell (2009), the presence of audiovisual equipment may affect participants' responses. I overcame this bias by explaining the equipment to the respondents, which helped put them at ease and be more natural.

Data collected from study participants were transcribed from raw data obtained through interviews to meaningful findings. Although I was writing down the responses, I assumed that audiotaping captured data that I may have otherwise missed. Audiotaping

and writing down responses helped enhance data richness (Creswell, 2009). Transcribed data were categorized and coded for analysis.

Due to a lack of literature on obesity and people being overweight in Subukia, there was a need to come up with assumptions for this study. These assumptions were necessary since they provided a general overview of how the study was to be conducted and provided a flow of the study process. Since qualitative studies are subjective in nature, it may be difficult to predict the outcomes (Babbie, 2010). Formulating assumptions enables researchers go to the field with expectations based on general or known knowledge as a guideline for their study. Formulating assumption helps researchers identify and address their biases especially if the actual study fails to conform to the assumptions (Babbie, 2010).

Scope and Delimitations

In this study, I targeted women residing in the Subukia area of rural Kenya, Africa. Eligible study participants had continuously lived in the area at least within the last 5 years and were within the 20 to 45 age group. Eligible women falling within this category were recruited for the study. This age group was selected because women within this age group are categorized as the reproductive and adult age (WHO, 2013). The age group was appropriate for the study because studies have shown that 10 to 15% of women retained at least 11 pounds of their pregnancy weight resulting in obesity and people being overweight (Gunderson et al. 2009). According to Gunderson et al. (2009), women between the ages of 20 to 45 experienced an increased rate of metabolic syndrome due to postpartum weight retention.

Women younger than 20 or older than 45 years of age were excluded from this study. This exclusion was be based on the age definition that women younger than 20 years of age were not within the category of adult women and women over the age of 45 were over the reproductive age (WHO, 2013). Women who had not continuously lived in the area within the last 5 years were also excluded from the study. Since this was a phenomenological inquiry, women who had lived in the area within the last 5 years provided information based on their lived experiences within this rural area. Their experiences were based on their conformity to the culture, belief system, and lifestyle as defined by the rural community in which they lived.

Detailed and structured interviews were used to gather information on how participants perceived obesity or being overweight at a personal level. Overall community perception that may have had a role into shaping this kind of perception among participants was also considered. Participants who had not completed the Kenyan primary level of education were excluded. Since interviews were conducted in English, comprehension of the English language was required. Completion of primary education was used as a gauge for English language comprehension.

The scope of the study was limited to the Subukia region only, and participants were recruited from a local church located at the central part of the area. The study was exploratory, aimed at providing information based on personal lived experiences. Due to the subjective nature of the participant's responses, which varied from individual to individual, study findings may not be generalized to all community members. However, the study's data had the potential for transferability to individuals in similar settings.

Study findings provided information that may be used for future larger qualitative studies in similar communities. Such additional studies could also be used to generate hypotheses for future quantitative studies. Findings from this exploratory study could provide vital data for designing programs aimed at behavior change for individuals in similar rural communities (Streubert & Carpenter, 2011, p 49). Interventions developed from knowledge gained from this study findings have a potential of being relevant for positive behavior change among women living in other similar rural areas in Kenya.

Limitations

This being a qualitative study, I obtained data by interviewing participants about their lived experiences. One limitation is that since individuals had varied life experiences, interviews solicited large volumes of data, some of which was not relevant to the topic (Creswell, 2009). Large volumes of data were beneficial for the study, but the sorting, analyzing, and interpretation was time consuming (Creswell, 2009). Nvivo 10 software used for this study was helpful in organizing and analyzing the data obtained.

Open-ended interviews resulted in large volumes of data. Problems that arose from gathering large volumes of data were addressed by thoroughly reviewing the data to ensure accuracy (Babbie, 2010). Filtering out unnecessary information not only reduced the volume of raw data but also increased the data validity (Creswell, 2009).

Participant sample size selected for this study was not only appropriate for achieving data saturation on the topic, but was also small enough to produce manageable data (Mason, 2010). According to Mason (2010), sample sizes with at least six participants are appropriate for phenomenological studies because they are capable of

ensuring that most of participant's perceptions have been captured while achieving saturation. A second limitation of a qualitative method of inquiry occurred when subjects reacted to the researcher's presence (Anderson, 2010). Social desirability is a bias that arises when study participants either over-report or under report information in an attempt to appear favorable (Gorber & Tremblay, 2010). Although subjects may have realized they needed to be truthful during the interview process, they may have provided responses based on how they perceived me. Participants may have either held information back or provided exaggerated information based on how they thought I might have wanted to hear. The holding back of information or providing exaggerated information may have had an effect on data validity (Anderson, 2010). To address the social desirability bias, I assured respondents that their responses were anonymous and that no other person but me would have access to their responses (Gorber & Tremblay, 2010).

A third limitation of qualitative inquiry occurs when some or most of the participants lack appropriate articulation and perception (Creswell, 2009). Lack of articulation and perception may affect the study's validity because the researcher may not be able to obtain important data, which may be valuable for the study. Lack of articulation among respondents may arise because respondents may lack focus on the topic and may not be sure of how to respond. To address this limitation, participants were encouraged to verbalize what they believed was important and relevant to the topic (Gorber & Tremblay, 2010). This encouragement to verbalize as much as possible

yielded a wide range of responses, which I sorted out, organized, and uploaded into Nvivo 10 software for coding and analysis.

A study showed that corruption was widespread in Kenya (Onyango, 2010). According to Onyango, public officials in Kenya have been known to ask for bribes from citizens in order to process citizen's request. Since this study was conducted in a rural area, it was not a challenge to obtain permission from the local pastor to recruit from his church. Knowledge of this ongoing issue in Kenya did not result in influencing me into developing some biased opinions about Kenyan public officials. I conducted reflexivity prior to the interviews to ensure my personal biases did not affect the study's validity. I relied on known facts and carefully identified notions based on other people's personal opinions. I followed expected processes and channels, which helped me, overcome anxiety and negative expectations created from unfounded biases. Personal biases could otherwise pose an external validity threat for research studies, which was not the case here.

Significance

This study was intended to promote awareness of the growing problem of obesity and people being overweight among rural women in Kenya. The study contributed to the scant literature available on obesity and people being overweight among rural women in Kenya. Although obesity and people being overweight is more prevalent in Kenyan urban areas, studies have shown that Kenyan rural areas are quickly catching up with the trend (Steyn et al., 2012). A study conducted by Steyn, Nel, Parker, Ayah, & Mbithe (2012) revealed that in Kenya, 15.8% of the urban women and 10.3% of the rural women in

Kenya were obese. These statistics indicated that the problem obesity and people being overweight needed attention in the urban areas as well as rural areas.

Study findings provided relevant information, which brought attention to the growing obesity/overweight problem among the rural women in Kenya, and therefore, bridging the current existing gap of knowledge. In addition, the study findings provided exploratory data, which may help inform policymakers. While designing policies and programs, policymakers may use this study's findings to address the growing concern in the rural areas. Educating rural women on the importance of nutritional status of foods and health consequences of obesity and people being overweight will be beneficial. It may not only increase knowledge, but could also empower women to change their behavior, creating a positive social change.

Findings derived from this study may help to sensitize policymakers on the level of knowledge on obesity among rural women and the impact of beliefs and perceptions on the growing problem. For programs to effectively address the problem, study findings may be used to customize programs based on the needs identified. These exploratory data may also be useful in generating hypotheses and knowledge for future studies, larger studies, and/or interventions, which may further help answer some of questions that may emanate from this study.

Summary

Obesity and people being overweight is a global problem that impacts both developed and developing countries. Obesity and people being overweight is a contributing factor to other chronic diseases, such as diabetes, cardiovascular diseases,

cancers, and even death. Rapid growth in technology and urbanization in developing countries also brings an increase in the problem of obesity and people being overweight. Many health-related research studies conducted in Africa have addressed infectious diseases, which are rampant due to poverty and other contributory factors. In Kenya, studies have been conducted on chronic diseases and mostly in the urban areas. There is limited literature available on chronic diseases such as obesity and people being overweight, among rural dwellers in Kenya. This study's findings provide information on obesity and people being overweight among rural women in Kenya, which helped bridge the existing knowledge gap.

I introduced readers to women residing in Subukia, a small rural area in Kenya, and provided exploratory data related to their knowledge on obesity and people being overweight, their perceptions, and their beliefs associated with obesity and people being overweight. I explored participants' lifestyles, daily activities, and their relation to the growing problem. A study by Malaza et al., (2012) showed that urbanization, globalization, and a growth in the economy were some of the factors attributed to the increasing rates of obesity in developing countries. Ntandou et al., (2009) not only supported these findings but also added that cultural factors and beliefs could also be attributing factors. In an attempt to understand the growing concern of obesity and being overweight among women in rural areas in Kenya, similar study findings will be reviewed in Chapter 2 of this study. In Chapter 3, I will provide details on the methodology, research design of this study, and the role of the researcher. The study's

conclusion will provide an overview that will helped understand the growing problem as perceived by the people most impacted.

Chapter 2: Literature Review

Introduction

Obesity is measured by calculating an individual's body mass index (Ogbuji, 2010) where an individual's weight in pounds (lb) is divided by their height in square meters (m^2; WHO, 2013). According to WHO (2013), body mass index equal to or greater than 25lb/ m^2 is considered overweight and body mass index equal to or greater than 30lb/ m^2 is considered obesity. Obesity and people being overweight is a global health problem for both developed and developing countries. Although for decades, obesity and overweight problems were perceived as a health problem for developed nations (Popkin, Adair, & Ng, 2011), the phenomenon has been noted to be a health concern for both the developed and developing countries (Malaza, Mossong, Barnighausen, & Newell, 2012).

With communicable diseases being the focus of research studies in Africa, there is limited literature available on noncommunicable diseases such as obesity (Adeboye, Bermano, & Rolland, 2012). Even fewer studies exist for obesity and people being overweight in African rural areas. The availability of scant literature on obesity and people being overweight among rural dwellers in Africa created a knowledge gap that this study aimed to bridge. This study's findings may prompt questions from researchers that may help generate hypotheses for future larger studies.

Obesity study findings have shown that certain factors including social, emotional, economic, and environmental factors influence individuals' attitudes and

beliefs (Shoneye, Johnson, Steptoe, & Wardle, 2011). Cultural beliefs and perceptions on weight-related issues might influence individuals' desire to lose or gain weight (Tovar, Chasan-Taber, Bermudez, Hyatt, & Must, 2010). Some communities may attach positive value to larger body sizes, while others may promote negative feelings towards it (Shoneye et al., 2011). Individuals adhere to their communities' beliefs systems for complacency (Jimenez-Cruz, Escobar-Aznar, Castillo-Ruiz, Ramirez, & Bacardi-Gascon, 2012).

The spread of urbanization among developing countries has resulted in both social and economic changes and advancement respectively (Kotwani et al., 2013). Reduced physical activity and consumption of energy-dense foods are some examples of the lifestyle changes that resulted from urbanization (Kolahdooz, Spearing, & Sharma, 2013). Such lifestyle changes are not only limited to urban areas but occur in rural areas as well (Mayega et al., 2012). Several studies on obesity in developing countries exist. However, they mainly focused on obesity and people being overweight among urban dwellers (Ayah et al., 2013; Mbochi et al., 2012; Ziraba et al., 2009). There is a scarcity of literature on obesity and people being overweight among rural dwellers in developing countries (Cook, Alberts, & Lambert, 2008; Malaza et al., 2012).

Like most of African countries, urbanization introduced new lifestyles to the Kenyan population (Mbochi et al., 2012). Easy access to fast foods compounded with the introduction of less physical demanding jobs, resulted in less energy expansion and resulted in obesity and people being overweight among the Kenyan residents (Mayega et al., 2012). While statistics show that a majority of the Kenya population resided in rural

areas, there is scant literature on obesity and people being overweight among Kenyan population residing in the rural areas (Kenya National Bureau of Statistics, 2011).

In this chapter, I start by introducing the study topic and its relevance to the current obesity and people being overweight problem among women in developing countries and more specifically in rural Kenya. As part of the introduction, I provide a synopsis of the literature review and discuss its relevance to the study topic. I then provide a detailed review of the strategies applied for the literature search. Some of the strategies discussed in this section include library databases and search engines used, relevant key search terms, details of the search process, identified lack of relevant literature for the topic and how that was handled. I introduce the theoretical framework of the study. In this section, I also discuss the theory applied to the study.

Since this is a qualitative study, I discuss theoretical propositions by including detailed assumptions of the study and their relevance to the theory. In order to provide an understanding of how the study's theory was applied in previously conducted studies, I present a detailed literature review analysis. In addition, this provides a discussion explaining rationale for choosing the theory, why the particular theory was chosen, and its relevance to the study. I end with research questions, a discussion which highlights their relevance to the study, and how they contribute towards building upon the study's theory.

After identifying and defining key statements, I hone down on to key concepts of the study. In an attempt to bring better understanding of the key concepts relevance, I discuss the use of the qualitative methodology of inquiry in previous studies and their

similarity to this study. For consistency, there is a discussion on how strengths and weakness of these studies were identified and approached compared to this one and the rationale for selecting various key concepts for the study. Based on the review of literature findings, there is a discussion on known facts about identified key concepts including controversies.

Findings from similar current studies were used as an attempt to help address some of the study questions. There is also a discussion on the possibility of opportunities for further studies due to lack of literature on the key variables. The need for further studies is suggested as an attempt to provide better understanding of the variables. Further studies may also help address new questions that may arise from the study findings.

I conclude Chapter 2 with a summary discussion of the literature review major themes. There is also a summary discussion of the known and unknown facts about obesity and people being overweight among women in rural Kenya. I present a discussion describing how the study's findings address the identified gap in literature. I also describe how this study's findings might be used for generating hypotheses in the future or as a foundation for future larger studies. I transition into Chapter 3 with a brief discussion on qualitative phenomenological approach, researcher's role, study participants, and sampling methods used, interviewing as a data collection method, and the ethical issues that arose in the process of completing the study.

Literature Search Strategy

Research articles, journals, papers, reports, and studies reviewed for this study were located and retrieved using several different databases and search engines. Some of the databases include PubMed, Ovid Medline, EJournals A-Z, Medline, ProQuest, ScienceDirect, Sage, Academic Search Complete, CINAHL, Education Research Complete, and EBSCOhost. Google was the key search engine used to retrieve research articles. Other more advanced Google search engines that were used included Google Advanced Search and Google Scholar. Key terms used while searching for relevant articles were used either alone or in combination. Key search terms were *obesity, overweight, urbanization, chronic diseases, westernization, fast foods, energy-dense foods, high-caloric foods, physical inactivity, developing countries, rural, Kenya, perception about weight, beliefs, cultural beliefs, self-efficacy, weight, Africa, knowledge about weight, environmental factors, social-economic factors, community influences, status in the community, sense of belonging, adult women, dietary patterns, attitudes,* and *obesity awareness.*

Key search terms were selected based on their relevance to the study topic. Most of these terms provided general information on global obesity and people being overweight. However, other search terms such as Kenya, developing countries, Africa, urbanization and westernization provided data specific to the search term. Literature retrieved using these search terms was reviewed with the goal of understanding the phenomena of obesity and people being overweight among women in rural Kenya. Literature reviewed for this study was from 2007 to 2015, which was 5 years from the

year when this study was initiated. Literature review already done for the study showed scarce availability of articles on the topic of obesity among women in rural Kenya. In such instances of limited literature, articles published prior 2007 were used.

Theoretical Foundation

The SCT served as the theoretical framework for this study. According to Bandura (2005), SCT stipulated that an individual's functioning were determined by personal factors, environmental factors, and behavioral factors. Personal factors included one's knowledge of how certain practices contribute to health benefits and/or risks, personal experiences, attitudes, and perceptions (Bandura, 2005). Environmental factors included people and other aspects within the individuals surrounding that influenced one's attitudes, perceptions, and the way of life (Bandura, 2005). For example, technological advancement, parents, friends, co-workers, and other people a person may consider as role models may influence an individual's behavior. Behavioral factors refer to an individual's ability to perform a certain action based on the knowledge and skills they have (Bandura, 2005).

SCT postulates that individuals act and behave the way they do by observing others (Kretchmar, 2008). By paying attention to certain actions from others, individuals may perceive the action as desirable or not (Bandura, 2005). If desirable, individuals remembered the action and imitated or replicated the action to achieve certain outcomes (Boyce, 2011). However, according to Bandura, individuals did not copy or imitate all behaviors they observed from others. Knowledge (or lack of knowledge) of the importance of the behavior played a role in the adopting of such behaviors (Bandura,

2005). In addition to observing a behavior, outcome expectation, self-regulation, and self-efficacy were assumed as some of the key components of the SCT (Bredbenner, Abbot, & Cussler, 2011).

On observing a new behavior and based on the knowledge they have regarding the action, it was assumed that an individual would evaluate the consequences that resulted from the action (Bredbenner et al., 2011). Under the component of outcome expectation, if the person believed the consequences were beneficial to them, they were likely to learn and adopt the new behavior (Bandura, 2005). Secondly, under self-regulation, SCT assumed that individuals adopted new behaviors when they believed that they had control and that they had an executable plan for their desired goal/s (Bandura 2005). Thirdly, SCT postulated that perceived self-efficacy was based on the belief that one had the power and ability to achieve a certain outcome despite any obstacles they faced in the process (Kretchmar, 2008).

SCT posited perceived self-efficacy as the main driving force behind motivating individuals to adopt and maintain new behaviors (Bredbenner et al., 2011). For example, an obese individual was likely to follow a weight-loss diet if they believed that they could afford the healthy food, they had easy access to the health food, the food was easy to prepare, and most importantly, the weight-loss diet plan would lead to weight loss. If the food was too expensive, not easily available when needed, was too complicated to prepare, or the person did not believe they could follow the diet plan, then there was a lack of motivation and lack of interest to adopt the new diet. All the three key

components of SCT worked interactively, rather than independently, for a behavior change to occur (Boyce, 2011).

Researchers such as Anderson-Bill, Winett, and Wojcik (2011); Annesi and Whitaker (2010); Bredbenner et al. (2011); and Plotnikoff, Lippke, Courneya, Birkett, and Sigal (2008) have defined outcome expectations concerning the SCT as an individual's belief that efforts towards a certain goal were worthy since the consequences would be beneficial to them. To understand how their way of life influenced obesity, study participants' were asked to name some positive and negative consequences they attributed to some of their beliefs, culture, and behaviors in general. Individuals might place more efforts towards achieving certain goals based on how important they perceived the outcome to be. In their study, Annesi and Whitaker (2010) postulated that end results such as an attractive body and improved health were valued outcomes that may call for extra effort from an individual.

During interview sessions, participants in this study were asked to discuss some of the strategies that made them believe they had control over their own behaviors. Several researchers have indicated that self-regulatory skills enabled individuals to feel empowered to overcome most barriers they might encounter while achieving their goals (Anderson-Bill, Winett, & Wojcik, 2011; Annesi, 2011; Bandura, 2005; Bredbenner et al., 2011). Some of the constructs in self-regulation that enabled individuals to feel empowered were setting their own goals, planning, self-management and monitoring, self-rewarding, and problem solving (Anderson-Bill et al., 2011; Annesi, 2011; Bandura, 2005; Bredbenner et al., 2011). When individuals believed they had control over behavior

outcomes, the behavior was likely to be maintained for long periods of time (Bandura, 2005). I used some of the disclosed self-regulation strategies to understand participant's behaviors, beliefs, and perception on obesity and people being overweight.

Like Annesi (2011); Belanger-Gravel, Godin, Vezina-Im, Amireault, & Poirier (2011); Bredbenner et al. (2011) and Serrano-Sanchez, Lera-Navarro, Dorado-Garcia, Gonzalez-Henriquez, & Moysi (2012), I assessed the role of self-efficacy in health-related behaviors. Some of the key terms used by these researchers in their studies to describe self-efficacy included competence, confidence, mastery, ability, and knowledge. Similarly, I interviewed participants to learn their knowledge on obesity and the health risks associated with it. As participants discussed their personal experiences, culture and beliefs, the study made note of their level of self-efficacy in maintaining what they considered as "healthy" body weight.

Information on participants' outcome expectations, self-regulation strategies, and their self-efficacy were important in providing a perspective of how day-to-day life affected obesity rates among women in rural Subukia. While personal factors played a role in an individual's way of life, environmental factors and social factors also influenced an individual's behavior (Bandura, 2005). Rural communities such as Subukia tended to have stronger cultural influences that individuals adhered to for conformity (Wight, Plummer, & Ross, 2012). SCT was therefore suitable for this study. For this study, SCT did not only allow for learning about the participant's personal influences on behaviors, but also provided information on how environmental and social influences intertwined with such behaviors.

Certain urbanization and westernization aspects influenced social and environmental factors in many developing countries (Capingana et al., 2013; Mayosi et al., 2009; Xiao et al., 2013). Rapid growth of fast food restaurants, advanced technology such extensive use of computers, and an increase in motorized transportation means in the developing countries resulted in lifestyles changes (Adeboye et al., 2012; Aloia et al., 2013; Ziraba et al. 2009). Since SCT postulated that individual actions were shaped from interplay of personal, environmental and behavior factors, it therefore provided an appropriate theoretical foundation for this study. Incorporating SCT constructs (outcome expectations, self-regulation, and self-efficacy) in this study helped understand how the rural women perceived obesity, how much they knew about obesity and how their societal beliefs and cultural influenced their perception.

Like several other studies, researchers such as Negin et al. (2011) indicated that obesity and being overweight rates in rural areas were not as high in the rural areas as in urban areas of developing countries. They however agreed that even in the rural areas, more women than men were overweight or were obese. In their study, Popkin et al. (2012) showed that with the advent of globalization, developing countries, including rural areas, had seen a shift from healthy organic diets to processed food, increased sugar intake, and fast foods. Globalization also introduced affordable means of transportation (such as motorcycles) and convenience electronic equipment (such as cell phones and computers) which promoted sedentary lifestyles (Popkin et al., 2012).

As postulated in SCT, individual learning pattern is influenced by both internal and external factors emanating from the person, the environment and the behavior itself

(Boston University School of Public Health, 2013). As noted by Popkin et al. (2012), the rising trend of obesity and people being overweight among women in rural areas was associated with globalization and urbanization. According to Bandura (2012), individuals learned behaviors from lived experience, by observing others do them, and from an attempt to achieve goals. People maintained or discarded learned behaviors if they believed the consequences would be of benefit to them and that they had the capability (self-efficacy) to perform as required (Bandura, 2012).

As developing countries continue to face rapid urbanization due to globalization and high economic growth, the problem of obesity and people being overweight continues to grow as well (WHO, 2013). Both urban and rural communities in the developing countries learn and adapt to the new behaviors that are brought about by globalization (Malaza et al., 2012). Individuals in developing countries acquired the new lifestyle brought about by globalization because they perceived it as convenient, compared to their traditional culture (Ntandou et al., 2009). Their self-efficacy may encourage them to maintain the new lifestyle due to affordability (Popkin et al., 2012).

The SCT framework was appropriate for this study because it assisted in the exploration and understanding of how study participants perceived obesity and people being overweight. Research questions were designed to help understand how participants learned behaviors that promoted obesity, how they perceived the new lifestyles brought about by globalization, what motivated them to continue and maintain these behaviors, and their thoughts and opinions on obesity, were they aware of the problem, and what

were some of the beliefs and cultural factors that promoted obesity. These were questions asked during the interview for a better understanding of women's viewpoint of the world.

Research questions for this study were derived from the SCT. Research questions were structured to inquire about participants' level of knowledge and perception on obesity and people being overweight. Additionally, I explored how participants' life activities and beliefs influenced obesity and people being overweight related behaviors. During the interview process, participants were encouraged to discuss their goals, control mechanisms, self-rewards, incentives, self-efficacy and any other factors they were aware of that helped them either participate or stay away from obesity-related behaviors. The research questions were structured to help obtain as much information as necessary. Information obtained was vital in creating an understanding of these rural women's point of view regarding obesity/overweight within their community. SCT provided a foundational framework that helped explain various obesity-related behaviors among rural women of Subukia and factors that influenced such behaviors.

While SCT was the most suitable theoretical framework for providing an understanding for this study's participants' perception, knowledge level, and beliefs of obesity, other theoretical frameworks had been used to understand this phenomenon. Health belief model (HBM) is one example of applicable theoretical frameworks. HBM was developed in the 1950s by social psychologists Hochbaum, Leventhal, and Rosenstock (Durand, Logan, & Carruth, 2007). The HBM model postulated that individuals engaged in positive health-related actions if they had knowledge about negative consequences of the phenomenon (Wilson et al., 2008). People were motivated

to engage in a behavior if they believed that a particular action/s would reduce the known negative consequences of the phenomenon and that they were capable of applying various strategies to avoid it (Wilson et al., 2008).

For example, an individual with a family member/friend/co-worker suffering from obesity was likely to be aware of the consequences of the condition (Daddario, 2007). This kind of awareness and knowledge of obesity could also be referred to as a personally perceived threat (Wilson et al., 2008). By watching someone close to them suffer from obesity, an individual was likely to start engaging in obesity prevention behaviors such as healthy nutrition and exercise as a prevention measure (Kolodinsky & Reynolds, 2009). For an individual to adopt and maintain such healthy behaviors, they had to believe that they had the capability (resources and strategies) to overcome any barriers or challenges they may face in the process (Daddario, 2007). These healthy measures may include access to a gym, paved, safe, and lighted walkways, easy access to health food, affordability of healthy food, and the confidence that they could engage in these actions successfully.

A second theoretical framework that may be used to understand the phenomenon of obesity and people being overweight is the Transtheoretical model (TTM) of change. Developed in the 1970s by Prochaska and DiClemente, TTM is a theoretical framework that describes the stages of readiness for a behavior change (Andres, Saldana, & Gomez-Benito, 2009). According to TTM, individuals considering, acting on, or maintaining a new behavior cycle through a series of five stages (Drieling, Ma, & Stafford, 2011). The five stages of change preparedness include pre-contemplation, contemplation,

preparation, action, and maintenance (Bennett, Perry, & Lawrence, 2009). Although some individuals may move from one stage to the next in a succession order, others may move back and forth between the stages and may even skip one or more stages based on their readiness to adopt the new behavior (Lawrence, Fraser, Woods, & McCall, 2011).

Obese individuals and people being overweight at the precontemplation stage may or may not be aware of the negative health consequences of obesity. According to the TTM, individuals at this stage have no desire or intention to participate in any weight reduction behaviors (Andres et al., 2009). At the contemplation stage, obese individuals and people being overweight are aware of the benefits of physical activity and healthy nutrition, and may consider engaging in these healthy behaviors (Bennett et al., 2009). Individuals at the preparation stage have decided to engage in weight reduction actions (Lawrence et al., 2011). Examples of actions in the preparation stage may include setting up an exercise schedule, making a list of stores with fresh produce, identifying gyms in their region, joining an exercise group, and having a list of nutritionists within the region. Individuals within the action stage have implemented the healthy behaviors and have started exercising and eating healthy (Hoke & Timmeman, 2011). Individuals in the maintenance stage have lost some weight from regular exercises and eating healthy for at least 6 months since implementation (Lawrence et al., 2011). Individuals may maintain these healthy habits or may relapse back to unhealthy habits based on individual, social, and environmental influences (Andres et al., 2009).

Compared to HBM and TTM frameworks in relation to understanding the phenomenon of obesity and people being overweight, SCT was best suited for this study.

Unlike HBM and TTM, the SCT emphasized that learning and adopting of a new behavior was determined by continuous interaction of the environment, behavior, and personal factors (Bandura 2005). Reciprocal determinism between environmental, personal, and behavioral factors was a key statement that made SCT a suitable framework for understanding the phenomenon of obesity and people being overweight among women in rural Subukia. Reciprocal determination refers to the process in which these three factors continuously integrated before, during and after learning a new action resulting into behavior change (Bredbenner et al., 2011). Physical environmental factors such as the rapid growth of fast food restaurants, personal factors such as perception of women with wider body frames, and behavioral factors such as knowledge of societal beliefs regarding women with wider body frames were factors that promoted obesity in rural Subukia.

A second key statement in understanding obesity was that a behavior is influenced by outcome expectations (Bandura, 2005). An outcome expectation refers to individual beliefs that the performance of certain actions would result in certain desired consequences (Branscum & Manoj, 2012). Since women in rural Subukia believed that fast food was convenient, cheap and saved them time they would otherwise have spent making food from scratch, they opted for the unhealthy food than the more laborious traditional healthy cooking. This belief was a contributing factor of the increasing obesity rates in the region.

Self-regulation was the third key factor. According to Bandura (2005), self-regulation was a key component in behavior change. Individuals motivated themselves to

continue engaging and maintained certain actions through self-regulation measures (Bredbenner et al., 2011). For example, instead of walking to the nearby stores for shopping, women in rural Subukia opted to pay for a ride because it is not only quicker but also because the roads were muddy and dangerous due to increasing traffic. Although it was more expensive than walking, the safety, affordability, and convenience of a ride was the motivating factor for these women. This motivation factor replaced the healthier option of walking to close-by destinations. This factor resulted in less physical activity and an increase in obesity rates in the region.

Self-efficacy, an individual's confidence that they have what it takes to perform, is the fourth key component in the understanding of obesity and people being overweight (Drieling et al., 2011). Self-efficacy includes an individual's knowledge of an action including the risks and benefits involved in engaging in the behavior (Wilson et al., 2008). Self-efficacy was a key factor in understanding the rural women's level of knowledge of obesity and people being overweight, perceptions, beliefs, and their motivation to gain or lose weight. Using the concept of self-efficacy, study participants were encouraged to discuss how their day-to-day way of life influenced their behavior and its relation to obesity in the region.

Researchers such as Annesi, (2011); Annesi and Whitaker, (2010); Bredbenner et al., (2011); Drieling et al. (2011) and Wilson et al., (2008) have conducted studies on obesity aimed at providing a better understanding of the phenomenon. In addition, these studies also provided information on some of the predisposing factors to obesity and people being overweight. For example, in their study, Bredbenner et al. studied mothers

in an attempt to understand their food-related behaviors influenced other members of the household in relation to obesity. They noted that health-conscious mothers were likely to prepare healthy foods influencing household members to eat healthily which may help reduce obesity rates.

Like Annesi and Whitaker, (2010); Bredbenner et al., (2011); Drieling et al. (2011); and Wilson et al., (2008), this study's goal was to understand the phenomenon of obesity and people being overweight among rural women residing in rural Subukia. Similar to these researchers, this study was based on the SCT theoretical framework. I sought to understand how the study participants' environment, behavioral, and personal factors interplayed to influence obesity rates. Although I did not focus on examining the success of obesity-reducing interventions, findings may provide information necessary for developing such interventions. The study's findings could also be relevant in developing larger obesity-related studies in the future.

Literature Review Related to Key Concepts

In this section, I defined and explained the key concepts related to this study. Such definitions were based on literature review of the concepts and outcomes of various research studies. The concepts included obesity and people being overweight, women, perception, beliefs and attitudes, rural/urban, and interventions.

Definitions of Obesity/Overweight

Obesity and people being overweight was the phenomenon of focus for this study. Obesity and people being overweight prevalence rates continue to rise in both developed and developing countries with over 396 million adults falling in the category of being

obese and over 937 being overweight (Shao & Chin, 2011). Many researchers have used the term obesity and overweight as a key concept in their studies. Many of these researchers have discussed the growing trends of obesity and people being overweight among nations, communities and individuals (BeLue et al., 2009; Capingana et al., 2013; Mayosi et al., 2009; Wiklund et al., 2011). These researchers have conducted studies on obesity and people being overweight in an attempt to understand the rising trends and/or examine existing intervention and/or develop new obesity reducing interventions.

Around the world, every year, approximately 2.8 million adults die from obesity and obesity-related risk factors (Xiao et al., 2013). According to the WHO (2013), an individual is considered overweight if they have BMI) of 25 or higher, and is considered obese if they have a BMI of 30 and higher. BMI is calculated by diving an individual's weight (pounds or kilograms) by their height (inches or meters; CDC, 2012; WHO, 2013).

Several researchers such as Dean and Elliot (2011); Dufey and Popkin (2011) and Hanson, Gluckman Ma, Matzen, and Biesma (2012) have referred to the growing obesity problem as an epidemic. Globally, the rise in obesity and overweight rates is attributed to the consumption of high caloric foods and reduced physical inactivity (Okeyo, Ayado, & Mbagaya, 2009; WHO, 2013). In addition, researchers such as Capingana et al. (2013), Chu and Moy (2013) and Xiao et al. (2013) attributed the rapid growth of obesity and overweight rates among developing countries to urbanization and westernization.

Women

According to the WHO (2013), globally, more than 200 million adult men and more than 300 adult women are obese, which is about 10 percent of the world population. Several obesity-related studies indicated there were higher rates of obesity and overweight among women compared to their male counterparts (Bernabe-Ortiz, 2012; Pines, 2012; Skouby, 2010). Higher obesity rates among females were attributed to several factors such as hormonal factors, genetic factors, pregnancy, and cultural household roles among other factors (Bernabe-Ortiz, 2012; Ogbuji, 2010; Pines, 2012; Roshita, Schubert, & Whittaker, 2012; Skouby, 2010).

Researchers such as Alves, Falcao, Pinto, and Correia, (2011); Ogbuji (2010) and Shayo and Mugusi (2011), in their qualitative studies showed women had higher obesity/overweight rates compared to men. According to Ogbuji, women in Nigeria showed higher rates of weight gain compared to their male counterparts. Higher obesity rates among women were attributed primarily on individual or a combination of factors such as personal behaviors, environmental factors and genetic makeup (Ogbuji, 2010). In her study, Ogbuji, also referenced to similar findings where 23% of women in Australia were obese, and 28% were overweight. Alves et al. conducted a study on obesity in Brazil among adult women between the ages of 20 to 60 years. Like Ogbuji, Alves et al. findings showed that obesity was more prevalent in women compared to the Brazilian population. Higher obesity rate among women in Brazil was attributed to low levels of physical activity and increased consumption of high-energy foods (Alves et al, 2011).

Similarly, Shayo and Mugusi (2011) conducted their study in Tanzania among adult women aged between 18 to 65 years. Like Ogbuji and Alves et al.; Shayo and Mugusi's study showed that obesity was higher among women compared to men. Among the study's participants, 24% of the females were obese compared to only 9% of their male counterparts. Higher obesity rates among women were attributed to socio economic factors, environmental factors, and individual behaviors such as physical inactivity. In addition to diet and physical activity, obesity among women was also associated to pregnancy and hormonal factors (Shayo & Mugusi, 2011).

A study by Guendelman, Ritterman-Weintraub, Fernald, and Kaufer-Horwitz (2013), showed that 70% of Mexican-American women in Mexico and America fell within the obesity and people being overweight category. According to this study, two of every five adult Mexican-American women between the ages of 20 to 59 were obesity and people being overweight (Guendelman et al., 2013). CDC's (2012) most recent statistics on obesity showed that in the United States, over a third of the adult population was obese in 2010 and women had a higher prevalence than men did. Although these studies were all conducted from different regions of the world, study findings consistently showed that obesity rates were higher among women than men and that individual behavior, environmental and social factors attributed to the increasing obesity rates.

Perception

Perception is a key concept that has been widely used by researchers in their studies on obesity and people being overweight. Perceptions related to obesity and people

being overweight may either motivate or deter an individual to lose weight (Yesmiri, Slining, & Agarwal, 2011). Certain factors such as culture, peer influence, and acceptability may affect an individual's perceptions related to obesity or being overweight (Chandler-Laney et al., 2009). Some cultures perceived individuals with larger bodies as having a 'happy' life, while some cultures attached stigma to obesity and people being overweight (Chang, Chang, & Cheah, 2009). A study by Dorsey, Eberhardt, and Ogden (2009) showed that education level influenced individuals' perception of obesity and people being overweight. According to Dorsey et al., individuals with lower level education were likely to perceive obesity and people being overweight positively while individuals with higher education level were likely to perceive obesity and people being overweight negatively.

Researchers like Bradway, Miller, Heivly, and Fleshner, (2010); Hernandez-Hons and Woolley, (2012); Hindle and Carpenter, (2011); Isma, Bramhagen, Ahlstrom, Ostman and Dykes, (2012); Walker, Kim, Sterling, & Latimer, (2010); and Wight et al., (2012) have used perception as means of understanding how participants made sense of the world around them, and how it impacted obesity and people being overweight trends among them (participants). In their study phenomenological study, Bradway et al. showed how obesity influenced incontinent residents living in a nursing home. The study discussed how not only obese residents perceived themselves as a burden to others, workers and management also perceived obese patients as a burden as well. The need for larger physical space, higher cost for bariatric sized equipment and personal hygiene

supplies and the risk of causing back injuries to nursing home employees were among some of the factors that facilitated the perception of obese residents being a burden.

In their study, Hernandez-Hons and Woolley, (2012) discussed how perception of food related to obesity. These researchers conducted a phenomenological study among women in California and interviewed them about emotional eating. Their study finding showed that participants perceived food as a coping mechanism that helped them (participants) deal with the insecurities and societal judgments of being "fat".

Hindle and Carpenter (2011) also conducted a study on the perception of obesity among a group of women in the United Kingdom. According to this study, participants who had intentionally lost weight following a medical scare were unable to maintain the weight loss. Participants attributed this failure to a lack of support and the lack of self will. Like participants in Hernandez-Hons and Woolley's (2012) study, these women also perceived food as a self-soothing, self-coping mechanism.

A similar study by Isma et al. (2012) indicated that growing obesity rates among children was because of their parents' lifestyles. The study participants were registered nurses in Sweden, who were interviewed about their perception of obesity among children. The study findings show that the acceptance of obesity among children as being of 'normal weight' and the perception by society that obese children had better health than nonobese children were among the attributing factors.

A study by Walker et al. (2010) showed that understanding a population's socio economic needs, cultural factors and perception about obesity was important while trying to design an obesity prevention program. They conducted a qualitative study among

multi-ethnic, low-income postpartum women. Their study findings showed that the use of multisource methods which included not only the populations' cultural beliefs and perceptions but also scientific, theoretical, and various local sources of knowledge would gear towards a successful obesity prevention program.

Like Bradway et al. (2010); Hernandez-Hons and Woolley (2012); Hindle and Carpenter (2011); Isma et al. (2012) and Walker et al. (2010), Wight et al. (2012) presented study findings that showed the importance of understanding a population's cultural beliefs and their perception prior to addressing any health concern within these communities. Wight et al. conducted a qualitative study in Tanzania on adolescent sexual health. As obesity prevention studies discussed above, Wight et al.'s study findings explored the importance of incorporating cultural, beliefs, perception, socio economic, and scientific knowledge into health promotion programs. These studies by Bradway et al.; Hernandez-Hons and Woolley; Hindle and Carpenter; Isma et al; Walker et al.; and Wight et al. emphasized the importance of understanding communities perception of a 'concern' prior to addressing it and ensuring that the community understood the impact the 'concern' had to them.

Beliefs and Attitudes

Researchers have applied the phenomenological approach in an attempt to understand the concept of beliefs and attitudes. A phenomenological qualitative approach provides researchers with an understanding of how individuals make sense of their world (Ernersson, Lindstro, Nystro, & Frisman, 2010; McVittie, Hepworth, & Schilling, 2008; Montgomery et al., 2011; Wiklund, Olsen, & Willen, 2011). According to Ernersson et

al., behavior towards obesity may be influenced by factors such as perception of self, confidence, commitment, and will power. In their study, Ernersson et al. indicated that personal attitude towards obesity determined whether one was willing to participate in obesity prevention behaviors or not.

Like Ernersson et al. (2010), McVittie et al. (2008) study findings showed that parents' attitude and beliefs towards obesity played a role in their children's obesity status. Study findings by McVittie et al. indicated that parents who positively considered the convenience of fast food and/or ones who were unperturbed by societal negative perception on obesity, were more likely to subject their children to obesity promoting lifestyles. Similarly, a study by Montgomery et al. (2011) showed that weight loss efforts after childbirth was influenced by a women's attitude towards the efforts. Factors such as individual motivation, time, support, and perceived challenges determined women attitudes towards weight loss.

Like Ernersson et al. (2010); McVittie et al. (2008); Montgomery et al. (2011), and Wiklund et al. (2011) study findings supported that an individual's attitudes and beliefs towards obesity may encourage or discourage a person from pursuing obesity prevention behaviors. In their qualitative study, Wiklund et al. interviewed obese participants who had qualified for and had bariatric surgery scheduled at a hospital in Sweden. According to the study, while most participants viewed weight loss positively, challenges such as pain, exhaustion, lack of support, lack of commitment, embarrassment, and frustrations from not achieving their goals were among some of the challenges that resulted in negative attitudes towards weight loss.

Although some of these qualitative studies were conducted on both men and women, they all demonstrated how individual's attitudes, beliefs, and knowledge influenced perception of various phenomena like obesity (Ernersson et al., 2010; McVittie et al., 2008; Montgomery et al., 2011; Wiklund et al., 2011).

Rural/Urban

It is estimated that by the year 2025, over three-quarters of people with obesity and people being overweight globally will be in developing countries (Ziraba et al., 2009). While deaths resulting from infectious diseases are predicted to decrease by 3% in the next ten years due to extensive research and improved technology, deaths from chronic diseases are expected to increase by 17% among developing countries (Ziraba et al., 2009). According to Mathenge et al. (2010), 40% of the African populations reside in urban areas and 60% in rural areas. About 20-50% of the urban population in Africa falls within obese and people being overweight categories (Ziraba et al., 2009). Urbanization in Africa has introduced processed foods that are high in calories and fat and less-physically demanding jobs brought about by advanced technology (Ziraba et al., 2009). According to Mbochi et al. (2012), study findings have shown that countries within the African sub-Saharan region, such as Kenya, experienced a 5% increase of obesity and people being overweight rates per year.

Currently, population residing in urban areas of Kenya is 22.3%, and these urban areas experienced an annual population growth of 4.2% (Ayah et al., 2013). While statistics showed that majority of the Kenya population resided in rural areas, there is scant literature on obesity and people being overweight among Kenyan population

residing in the rural areas (KDHS, 2009). A study by Cheserek et al. (2012) indicated that currently, 40.9% of the adult Kenyan population fell within obesity and people being overweight category. The most current statistics suggested that 23% of women residing in Kenya between the ages of 15 to 49 were obese or overweight (KDHS, 2009; Mbochi et al., 2012).

Although a higher number of populations in Africa reside in rural areas (Mathenge et al., 2010), several researchers such as Popkin et al. (2012) and Negin et al. (2011) have mentioned rural areas in their studies on obesity and people being overweight in developing countries, but their studies mainly focused on urban dwellers. This focus on urban dwellers resulted in a knowledge gap on obesity and people being overweight among rural dwellers in the developing countries. More specific to Kenya, researchers such as Ayah et al. (2013); Cheserek et al. (2012); Mathenge et al. (2010), Okeyo et al. (2009); and Ziraba et al. (2009) focused their obesity and people being overweight related studies on Kenyan urban dwellers. There is scant literature on obesity and people being overweight among rural dwellers in Kenya. This study was therefore conducted among women in rural Subukia, Kenya, with a goal to bridge the existing gap in knowledge on obesity and people being overweight in rural Kenya.

Interventions

Researchers have also presented health as a key concept in their obesity/overweight studies. Obesity and people being overweight is a health condition that results to high healthcare costs among many countries around the world (Lawson & Wardle, 2013). Obesity and people being overweight also increases incidences of co-

morbidities such as diabetes and reduced life expectancy (Ernersson et al., 2010; Jensen et al., 2013; Lawson & Wardle, 2013). In their studies, these researchers discussed the interconnection that existed between obesity and health factors. Their study findings indicated that understanding obesity and obesity-reducing interventions provided an understanding of participants' general health as well.

Several researchers like Belanger-Gravel et al. (2011); Drieling et al. (2011); and Kolodinsky and Reynolds (2009) not only provided an understanding of the phenomenon, but also discussed obesity prevention measures. For example, in their study, Drieling et al. discussed how community-based interventions such as case management and health-worker support were vital in counseling and educating low-income communities on obesity reduction measures. A study by Belanger-Gravel et al. highlighted how obesity and obesity related complications resulted in an increase in healthcare costs. In this study, Belanger-Gravel et al. discussed the effectiveness of physical activity interventions among individuals with obesity. The study findings showed that self-efficacy played a role in the success (or not) of such intervention programs.

Similarly, a study by Kolodinsky and Reynolds (2009) showed that "one size fits all" type of interventions were not always effective since different individuals within a population have different needs, wants, and beliefs. Kolodinsky and Reynolds' study findings showed the importance of identifying different characteristics among populations and incorporating them into obesity related interventions to improve their (interventions) effectiveness. In their studies, many researchers have presented several known facts about the phenomenon of obesity and people being overweight. A known

fact about obesity and people being overweight is that over the years, many countries around the world have experienced increased obesity rates (WHO, 2013). Second, according to the most current statistics by WHO (2013), in 2008, over one billion adults over the age of 20 were overweight, and 300 million were obese. Another known fact is that because of global advancement in technology and economic growth, there has been an increase in the consumption of high-energy-dense foods and less physical activity (Lorentzen et al., 2012). WHO reports that in 2011, over 40 million children under the age of five fell under the overweight category. Another known fact is that obesity and people being overweight is a health condition that could be prevented (WHO, 2013).

Although several obesity-reducing interventions have been developed based on findings of qualitative studies, additional research may need to be conducted. Obesity and people being overweight among different individuals may be influenced by other varying factors that have yet to be identified and/or studied (Merrill & Grassley, 2008). Researchers may need to continue conducting additional studies to identify and address the wide variety of factors that influence obesity and people being overweight among individuals and communities.

Obesity and people being overweight study findings are derived from answering questions that researchers pose before and during the research process (Rudolph et al., 2009). Several researchers have posed questions on level of knowledge of obesity and people being overweight among study participants. According to Christiansen, Borge, and Fagermoen (2012); and Meule, Heckel, and Kubler (2012), participants knowledge level of obesity and people being overweight enabled researchers understand that

participants were aware of the health problem. Such questions enabled researchers to understand whether participants were aware of the consequences of their obesity promoting or reducing behaviors (Christiansen et al., 2012).

Research questions on obesity and people being overweight perception provide researchers with the participant's insight, view and opinion of the phenomenon (Buxton & Snethen, 2013; Ernersson et al., 2010; McVittie et al., 2008; Wiklund et al., 2011). Gaining access into individual perceptions, beliefs, attitudes and lifestyles provide researchers with information that may be useful in understanding participants' actions, behaviors, and motivation to such behaviors (Buxton & Snethen, 2013; Ernersson et al., 2010; McVittie et al., 2008; Wiklund et al., 2011). Knowledge on how individuals interpret and make sense of their world may enable researchers understand the various factors that influence the growing obesity trends (Wiklund et al., 2011). Findings derived from these studies may be useful in the developing of new obesity-reduction interventions and/or in improving existing interventions for positive behavior change (Ernersson et al., 2010; Grosshans, Loeber & Kiefer, 2011; Wiklund et al., 2011).

Literature Review Related to Methodological Approach

Several researchers have used the phenomenological approach of qualitative research as an attempt to understand obesity among study participants in their natural setting. Qualitative research is an inquiry approach that enabled researchers to understand their study participants' personal and social experiences in regards to a specific phenomenon like obesity and people being overweight (Malterud, & Ulriksen, 2011). A phenomenological approach provided a more detailed understanding of an individual's

subjective perceptions of a phenomenon (Wiklund et al., 2011). A phenomenological approach provided a wide array of subjective perceptions, opinions, experiences, and attitudes, which yields rich data necessary for understanding the study participants' conceptualization of the phenomenon (Ernersson et al., 2010; Montgomery et al., 2011). According to McVittie et al. (2008), a phenomenological approach applied to a small-scale qualitative research was vital in providing descriptive rich data. Such rich data were essential for understanding the meanings and logic study participants attached to their personal and social surroundings (Montgomery et al., 2011).

Obesity and people being overweight phenomenon in developing countries was attributed to urbanization and globalization (Grosshans, Loeber, & Kiefer, 2011; Wiklund et al., 2011). The rapid spread of urbanization and globalization in developing countries continues to introduce advanced technology and lifestyles that are not physically demanding (Aloia et al. 2013). This rapid urbanization may have promoted obesity and people being overweight. In addition, easy availability of energy-dense, fast foods in developing countries resulted to less expenditure of energy; therefore, leading to higher obesity and overweight rates (Dugas et al., 2009).

Researchers have conducted qualitative studies on obesity and people being overweight in an effort to develop obesity-reduction intervention or to show the effectiveness of such interventions. According to Oteng-Ntim et al. (2010) and Walker et al. (2010) an interview strategy in a qualitative research among obese women provided information vital in improving existing and/or developing new obesity-reduction interventions. Similarly, in Walter et al. (2011), a phenomenological approach provided

information on the perceptions that revealed study participants did not perceive obesity and people being overweight negatively. In their study, Walter et al. noted that this perception did not motivate study participants to participate in obesity and people being overweight reduction behaviors. Like Walter et al., Shoneye et al. (2011) conducted a qualitative study on obesity and people being overweight among women. Based on the study participants' beliefs, attitudes, environmental, personal, and social factors, the study's findings revealed a difference in perception of obesity and people being overweight among women of different cultural groups. The difference in perceptions further supported the notion that a phenomenological approach in a qualitative study provided a subjective conceptualization of the world even among individuals within similar surroundings (Wiklund, Olsen, & Willen, 2011). In Chapter 3, I discuss further the rationale for selecting the phenomenological qualitative approach for this study.

Summary

A phenomenological qualitative approach to study obesity and people being overweight may yield a wide array of information. Each participant has different life experiences, beliefs, and attitudes that influence personal perception of the world. To analyze, make sense, and attach meaning to large amount of raw data obtained from participants' responses, researchers would normally assign themes. Themes enable researchers to link different participants' experiences into ideas that categorize and assign meaning to the raw data.

Several themes were inherent during the process of reviewing literature for this study. Some major emergent themes noted during the process of reviewing literature included:

- knowledge of and understanding of obesity and people being overweight
- health consequences
- social, personal, and environmental influences
- body mass and self-concept
- motivation to lose, gain and/or maintain weight
- conformity; physical activity
- attitudes to be physically active
- attitudes to food
- food availability
- amount and type of food intake
- knowledge of healthy and/or unhealthy food

Obesity and people being overweight is a global health concern, which continues to influence both developed and developing countries. Many prior studies on obesity and people being overweight have applied the qualitative phenomenological approach for better understand the phenomenon. Some of these prior studies were conducted with a goal to understand obesity and people being overweight from the participants' perspective; others attempted to examine the impact of obesity and people being overweight on existing interventions; while others were conducted with a goal to develop new interventions.

Qualitative phenomenological approach gains insight into participants' experiences with the goal to understand their viewpoint of the world. Individual perception of various phenomena is influenced by personal, behavioral, and environmental factors; all which determine behavior. These factors interplay differently among individual leading to subjective viewpoints on the obesity and people being overweight phenomenon. Several of the previously conducted obesity and people being overweight studies generated findings that were not generalizable due to the subjectivity nature of the results. Due to lack of generalizability of their study findings, researchers recommended future larger studies in order to identify additional factors that may not have been covered in previous studies.

Conclusion

Many researchers who conducted studies on obesity and people being overweight in African countries focused mainly on urban areas. There is scant obesity-related literature available that focuses on rural dwellers in African countries such as Kenya. I used my study's findings to provide information that could help bridge the existing knowledge gap. I provided information on the study participants' knowledge on obesity and people being overweight, way of life, beliefs, and attitudes. I used exploration in an attempt to understand how these factors influenced the increasing obesity and people being overweight rates among women in the region.

Study participants' beliefs, attitudes, perceptions, and knowledge on obesity were discussed through in-depth individual interviews. In Chapter 3, I present details on the qualitative phenomenological approach and the rationale for choosing it. The qualitative

study design and approach is discussed in relation to the study's research questions, indicating their relevance to the obesity phenomenon. In Chapter 3, I also discuss the researcher's role, including any biases and ethical issues that may arise. I present the study's methodology, such as criteria used for selecting the study sample, recruitment strategies, and sample size. Data collection tools, issues of trustworthiness that may arise and any ethical procedures, including documents approved by the Institutional Review Board (IRB) is discussed and presented in detail in Chapter 3.

Chapter 3: Research Method

Introduction

Many developed and developing countries continue to experience increasing obesity rates among their populations (Christensen et al., 2008). Many developing countries, already dealing with infectious disease concerns, are now faced with the challenge of obesity and obesity-related health problems (Mayega et al., 2012). Kenya, a developing country in Africa, is not an exception to this growing trend in health problems related to chronic disease risk factors. Available literature on obesity in Kenya was primarily among urban dwellers. This study was conducted among women residing in Subukia, a rural town in Kenya. The purpose of my study was to explore knowledge about obesity among the study population and to understand how lifestyle, beliefs, and perceptions influenced obesity in this community. My study's findings add to the existing knowledge base about obesity and its effect on women residing in rural Kenya.

As an introduction in this chapter, I state the study's purpose, followed by the research design and rationale. Additionally, under the research design and rationale subtopic, I further explore the research questions, phenomenon of study, research approach, and methods. For the role of the researcher subtopic, I present discussions such as relationships that may exist between the researcher and study participants, the researcher's biases and how they were handled, including ethical issues that influenced the study. Under the methodology subtopic, I present various discussions detailing the study including a description of the study population and criteria used in the study's sample selection. I also include instrumentation, procedures for recruitment, and data

collection. Additionally, data collection methods and data analysis are discussed. Under the issues of trustworthiness subtopic, I explore factors regarding validity and reliability issues, credibility, transferability, dependability, confirmability, and other relevant issues that arose from the study's findings. In the next section, still under the issues of trustworthiness subtopic, I discuss ethical issues, such as gaining access to participants, receiving consent to interview them, appropriate treatment of study participants, institutional IRB approvals, and concerns related to the recruitment of participants and materials involved in data collection. Additionally, a discussion on how data were handled, including anonymity, confidentiality, conflict of interest, and use of incentives among other applicable ethical issues is also provided.

Research Design and Rationale

Using a qualitative phenomenological approach, the study's interview questions were exploratory in nature in an attempt to obtain as detailed information as possible. In addition to being exploratory, in-depth interview questions were designed to answer the study's main research questions. The study research questions were:

1. How knowledgeable are adult women in rural Kenya regarding obesity or being overweight and associated health risks?
2. What are the perceptions of adult women in rural Kenya related to obesity or being overweight?
3. How do lifestyle and daily activities of adult women living in rural Kenya affect their health behaviors related to obesity?

4. How do beliefs of adult women living in rural Kenya affect their health behaviors related to obesity?

Research questions for this study were derived from the SCT. Research questions were structured to inquire about participants' level of knowledge and perception on obesity and people being overweight. The research questions were structured to help obtain as much information as necessary.

I used a qualitative design and a phenomenological approach for this study. A review of literature revealed that several studies on obesity and people being overweight had used a similar approach. Researchers such as Hernandez-Hons and Woolley, (2012); Hindle and Carpenter, (2011); Isma et al., (2012) and Wiklund et al. (2010) among others used the qualitative phenomenological approach for their studies. A phenomenological approach provided a detailed understanding of the meaning people attached to their lives, their surroundings, and their lived experiences (Hindle & Carpenter, 2011). A phenomenological approach also provided an in-depth understanding of an individual's subjective perspective of the world (Montgomery et al., 2011). As revealed in studies conducted by these researchers, a phenomenological approach was suitable for this study because it was exploratory and provided a descriptive meaning specific to individual behavior in relation to obesity and people being overweight (Hernandez-Hons & Woolley, 2012; Hindle & Carpenter, 2011; Isma et al., 2012; Lorentzen, Dyeremose, & Larsen, 2012; Wiklund et al., 2010).

One strength of the phenomenological qualitative approach was that it provided researchers with varied perceptions of obesity among study participants. Findings

obtained from this kind of subjective conceptualization of the obesity and people being overweight phenomenon maybe used to develop new or improve existing obesity-prevention interventions (Hindle & Carpenter, 2011; Isma et al., 2012; Walker et al., 2010). Second, findings obtained from phenomenological qualitative approach had the potential for transferability to other individuals in similar situations (Isma et al., 2012). This potential for transferability means that women residing in other similar rural areas of Kenya could benefit from this study's findings in regards to obesity-prevention strategies.

While phenomenological qualitative approach generated rich descriptive data of individual's perceptions of obesity and people being overweight, several researchers have reported some limitations to the approach. First, since information obtained was based on individual's perceptions, beliefs, knowledge, and personal experiences, study findings may not be generalized to a larger whole (Bodiba et al. 2008; Hernandez-Hons & Woolley, 2012; McVittie et al., 2008; Merrill & Grassley, 2008). The lack of generalization meant that although study participants were all residents of rural Subukia, their opinions and perceptions of obesity and people being overweight might not be representative of all the women residing within the same region. In an attempt to overcome this limitation, most researchers made recommendations for future larger studies with higher representation of individuals (Bodiba et al., 2008; Hernandez-Hons & Woolley, 2012; McVittie et al., 2008; Merrill & Grassley, 2008).

Second, several researchers indicated that small-sized sample studies could generate biased information from biased recruiting (Ledyard & Morrison, 2008; Merrill & Grassley, 2008; Perry, Hickson, & Thomas, 2011). According to these researchers,

individuals who were aware and conscious of obesity and obesity-related consequences might be more willing to participate in the study than individuals with less knowledge on the topic may. To address this problem, researchers recommended larger and more inclusive future studies.

A third weakness of the phenomenological qualitative approach was authenticity of the study findings (Bradway et al., 2010; Hernandez-Hons & Woolley, 2012). Although study participants discussed their experiences from their point of view, researchers may interpret the information obtained differently, based on their (researcher's) personal influences (Bradway et al., 2010; Hernandez-Hons & Woolley, 2012; Lawson & Wardle, 2013). In an attempt to address this weakness, these researchers recommended future larger studies with possible development of a hypothesis on the phenomenon. Larger and more participant diverse studies might not only generate authentic data, but might also help produce credible data as well.

In many obesity research studies, several factors had been emphasized upon as key concepts of the topic. The phenomenological qualitative approach was widely applied by many researchers in an attempt to understand obesity and people being overweight from participants. In their studies, most researchers indicated they chose a phenomenological qualitative approach because they needed to gain entry into the participant's view of obesity. In addition, researchers showed how participant's surroundings and social and personal factors intertwined with each other towards either increasing or reducing obesity rates within a specified region (Jensen et al., 2013; Lawson & Wardle, 2013; Ludwig, Cox, & Ellahi, 2010).

While a phenomenological approach allowed researchers into participants' personal view of the obesity phenomenon, researchers might misinterpret this information (Bradway et al., 2010; Hernandez-Hons & Woolley, 2012; Lawson & Wardle, 2013; Wertz et al., 2011). A researcher's experiences and biases may influence and skew study findings (Bradway et al., 2010; Buxton & Snethen, (2013). Presenting skewed study findings is controversial as it could be misleading to others.

Many researchers found a phenomenological qualitative approach suitable for their obesity-related studies. While findings based on personal experiences provided insights and understanding into individuals' behavior, these findings might not be generalized to others in similar situations (Bodiba et al. 2008; Hernandez-Hons & Woolley, 2012; McVittie et al., 2008; Merrill & Grassley, 2008). Therefore, despite its limitations, phenomenological qualitative approach was the most appropriate for the purpose of this study.

Role of the Researcher

A phenomenological approach explores study participants' way of life from their point of view (Hindle & Carpenter, 2011). To understand the world from a participant's perspective, the researcher, as an observer, needs to gain access into the individuals' lived experiences, beliefs, perceptions, and attitudes (Montgomery et al., 2011). For this study, I was the observer. As an observer, I tried to understand meanings individuals attached to the world around them in relation to obesity and people being overweight (Hindle & Carpenter, 2011). Since a phenomenological approach is descriptive and exploratory, I

could observe and learn how individuals in the same community viewed the world differently, bringing out the individuality aspect among them (Wiklund, 2010).

A phenomenological approach enabled me to have a look inside participants' life from the respondents' perspective (Montgomery et al., 2011). I observed and interviewed participants in their natural setting in an attempt to understand their behaviors from their point of view (Bodiba et al., 2008). I, as an observer, attempted to understand participants' obesity-related behavior as an insider rather than an outsider (Bodiba et al., 2008).

I strived to develop a personal relationship, as an insider, in order to obtain accurate and relevant information (Rawlings et al., 2013). Such information is important since it revealed how individuals within the same community perceived the world in a different or similar manner based on their perception of the world around them (Rawlings et al., 2013). Developing a personal relationship with participants afforded me access to individual's inner meanings without interpreting or being judgmental (Ernersson et al., 2010). Differences in perception among individuals enabled me, as an insider, to understand participants' broad and complex life meanings and their influence on behavior (Montgomery et al., 2011).

Information obtained from a phenomenological approach described what individuals perceived as reality from their understanding of the world around them (Ashcraft, 2013). In a phenomenological study, the researcher establishes a personal relationship with participants giving them a chance to voice what is generally only inferred (Ledyard & Morrison, 2008). For better understanding of information obtained

from participants, a researcher may use his or her personal experiences and perceptions to interpret and explain some of the statements from participants (Hernandez-Hons &Woolley, 2012). To manage this potential bias, a researcher may need to reevaluate his or her experiences thoroughly prior to analyzing information obtained from participants (Ernersson et al., 2010).

While using the phenomenological approach, researchers need to identify and be aware of personal biases from participants (Wang, Kontos, Holliday, & Fernie, 2011). Participants may develop biases based on the researcher's gender, age, religion, race, education level, language, marital status, and/or socioeconomic status among other factors (Wang et al., 2011). For example, female participants being interviewed by a female researcher about obesity may fail to be honest based on their perception of the researcher (Hannah & Carpenter-Song, 2013). If participants perceived the researcher as fit based on a smaller body size, obese participants may feel judged and may not be honest about their lifestyles, eating habits, and physical activities (Hannah & Carpenter-Song, 2013). If participants perceived the researcher as obese based on their (researcher's) body size, participants may feel uneasy discussing unhealthy lifestyles to avoid hurting the researcher's feelings (Hannah & Carpenter-Song, 2013). Researchers may overcome such personal biases by emphasizing the importance of participants' responses and reassuring them that their opinions will be respected with no negative judgment or criticisms (Snelgrove, 2014).

While undertaking this research, I assumed my study participants would provide detailed, thorough, and honest feedback based on their lived experienced. However, my

study participants might have developed personal biases against me as a female researcher (Polit and Beck, 2008). Participants might have been judgmental of my body size and general appearance as a fellow female, which might have influenced their responses. Participants might also have formed biases based on my education level, age, and the fact that I did not reside in rural Kenya. To overcome this form of participant biases, I established trust by assuring participants that their honest feedback was important to the study's findings (Shedlin, Decena, Mangadu, & Martinez, 2011). I assured this trust by explaining the study's objectives and describing the processes involved such as audiotaping of responses. Secondly, I emphasized the anonymity and confidentiality of their responses. I avoided interrupting them as they spoke so they did not feel rushed (Shedlin, Decena, Mangadu, & Martinez, 2011). I believed these measures promoted honesty and possibly lessened the possibility of personal biases against me as a female researcher.

Researchers using the phenomenological approach develop themes and codes, which are vital in analyzing obtained data (Bodiba et al., 2008). Selected themes and codes are a researcher's interpretation of the data, and, may not reflect the true meaning as intended by the participants (Hernandez-Hons & Woolley, 2012). For this study, the ethical issue was addressed by regular revisions of emerging themes, which ensured participants' diverse life experiences were accurately presented (McVittie et al., 2008).

Methodology

Participant selection

I conducted the study in Subukia, a rural region located in the Rift Valley Province of Kenya. I selected eligible study participants from a local church in the region. Eligible participants must have lived in the Subukia region for the last 5 years consecutively from the current year of selection. Participants who had lived within the area for at least 5 continuous years might have a better understanding of the culture and might have been better adapted to the social environment (Bhojani et al., 2013). Eligible participants were females within the ages of 20 to 45. This age group was selected because women within this age group were categorized as the reproductive and adult age (WHO, 2013). According to Gunderson et al. (2009), women between the ages of 20 to 45 experienced an increased rate of metabolic syndrome due to postpartum weight retention.

Recruitment

I recruited eligible participants for this study. Since this was a qualitative study, using the phenomenological approach, I strived to obtain descriptive data detailing participants' lived experiences. Purposive selection of the study sample was used to include a variety of ages (within the specified age range), height, weight, educational backgrounds (as specified for the study), marital status, and economic status. A sample of 5 to 25 participants was deemed as appropriate for this study since the goal was to gain an in-depth understanding of lived experiences, perceptions, and meanings people attached to their world (Hindle & Carpenter, 2011).

A small sample size was appropriate for a phenomenological approach, as it might have helped reduce redundancy of obtained information (Hernandez-Hons & Woolley, 2012). A review of literature revealed that most phenomenological studies reached a point of theoretical saturation with small sample sizes of up to 20 participants (Byers & France, 2008; Doherty, 2010; Ramara, Maputle, & Lekhuleni, 2010). The point of theoretical saturation was reached when interviews failed to yield new information or data and themes (Byers & France, 2008). Once participants' seemed to reiterate what had already been discussed during earlier interviews, then the saturation point had been achieved and interviewing additional participants would be futile (Dias, Falcao de Oliveira, Turato, & Moralez de Figueiredo, 2013). Several researchers have used the saturation point to determine the size of their sample size (Dias et al., 2013; Emami, Wootton, Galarneau, & Bedos, 2014).

A phenomenological approach strives to explore and understand individual's way of life and shared yet individual lived experiences from their point of view (Bhojani et al., 2013). To capture complex lived experiences, study participants were recruited from a local Subukia church by use of purposive sampling. To gain access to church members for recruitment into the study, I contacted the church's pastor to discuss the study's subject matter and intentions of seeking participants from church members. I asked the pastor to sign a letter of agreement showing permission to recruit participants from the church. An original copy of the signed agreement was given to the pastor, and I kept a copy of the letter (see Appendix A). Once the pastor granted permission, the process of participant recruitment commenced.

Study recruitment fliers (see Appendix B) were distributed to church members as they walked in for the weekly services. Study recruitment fliers were also posted on the church's bulletin board. I requested the pastor for some time to read the recruitment flier to church members during the service announcement session. Willing participants were asked to come to the church hall after the service for eligibility screening. Once willing participants showed up at the church hall after the service, I read the screening questionnaire (see Appendix C) to ensure eligibility. They were encouraged to ask questions to ensure they understood the study. Participants recruited for the study were verbally notified of the interview venue, day, and time prior to the interview. They were provided with researchers' telephone number to call in case of questions about the study.

Instrumentation

I used semistructured interviews for data gathering, and these interviews were conducted in English. Participants must have had an understanding and comprehension of the English language. Subjects who had completed the Kenya Certificate of Primary Education were considered as having satisfactory understanding and comprehension of the English language. A more detail discussion of instrumentation is presented in the following section.

Data Collection

Individual in-depth interviews were conducted with each of the participants as a means to obtain detailed study information. The interview was semistructured and contained open-ended questions (see Appendix D). A semistructured interview was ideal for this study because it allowed for clarification, additional probing, and allowed

participants to narrate their lived experiences freely in their words (Christiansen, Borge, & Fagermoen, 2012). An open-ended interview encouraged participants to voice their lived experiences, feelings, thoughts, beliefs, and perceptions regarding obesity and people being overweight (Wertz et al., 2011). This kind of detailed, rich data were vital to me as it assisted in developing themes and also helped identify when data saturation had been achieved (Engstrom et al., 2011).

Interview responses were recorded on transcripts that used numeric values instead of names to identify participants as a way of ensuring anonymity. In addition to verbatim transcripts, audiotaping was also used for data. Audiotaping was used for comparison and clarity of interview responses to ensure accuracy of the transcripts (Geraci, Brunt, & Marihart, 2014). I developed the interview questions, which I based on four study concepts: knowledge, perceptions, daily activities, and beliefs. Interview questions were developed in a fashion that encouraged participants to discuss obesity and people being overweight in relation to these four study concepts.

The semistructured interview data collection instrument for this study was developed based on formats used in prior similar studies. Researchers such as Heather, Stuckey, Kraschnewski, Miller-Day, and Lehman (2011); Tovar et al. (2010) and Turner, Julian, Salisbury, and Salisbury (2009), developed semistructured interviews based on topic guides that would encourage exploratory and descriptive responses from participants. Since the semistructured interview had open-ended questions, participants were encouraged to discuss and elaborate on their lived experiences, beliefs, and perceptions regarding obesity and people being overweight. I designed questions to probe

and elicit rich, detailed data from participants. During these detailed narrations by participants, I identified and added any new-emerging themes.

Identifying and adding new themes as they emerged during the interview was used as a way to establish content validity (Spence et al., 2013). Second, I checked, identified, and clarified perceptions, beliefs, and knowledge and separated them from participants' worldview. Identifying personal biases helped avoid biased interpretation of obtained data and promoted data validity (Spence et al., 2013). Third, I used triangulation to ensure data validity and sufficiency of the data collection method (Hankemeier & Van Lunen, 2013). Triangulation was achieved through participant checking by thoroughly reviewing and analyzing transcribed and audiotaping data for clarity. Prior to the start of the interview session, while being audiotaped, I read the informed consent to each participant, and they were asked to state verbally whether they understood, agreed, and willing to participate. This emphasis ensured that all participants understood their participation rights as required by the Office of Research Ethic and Compliance (IRB) at Walden University (2014).

The interview sessions were conducted between 8 am to 6 pm every day and each session lasted about 60 minutes. Participants were asked to choose time slots convenient for them in an attempt to encourage participation. In addition to jotting down participant's responses as accurately as possible, responses were also audio-recorded for clarity. I used response probes to elicit detailed, rich data from participants (Dalen, Nakitende, & Musisi, 2009).

To ensure detailed information, participants were not interrupted as they responded to the interview questions except when seeking clarification if it was necessary (Harner, Hentz, & Evangelista, 2011). I used audiotaped and transcribed data for participant checking after the completion of the interview sessions. Participant checking was used to verify data against researcher's potential bias, and ensured trustworthiness, accuracy, and validity of the information obtained (Hankemeier & Van Lunen, 2011; Jones, Ingham, Cram, Dean, & Davies, 2013; Mazerolle, Pitney, Casa, & Pagnotta 2011).

Follow-up

I had planned to make follow up recruitment, in case some of the recruited participants decided to drop off from participation or in case data saturation was not achieved from the ones recruited. In that case, an announcement for additional volunteers would have been made through the church's notice board and weekly service. Follow up recruitment would have been discontinued once data saturation had been met following interviewing the recruited participants. Fortunately, participants initially recruited for the study were sufficient for data saturation. Therefore, a follow up recruitment was not necessary for this study.

Data Analysis Plan

Audiotaped data were compared to the written responses taken during the interview sessions to ensure accuracy and validity of the data (Arabac & Ozsoy, 2013). Once data accuracy was addressed, information was imported to the Nvivo10 software for analysis. Nvivo10 is qualitative data analysis software that enabled me make sense of descriptive data by categorizing common terms, ideas and concepts into codes and

themes for analysis (Arabac & Ozsoy, 2013; Bowen et al., 2013; Spence et al., 2013). Since the interview questions were generated from one or more of the study's research questions, participant's responses were checked against the research questions for relevance. Participant's responses were not only analyzed on how well they fit into the interview questions, but also on their relevance towards a specific research question/s. This checking was especially important to generate key themes and patterns emerging from these responses (Walcott, Hatcher, Kwena, & Turan, 2013).

I used open coding to generate as many codes as possible by reading each transcript sentence-by-sentence (Ryan & MacKenna, 2013). I read each transcript repeatedly to identify common terms and ideas, which I categorized into codes (Spence et al., 2013). I grouped the codes together. With the use of an exploratory approach, I analyzed the codes for emerging themes. Data related to each theme was repeatedly reviewed to identify and eliminate the possibility of information overlap or repetition (Bowen et al., 2013; Spence et al., 2013). New themes continued to be generated until all including the discrepant responses fell into a theme and/or when saturation had been achieved.

Issues of Trustworthiness

Throughout this study, various measures were incorporated to ensure data authenticity in an attempt to establish trustworthiness. These measures included credibility, transferability, dependability, and confirmability. Credibility, as a determinant of trustworthiness, was incorporated into this study (Forbes et al., 2013). Credibility is the extent to which study findings are considered believable, sufficient, and accurate by

others (Asprey et al., 2013; Black, Palombaro, & Dole, 2013). For this study, credibility was established through probing participants for clarity, and through participant checking from audiotaped and transcribed data (Black et al., 2013, Forbes et al., 2013; Mazerolle & Dodge, 2012; Pitney et al., 2011).

Reflexivity, which refers to a situation where a researcher checks their personal biases, opinions, and roles and makes them known, was used to establish credibility (Black et al., 2013; Jones, Steeves, Ropka, & Hollen, 2013). Likewise, I wrote personal thoughts, opinions, perceptions, and knowledge on obesity as a means of identifying personal biases and knowledge about obesity. I read this list regularly while interpreting participant's responses to check against incorporating personal biases into these findings. Saturation was also used as a measure of credibility.

Saturation of data is reached when a researcher determines that interviewing additional participants would not yield any new information from what has already been provided by previously interviewed participants (De Santis, Florom-Smith, Vermeesch, Barroso, & DeLeon, 2013; Evans, Catapano, Brooks, Goldstein, & Avendano, 2012; Thai, Walter, Eng, & Smith, 2013). The researcher makes that determination when no new themes are being identified from additional participants' responses (De Santis et al., 2013; Evans et al., 2012; Thai et al., 2013). Data saturation verifies credibility since it ensures ideas and topics of interest obtained from participants are represented accordingly (Fernandez-Gerlinger, Bernard, & Saint-Lary, 2013; McPhail, Dunstan, Canning, & Haines, 2012; Mueller, Schuster, Strob, & Grill, 2012). A review of several qualitative studies revealed that data saturation was reached after interviewing 5 to 25

participants (Cowan et al., 2013; Dias et al., 2013; Fernandez-Gerlinger et al., 2013; Kikukawa et al., 2013; McPhail et al., 2012, Mueller et al., 2012; Ruijs et al., 2012). Based on previously conducted qualitative studies, I recruited participants whose interview responses were repeatedly reviewed for new themes. While this review was an ongoing assessment during the data collection process, once there were no more new emerging themes identified, I made a determination that data saturation had been achieved.

Transferability is a second determinant that was used in this study to establish trustworthiness. Transferability occurs when study findings may be applicable to populations in other similar settings (MacNaughton, Chreim, & Bourgeault, 2013). Rich, thick, detailed data enhanced transferability (Black et al., 2013). Obtaining rich, thick, detailed data provides an understanding of study participants therefore affording one a basis for comparison with other populations in similar contexts or settings (Rossow & Norstrom, 2012). In addition, purposive sampling, as used for this study, allowed me to select participants that met the study's eligibility criteria, but yet with varied characteristics (Abramsky et al., 2012). Participants with varied characteristics provided varied data, which enhanced transferability to other populations (Abramsky et al., 2012). Varied experiences resulted in more themes, which may allow for greater comparisons with other populations in similar experiences and characteristics (Abramsky et al., 2012).

A third determinant that was used to establish trustworthiness for this study was dependability. Dependability refers to data stability; in other words, it is the providing of assurance that should the study be repeated by a different researcher on the same

participants within the same exact environment, this study's findings would be replicated (Houghton, Casey, Shaw, & Murphy, 2013; Ramara et al., 2010). For this study, dependability was achieved through an audit trail. An audit trail was achieved by ensuring that each step of this study was documented clearly and detailed information about each step of the process was provided (Houghton et al., 2013; Ramara et al., 2010).

Confirmability, the fourth determinant of trustworthiness, refers to neutrality of study findings (Thomas & Irwin, 2009). Reflexivity, as discussed earlier, is a measure of checking against the researcher's subjectivity (Black et al., 2013, Jones et al., 2013). Reflexivity as a measure of confirmability was used to ensure that the study's findings were true reflections of participant's responses and not influenced by the researcher's bias (Warden, Mayers, & Kathard, 2008). Reflexivity was achieved by checking against the researcher's subjective predispositions and thoroughly scrutinizing them throughout the study.

Ethical Procedures

Prior to collecting data from participants, I submitted an application to Walden University Institutional review board (IRB) requesting approval to conduct the study. Additionally, training on Human Research Protections was completed, and a certificate of completion submitted to the IRB (see Appendix E). Once approval from the IRB was obtained, I proceeded with data collection. As discussed in the section above, study participants were recruited from a local church in Subukia. I discussed the study with the pastor and asked for permission to recruit from the church, including using the church

hall for the interview sessions. Once permission to recruit was granted, and study sample selected, participants were informed of their participation rights through an informed consent. They were informed that their responses would be audiotaped. The informed consent was structured to provide sufficient information about the study, which ensured that participants fully understood the study's subject matter and agreed to participate willingly with no any form of coercion whatsoever (Kelly, 2008). They were informed that their participation was voluntary and that they could withdraw from participation at any time. Participants were also informed that they had the right to skip questions they did not feel comfortable answering.

With the audio- recorder turned on, I read the informed consent form to participants. Once participants verbalized understanding, they were asked whether they agreed to participate by stating 'yes' if they agreed or 'no' if they did not agree. Participants were encouraged to ask questions in case they did not understand the informed consent or the interview questions. Participants were reminded their right to withdraw from the study at any given time even after giving their verbal consent, without fear of being reprimanded in any way possible.

In addition to taking notes during the interview, participants were reminded that their interview responses would be audiotaped, subject to participant consent, and approval. Participants were notified that their responses would be kept confidential, and no identifying information would be used in their response transcripts. Data collected from participants were de-identified to maintain anonymity.

Participants were assigned pseudonyms (P1, P2, etc.) to protect their identity and privacy. Participant screening, recruitment, and interviewing was conducted at the church's hall, which was located behind the church building. Participants were allocated different time slots to ensure only one participant at a time in the hall, to promote privacy. There was at least a 10-minute gap between each time slot, which ensured participants, did not run into each other. To observe additional privacy, participants entered the hall through the front door, and exited from the back door upon completion of the interview session.

Written copies of notes and transcripts and audiotaped data were stored in a secure locked cabinet in my home office. This data will be stored for 5years, and then destroyed per the University's policies. As a gesture of gratitude, participants were provided with snacks and drinks after the interview session. This gesture was not considered an incentive to participate and was not mentioned to participants prior to the interview.

Summary

This chapter began with an introduction to the study and the processes involved in conducting the study. By using a qualitative phenomenological approach, the chapter explored lived experiences of women residing in rural Kenya in an attempt to understand obesity and people being overweight from their point of view. In this chapter, research questions were discussed, while highlighting the key concepts of the study and the rationale for choosing the research methodology. Additionally, I identified, defined, and discussed the role of the researcher and possible researcher biases and ethical concerns

that arose during the research process. The study population, methodology, the criteria used for selecting participants, eligibility criteria used of the study, recruitment process, sample size, and saturation were discussed in detail. I also discussed instrumentation including data collection instruments and the rationale for choosing the instrument, including data sufficiency and relevance to the study topic.

In Chapter 4, I provide a detailed discussion on data analysis, including how Nvivo 10, a qualitative data analysis tool, was used to develop codes and key themes useful in analyzing descriptive and exploratory data. Issues of trustworthiness discussed in this chapter include credibility, transferability, dependability, and confirmability. I conclude the chapter by discussing ethical procedures, including adhering and following IRB and University's rules and standards that ensured proper and fair treatment of participants. This discussion includes ensuring that participants understood the study's subject matter and participated willingly with no fear of negative consequences or harm. In this section, I also discuss how collected data were handled, analyzed, and stored.

The discussion presented in Chapter 3 provided a systematic description of how Chapter 4 was approached. Chapter 3 discussed important factors that helped researchers get organized in preparation for one-on one interaction with participants. As summarized above, Chapter 3 discussions provided a guide for an effective transition from one stage of the research to the next. This guide ensured that expected requirements were adhered to and the research process was followed accordingly. Second, Chapter 3 was a guide to high-quality qualitative data useful in providing information on obesity and people being overweight among study participants. Information obtained was important in bridging the

knowledge gap that existed on obesity and people being overweight among women residing in rural areas of Kenya.

Chapter 4: Results

Introduction

As discussed in Chapters 1 and 2, obesity is an ongoing problem in developed countries and is a new and growing problem in developing countries (WHO, 2013). Kenya is a developing country that is faced with the emerging and growing problem of obesity (Ziraba et al, 2009). This study was conducted among women residing in Subukia, a town in rural Kenya. The purpose of this study was to understand the lifestyles, beliefs, knowledge, attitudes, and culture among women in Subukia and explore how these factors may influence growing obesity rates. Since there is scant to no literature on obesity among women in Subukia, through this study, I provided information that may be useful in bridging that existing literature gap. I developed four research questions that provide a guide towards exploring and understanding growing obesity rates among women in rural Subukia. The four research questions are outlines below.

Research Questions

1. How knowledgeable are adult women in rural Kenya regarding obesity or being overweight and associated health risks?
2. What are the perceptions of adult women in rural Kenya related to obesity or being overweight?
3. How do lifestyle and daily activities of adult women living in rural Kenya affect their health behaviors related to obesity?

4. How do beliefs of adult women living in rural Kenya affect their health behaviors related to obesity?

In this chapter, I begin by reviewing the study research questions and follow with a description of the study setting. The study setting describes various conditions, both personal and/or organizational, that may have influenced participants' experiences. In addition, I discuss whether these conditions had an impact on the study results or not. I then present a discussion on study participants' demographics and characteristics and their relevance to the study. Demographics review is followed by a discussion on data collection, which includes the number of participants selected for the study, type of data collection tool, duration of interviews, interview frequency, and place where interviews were conducted. I also describe how collected data were transcribed and recorded and any variation of data collection compared to the plan presented in Chapter 3. I provide a discussion on participants lived experiences as presented during the data collection process as well.

In this chapter, I also present a detailed discussion on data analysis, which includes how collected data were coded, categorized, and analyzed for emerging themes. I then discuss the issues of trustworthiness as presented in Chapter 3 and finally present study results. I summarize the chapter by discussing how study results helped answer my research questions as I provide a transition to Chapter 5.

Study Setting

I embarked on data collection immediately after obtaining IRB approval. Data collection started in mid-March through the last week of March 2015. My study

interviews were conducted at a local church in the Subukia region. After obtaining approval from the community representation, the church's pastor to recruit from the church, I started my recruitment efforts. Soon after announcing my study recruitment plans during one of the church's services and posting study fliers on the church's bulletin board, many women from the congregation expressed interest in participating. I was able to set up interview appointments after the first announcement in church and by the 2nd week of interviewing, I had achieved data saturation.

Since no more new data were being generated from the interviews, I discontinued the interviewing after the first eight participants. I attributed this favorable interest and willingness to participate to the fact that schools were still in session and secondly, it was past the tilling season, which normally occurs during the first 2 months of the year. With schools in session, which, in Kenya, is normally January through end of March for first term of the school year, it could mean most mothers may have had additional time on their hands. Similarly, since tilling season was over, many of the women who worked on farms may have had some extra time to spare for the study.

Demographics

Following approval from the pastor to recruit from the local church (see Appendix A) and immediately after receiving IRB approval (approval # 03-03-15-0168784), I proceeded with data collection efforts. I posted recruitment fliers on the church bulletin board a day before I made a verbal announcement in church. I made an announcement about recruiting for the study during a Sunday church service and informed the congregation that I would be available after the service at the church hall. After the

service, 13 women expressed interest in participating in my study. While at the church's hall, I conducted a screening interview (see Appendix C) to ensure eligibility based on the study's inclusion criteria. Using the screening interview guide (see Appendix C), 11 of the 13 women screened met inclusion criteria for the study. One of the women who did not meet criteria was excluded from the study because she had not completed the Kenya Certificate of Primary Education and could not read, write, or understand the English language fluently as indicated on the recruitment criteria. The other woman excluded had only lived in the Subukia region for less than a year and did not meet the 5-year Subukia residential requirement as specified on the recruitment criteria.

Data Collection

After identifying and selecting the 11 eligible participants, I checked and confirmed their availability for the study interview, which included the day and time. This information was noted down on the screening questionnaire guide. Each participant was identified as P1, P2, P3, etc. based on the order in which they arrived for the eligibility screening. Participants were reminded that on the day and time they selected for the interview, they would need to arrive at the same location – the church hall. They were also reminded that before the interview began, a consent form would be verbally read to them and that way they could reaffirm their consent to participate by responding "I do" (or "I do not" if they did not wish to participate). Participants were reminded that the interview process would be audiotaped and that I would be taking notes as they responded.

The interviewing process started in mid-March and lasted through the end of March 2015. To ensure the process went well as planned, I checked my audio recorder to make sure it was working correctly. I brought a second audio recorder as a backup, in case one failed. Upon arrival at the church hall at the scheduled times, I greeted participants and developed rapport to put the participants at ease. I informed them that the interview would be audiotaped and I would be occasionally taking notes as they responded. I also told participants that I would be verbally reading the informed consent and they would either agree or not to continue with the interview. Prior to reading the informed consent, I asked participants if they had any questions, concerns, or comments regarding the process. Once I affirmed that participants understood the process and were willing to proceed, I then turned the audio recorder on and began reading the informed consent.

Once I read the informed consent and participants verbally consented and were audio recorded, I began conducting the interview. Although their consent to participate was audio recorded, I had made some paper copies of the informed consent. I informed participants that a copy of the informed consent would be available for them to keep upon request. None of the participants requested a copy of the informed consent. I used the interview guide I had developed to help answer my research questions. The interview guide had 20 open-ended questions. The interview questions were asked in the same order for each participant with some variation on probing, depending on responses that required clarity.

Of the 11 eligible participants selected for the study and who had provided scheduled times for the interview, only eight were interviewed. Three participants failed to show up as scheduled. One participant sent her apologies through her neighbor and stated she could not make it due to a family emergency. No reasons were provided by the other two who did not show up. With participants consent, I audiotaped all the eight interview sessions and I transcribed the responses accordingly. All interviews lasted between 45 to 60 minutes. At the end of each interview, I did participant checking on some of the responses that needed clarity. None of the eight participants had any questions for me after the interview was over. The data collection process did not vary from the plan I presented in Chapter 3. Data saturation was achieved after interviewing the first six participants. At this time, I noticed that the responses were very similar to those provided by previously interviewed participants. I decided to complete interviewing all participants since they were already scheduled and confirmed.

My goal was to interview the 11 eligible participants and if data saturation was not achieved, make additional announcements during future church services. I also planned to redistribute additional recruitment fliers as a follow up plan as discussed in Chapter 3. I planned to repeat this process until data saturation was achieved. However, after conducting the first six interviews, data saturation was achieved and a follow up plan was not necessary. Audiotaped data and interview transcripts were stored in a secure locked cabinet in my home office. This information will be stored for 5 years from the date of collection and then will be destroyed per the University's policies.

Data Analysis

Once I completed interviewing study participants and data saturation was achieved, I started organizing the data in preparation for data analysis. I read each transcript at least 3 times and compared it to audiotaped data for each participant's responses each time. This review was to ensure accuracy. This also enabled me to have a better understanding of participants' view of obesity from their own life's lens. I compiled all data from the transcripts and from the audio recorder into a Microsoft Word document, which I then imported into Nvivo 10. Using Moustakas' modified van Kaam data analysis method, I was able to develop codes and identified emerging themes (Machtmes et al., 2009; Moustakas, 1994, p. 120).

Overall, Moustakas' (1994) modified van Kaam data analysis method includes seven steps which enable the researcher to identify common responses, eliminate responses that do not necessary add to the understanding of the phenomenon, and assist the researcher in coding emerging themes from invariant responses. This analysis was important to me as it not only assisted in making sense of raw data, but it also helped create a deeper meaning and understanding of participants point of view (Machtmes et al., 2009).Once I imported the data into Nvivo 10, I used the open coding approach by writing down as many relevant description words as possible. I noted down codes for individual participant's responses for each interview question. Participants were identified as P1, P2, etc. as discussed above and as noted on the interview transcripts. I identified and coded responses that best described each participant's point of view in regards to each interview question. I then grouped all similar individual participants' responses to each question

into nodes. I reviewed the nodes and the codes from individual responses and identified emerging themes. The final main themes that emerged were as follows: Research Question 1: physical attributes, behaviors, and lack of knowledge; Research Question 2: physical attributes, character, and opinions; Research Question 3: transportation, food, and physical activity; and Research Question 4: physical attributes, behaviors, and wellness.

Some of the responses were unique to participants and did not seem to fit within emerging themes. However, I did not consider these cases as discrepant because this being a phenomenological study, I expected a wide range of unique responses based on participants' subjective life experiences. As discussed in Chapter 2, a phenomenological approach is suitable for researchers who need descriptive rich data, which provides an understanding of the meanings participants attach to their day-to-day life, activities, and environment around them (McVittie et al., 2008; Montgomery et al., 2011).

Evidence of Trustworthiness

As discussed in Chapter 3, credibility is a factor that prompts the reader to consider study findings as believable and accurate (Asprey et al., 2013). During the interview process, credibility was promoted by encouraging participants to respond to the interview questions in as much detail as possible. Credibility was ensured though probing participants by using terms such as "tell me more" and using probing sounds such as "mmh, ok, and ahh." I paid attention to nonverbal cues prior to the interview and if participants appeared uncomfortable, I tried to put them at ease by establishing rapport. I achieved rapport by engaging participants in small talk regarding other factors not related

to the study topic such as weather, sports, and life events in general. This strategy seemed to work for the study participants and once rapport was established, participants appeared more comfortable.

I encouraged participants to respond in detail with minimal interruptions except for occasional probing. At the end of the interview session, I performed participant checking. I achieved this task by clarifying any ambiguous responses I identified from my notes and/or responses that I had questions on. This, in addition to the notes I took during the interview and the audiotaped information provided a means of credibility for my study.

To ensure credibility even further, I applied reflexivity as discussed in Chapter 3. Prior to conducting interviews with my study participants, I wrote a list of my thoughts, opinions, perceptions, and knowledge regarding obesity. This I did as an attempt to identify and check against personal biases that may have interfered with understanding participants' responses. While analyzing data, I read this list repeatedly to ensure that participant responses were true reflections and not my personal interpretation.

Finally, as discussed in Chapter 3, data saturation is a means of ensuring credibility because it helps verify exhaustion of ideas on the study topic, confirming participant representation in the study (Fernandez-Gerlinger et al., 2013; Mueller et al., 2012). Data saturation for this study was reached after the first six interviews. I conducted eight interviews since the participants had been scheduled and confirmed availability. Therefore, respectfully I did not want to cancel the remaining interviews. After the eight scheduled interviews, I discontinued interviewing.

In order to achieve transferability of my study findings, I used purposive sampling while recruiting participants. As discussed in Chapter 3, purposive selection of participants ensures not only eligible participants but also that a researcher has participants with varied characteristics relevant to the study (Abramsky et al., 2012). This kind of selection promotes a wide range of rich data. Rich detailed data is useful for comparison with other populations in similar settings, which may allow transferability of data (Rossow & Norstrom, 2012).

Dependability refers to the ability to replicate study findings. In other words, if another researcher were to repeat the study using the same methodology, they would end up with similar study findings (Houghton et al., 2013). As discussed in Chapter 3, dependability was ensured through an audit trail. Each step undertaken in the study process was well documented as part of the audit trail. All participants were interviewed in the same manner including the order of interview questions. This was meant to promote data stability, therefore dependability (Ramara et al., 2010).

Confirmability was observed through reflexivity. As discussed in Chapter 3, confirmability refers to study findings neutrality. I ensured neutrality by constantly checking personal opinions against true reflections of participants' responses (Black et al., 2013; Jones et al., 2013). In addition to making a list of personal factors that could have led to biases, I uploaded and analyzed collected data through Nvivo 10at least 2 times. This verified consistency in data, and ensured collected data were a true reflection of participants' responses and not influenced by my subjective opinions.

Description of the Participants

As discussed above, of the 11 women who met the study's inclusion criteria, only eight were interviewed. Although neither the screening guide nor the interview guides were designed to inquire on individual's specific age or education, general information was asked. For example, based on data obtained from the interviews, all eight participants' ages ranged between 20 and 45. They all had primary level of education or higher.

All eight participants had varying occupations, some very similar in nature as depicted on Table 1. Participant 1 (P1) described herself as farm worker; Participant 2 (P2) worked as a cook for the local school; Participant 3 (P3) was self employed on her farm; Participant 4 (P4) worked as secretary at a local government office; Participant 5 (P5) worked at the local market; Participant 6 (P6) worked at a family owned farm; Participant 7 (P7) was an employee at a local flower plantation, and Participant 8 (P8) stated she was a housewife.

Using the interview guide, participants were asked questions based on their lived experiences. Participants' responses to "Do you work for a living? : a) If yes, describe the kind of work you do" were as follows:

P1: "Yes, my neighbor is my employer. I work on his shamba (farm) all year round. He has a large shamba and I take care of the land and his animals. There is always a lot to do on his shamba (farm)."

P2: “I work at the secondary school here. I work in the kitchen cooking for schoolchildren. I make sure the children have hot food for their meal times and that the school kitchen and dining rooms are clean.”

P3: “No, I do not have a job. I have a small shamba (farm) and during the day, I spend my time taking care of my crops and my home compound. I also have a few cows, sheep, and some chicken that I take care of. I stay busy on my shamba and I do not think I would have time for a job.”

P4: “I do. I work at the local’s government office as a secretary.” I probed and asked P4 to tell me more about her job. “My job involves a lot of typing and answering phones. I spend a lot of my time working on the computer and looking thorough a lot of files. I work hard at my job which I love my job but I get very tired.”

P5: “I do not know if you would call what I do an official job but I weigh tomatoes, potatoes, and other vegetables at the local market to make sure of proper packaging. The packaged vegetables are then loaded onto lorries and transported to larger cities to be sold.”

P6: “I am not employed but I work on our family shamba (farm). I supervise shamba workers but I also work with them. It is a large shamba (farm) with both animals and crops and it needs to be worked on every day. My family supplies shamba produce to customers locally and we also have customers in the large city. I am always busy on the shamba.”

P7: “Yes, I work at the flower plantation. It is very hard work. Some days I work on the flower shamba cultivating land and weeding. Some days, I harvest flowers that are ready

for harvesting and some days I work on flower packaging. I am grateful for the job because I am able to provide for my children."

P8: "No. I stay at home with the children. I take care of our home, my children, and my little piece of shamba. My husband works at the center and so I stay home with the children and tend to our shamba. I do not have to buy vegetables from the market because I get them from my little shamba."

Table 1

Participants' Occupation

Participant	Occupation
P1	Farm worker
P2	Cooks for students at local school
P3	Self employed on own farm
P4	Secretary at local office
P5	Local market worker
P6	Self employed on family farm
P7	Flower plantation worker
P8	Housewife

Results

One of the seven steps of the Moustakas' modified van Kaam data analysis method includes identifying emerging key themes (Moustakas, 1994, p 120). Several themes emerged based on the various research questions as follows:

Table 2

Themes

Study Research Questions	Emerging Themes
Research Question 1: How knowledgeable are adult women in rural Kenya regarding being overweight or obesity and associated health risks?	1) Physical Attributes 2)Behaviors 3)Lack of Knowledge
Research Question 2: What are the perceptions of adult women in rural Kenya related to being overweight or obesity?	1)Physical Attributes 2) Character 3) Opinions
Research Question 3: How do lifestyle and daily activities of adult women living in rural Kenya affect their health behaviors related to obesity?	1) Transportation 2) Food 3) Physical Activity
Research Question 4: How do beliefs of adult women living in rural Kenya affect their health behaviors related to obesity?	1) Physical Attributes 2) Behaviors 3) Wellness

As indicated in the Moustakas' data analysis, I used the individual textural description of the interview responses to ensure I identified and exhausted emerging

themes (Moustakas, 1994, p 120). I included participant's verbatim responses to help identify key terms via coding for each of the study's research questions. Participants' verbatim responses and emerging themes per each of the study's research questions are discussed in detail below.

Research Question # 1: How knowledgeable are adult women in rural Kenya regarding being overweight or obesity and associated health risks?

The knowledge of adult women in rural Kenya regarding being overweight/obesity was assessed through their responses to the question: "What does the term obesity mean to you?" Based on the codes and themes that emerged from the data (see Figure 1), it appears as if the participants understand the concept of obesity in terms of physical attributes and behaviors; or they don't have much knowledge about obesity at all. While none of the participants provided a definition of obesity that matches medical terms (i.e., body mass index greater than or equal to 30; WHO, 2015), half correctly noted the predominant physical attribute of obesity: being "fat." Some participants noted behaviors that result from overweight/obesity: being "sick," "tired," or "lazy." The following are their verbatim responses:

P1: "Obesity means someone who is very very fat."

P3: "Being lazy, fat, and feeling sick and tired all the time."

P4: "I believe it is a disease for people with too much fat on their body."

P5: "Being so fat that you can't walk quickly and comfortably and clothes that once fit nicely, now become undersized."

A few participants incorrectly identified obesity as other diseases such as "diabetes" and "high blood pressure." Their responses were as follows:

P2: "I am not sure but I think it means having the sugar disease. That is what X's wife has and she has to inject herself with sugar medicine every day. It is a horrible disease."

P7: "People with high [blood] pressure and they end up being slow and lazy."

One participant noted one of the behaviors that might lead to obesity – eating processed and "sugary foods" – but she did not identify exactly what obesity means:

P6: "Eating foods from foreign countries such as sugar coated meats (ughh), canned food, sugary fruits in cups and packets. These foods have too many chemicals that cause obesity and cancer."

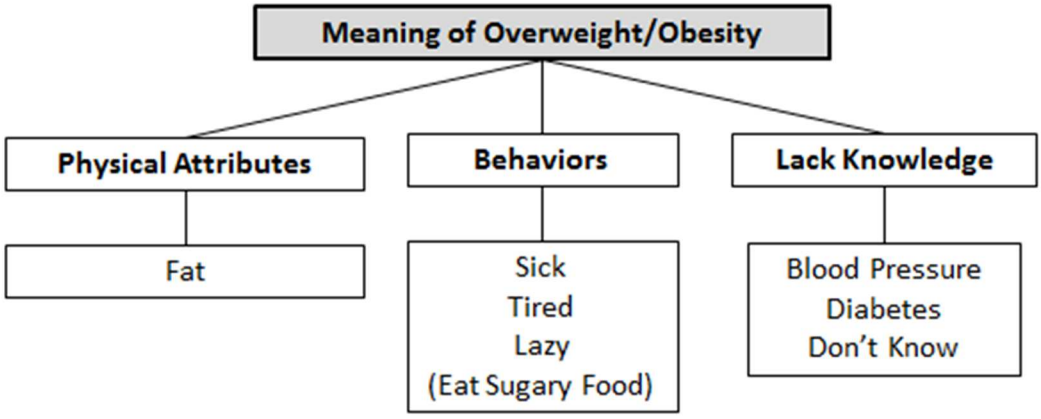
Finally, one participant admitted that she "does not know" the meaning of obesity:

P8: "I have heard people use the word obesity but I am not sure I know exactly what it means."

Based on these responses, the data indicates that only about half the sample population is knowledgeable of obesity; the other half have misconceptions about the term or total lack of knowledge. Figure 1 provides a summary of the themes, nodes, and codes related to knowledge of being overweight/obesity.

Figure 1

Themes and Codes for Research Question 1



Research Question # 2: What are the perceptions of adult women in rural Kenya related to being overweight or obesity?

Three interview questions regarding body size were used to answer Research Question 2 because the concept provided an indication of participants' awareness and perceptions of the outer, visible characteristics related to obesity. Themes that emerged from these three interview questions were (a) physical attributes; (b) character; and; (c) opinions. The first interview question that helped in answering Research Question 2 was

"What does body size mean to you?" Examples of codes derived from participant responses that fall under the theme of physical appearance were: "big/wide/round," "strong", "healthy", and "attractive." Codes that fall under the theme of character include: "happy" and "hardworking." Following are responses from participants who reported that body size is an indication of happiness:

P1: "For me, someone with a nice big round body with strong hands and legs shows a happy person."

P3: "Body size means whether one is attractive, happy, or frustrated with life."

P6: "I know if someone is confident and happy person if they have a bigger, strong body."

Following are responses from participants who reported that body size is an indication of being healthy:

P2: "When I look at a person's body size, I can tell if they are healthy and hard working or sick or lazy."

P5: "You know if a person is sick or not by their body size." [Probed for elaboration.] "A nice, medium size, round and firm body is the sign of a good life."

P7: "I think people with bigger bodies are hard working and work longer compared to the thin, sickly looking people."

The last two participants responded that body size is an indication of attractiveness or a combination of happiness, healthiness, and attractiveness:

P4: "The right size for me is being in the middle of fat and thin. This is a body size that is easy to dress up and look attractive."

P8: "Happiness and healthy. I believe people with wider, big bodies do not have diseases, are stronger, and look attractive."

It is also notable that five of the participants specified that a "big," "round," "wide," or "strong" body was the ideal size. These were codes that came up several times throughout the analysis process and will be discussed in more depth under Research Question 4.

A subsequent interview question asked participants to "describe your body size." Codes derived from participants responses were similar to the previous question and related mostly to physical attributes ("big/round/wide" and "healthy"). All eight participants indicated that they have a medium or big body size. Participants' verbatim responses are shown below:

P1: "I am between big and small. My body size is in the middle."

P2: "I have a big body. Look at all this" (laughs while pointing to her bottom and chest).

P3: "Everybody tells me I have a nice round body shape. So, to answer your question, I have a nice body."

P4: "I believe I have an attractive body size. I have a medium and healthy body size."

P5: "I may be short but my body is medium and strong."

P6: "I am a big woman. My body is wide and round."

P7: "I am tall with medium hips and chest and a small waist line."

P8: "I have been told by others that I have a beautiful, big round body."

Participants were then asked: "Tell me how you feel about your body size. Tell me why you feel this way." Examples of codes derived from participants' responses to

this interview question were: “happy,” “beautiful,” and “confident.” Most participants reported that they were pleased with their body size. Their verbatim responses are shown below:

P2: “I am satisfied with how I look. I feel respected and beautiful in my body. If I become wider than this, I will be happy with it but I do not want to become smaller than this.”

P3: “I have a nice body and I do not want to change it. I am happy with it, I am hard working and have been told by others that I am beautiful, so I would not want to change add or lose my size.”

P4: “I will be honest and say I love my body. I am not trying to praise myself but since you asked, I feel blessed that I have a beautiful body. I get a lot of attention at work from some male workers and I think it is a good sign that I am beautiful.”

P5: “I think I have a good round body that makes me feel confident in myself. If I had a choice, I would want to be just a little taller but I am happy, healthy, and confident.”

P6: “I am okay with how I look. I do not think much of my body size because I am always so busy with work. When I want to, I dress up and I think I look beautiful when I do, but I do not care much about looking good. I have a husband who loves me and that is all that matters to me.”

P7: “I am happy with my body size. I am tall with a small waist and wide bottom and chest and many of my friends tell me they wish they had a shape like mine. Men at the flower plantation always tell me how good I look but I am a married woman and I do not like that kind of talk from men. I am happy with how I look.”

P8: “I like my size and how I look. My husband loves my size too. He brings me some nice clothes and when I wear them, he tells me how beautiful I look. It is important to me that I am happy and my husband loves how I look. So I am not concerned about what other people think about how I look.”

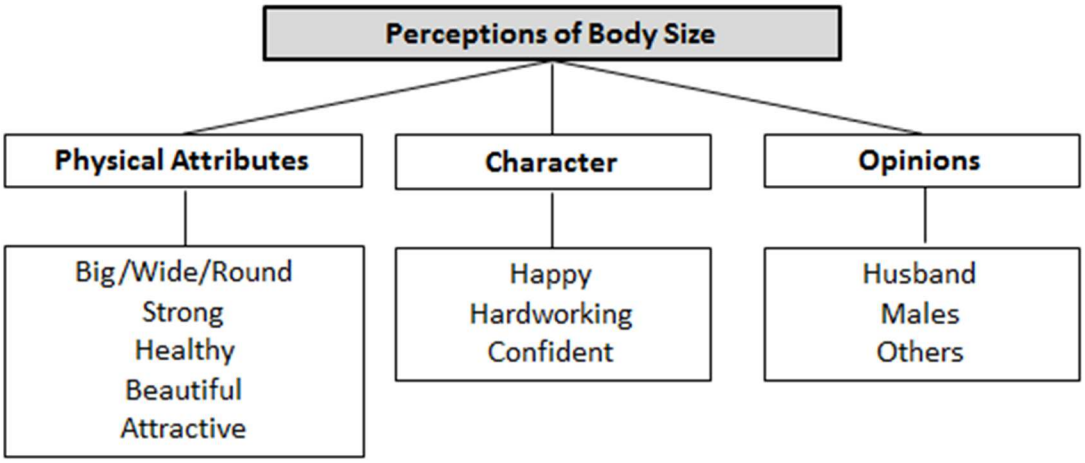
Only one participant reported that she would like to be bigger:

P1: “I would like to be just a little bigger than this so I can feel more confident in myself.”

Another theme that emerged from the data was “opinion” of body size. Several participants noted that they are happy with their body size because their husband loves the way they look. A few participants also revealed that opinions of males, friends, or others in the community form part of their perception of body size. These responses indicate that perception of body size among Kenyan women is not just formed by personal preferences, but by cultural and societal standards as well. Figure 2 illustrates the codes and themes that emerged from the data related to perceptions of body size.

Figure 2

Themes and Codes for Research Question 2



Research Question # 3: How do lifestyle and daily activities of adult women living in rural Kenya affect their health behaviors related to obesity?

Of the 20 open-ended questions on the interview guide, five interview questions were best suited to provide information regarding lifestyle and daily activities of the participants. Three themes were identified as (a) transportation; (b) food, and (c) physical activity. The first interview question that provided information that helped answer Research Question 3 was; "If you were to go to Subukia shopping center, how would you get there? Would you walk, drive; ride in public means or other means? a) Tell me why you prefer this means." Examples of codes derived from participants' responses to this

interview question were “public,” “expense,” “time,” and “nature of need.” Participants’ responses are presented below:

P1: “I always take a matatu (public transport) to the center. It drops me off right at the center and picks me up from there which is helpful when I have a lot of groceries with me.”

P2: “I go to the center by pikipiki (public motorcycle) because it is faster than a matatu and I don’t have to wait for other passengers to fill all the seats like they do in a matatu.”

P3: “I will walk to the center if I don’t need to buy a lot of things for my family. If I need to do some big shopping, I will get on the tuktuk (public transport) or borderborder (public bicycle) because it is cheaper than matatu.”

P4: “I use the matatu to get around. It is the only means I feel safe in and I get to my destination with my hair and clothes still looking nice. Haha... I like to keep myself looking good because you never know who you will run into out there.”

P5: “I take whatever is available at the time. I do not like to wait. If I need to go somewhere and I need to get there now, I prefer a tuktuk. It is cheaper and it is able to carry most of my goods back and forth. If my load is too large, I will take a matatu at that time.”

P6: “It depends on what I am going to do at the center. If I am taking some vegetables to the market for selling, I will use a matatu. But if I am going there for regular shopping and I am not in any rush; which is uncommon, I call for a pikipiki or borderborder.”

P7: “I like walking to the shopping center because it is not very far from my house. But most of the days I am very tired from working, or I come home late from work and so I

may take a tuktuk or pikipiki to the center. I don't like spending money on things I don't have to but I may pay for a tuktuk or pikipiki because they are not expensive and it gets me to the center quickly when I am tired."

P8: "I don't leave my home very often because my husband brings us what we need. When I have to leave, like taking my children to the dispensary, I will walk. If it is raining or cold and I have to go to the center, I will take a tuktuk instead of a matatu because it is cheaper."

Participants' responses indicate that their decision-making about transportation revolves mostly around cost and time. Only three participants reported that they walk to get around. Table 3 summarizes the participants' preferred means of transportation.

Table 3

Participants' Preferred Means of Transport

Means of Transport	**Number of Participants who preferred this means (n =)**	**Percentage of Participants who preferred this means (% =)**
Matatu	4	50%
Pikipiki	3	37.50%
Tuktuk	4	50%
Borderborder	2	25%
Walk	3	37.50%

The second interview question that provided an answer to Research Question 3 was "What does healthy food mean to you? a) Tell me three examples of food you think are healthy; b) How often do you eat these foods?" Examples of codes derived from participant responses to this question are "balanced diet," "no diseases/sickness," and

"strong body." Five participants responded that healthy food should help avoid sickness. Their verbatim responses follow:

P2: "I cook for the students so I should know something or two about healthy food. Healthy food makes your body strong, big and no diseases. Some of the foods I think as healthy are chicken stew chapati (flat bread), mukimo, and karanga (meat, potatoes and carrot stew). I have mukimo and karanga almost every day."

P4: "I believe it is food good for your body and protects you from becoming sick. Some of the healthy foods I can think of are chicken stew chapati, karanga, and mukimo. I may eat these foods once or twice a week."

P5: "Healthy food is food which is tasty, filling and gives you a big and strong body. Examples of healthy foods are potato and cassava mash, ugali and nyama choma (grilled meats) and mukimo. I eat mukimo more than once every week."

P6: "Healthy food means fresh from the shamba, food cooked with clean oil and not much salt and food that helps a person become stronger and not have sickness. These kinds of food are mukimo, githeri stew and karanga with chapati. I eat all these foods everyday almost."

P8: "It is good fresh food not grown with chemicals, which make people sick. Some of the healthy foods that I grow on my shamba is maize, potatoes and beans. I cook these foods everyday for my family."

Two participants' responses were about maintaining a balanced diet:

P1: "It means food that makes a balanced diet." [Probed to elaborate on "balanced diet."] "A balanced diet includes having protein, carbohydrates, and vitamins in every meal.

Three healthy foods are mukimo (potatoes, peas or beans and corn mash); githeri (corn, beans and potatoes mix) and rice with meat and vegetable stew. I eat this food at least once every week."

P7: "A balanced diet." [Probed for elaboration on "balanced diet."] "Your body needs vegetables, meat, carbohydrates and some fat with every meal. This is healthy eating and it will make you strong, will give you more energy and with no sickness. Examples of healthy food are meat, sukuma wiki, and potatoes. I don't eat meat everyday because it is expensive but I eat the other almost every day."

One participant's response was different from the others, revealing less knowledge about the importance of healthy food:

P3: "Food that makes you full and stays in your stomach for long is healthy. You can do a lot of work for a long time without feeling hungry. Three examples are githeri, ugali (corn flour mash) and sukuma wiki (kale) and mukimo. You will always find these foods in my house all the time."

The third interview question, which provided an answer to Research Question 3, was "What does unhealthy food mean to you? a) Tell me three examples of food you think is the unhealthy. b) How often do you eat these foods?" Examples of codes derived from participants' responses to this interview question were: "balanced diet," "sickness," "thin/weak," "taste/smell/looks good," and "fresh." Participants' responses are as shown below:

P1: "It is opposite of what I said about healthy food. It is food not balanced or food, which does not have protein, carbohydrates, and vitamins. Unhealthy foods are chips

(fries), ugali, and porridge. We eat porridge at my house almost every day in the morning but I do not eat chips a lot."

P2: "Unhealthy food makes you sick and looking weak, thin, and small. Three examples of unhealthy food is white porridge and.... I cannot think of any other examples. Although I cook porridge for the students' everyday in the morning, I may eat it once or twice a week."

P3: "Food that does not taste, smell or look good and makes you not want to eat it such as fish, matumbo (tripe), and blood sausage. I never ever and probably will never eat these foods ever in my life."

P4: "It is food which does not protect you from becoming sick. Three examples are white rice, ugali, and porridge. Yes, I eat all of them all the time but I eat them with something else like sukuma wiki with ugali or rice to make them healthier."

P5: "Unhealthy food is food which does not help build your body to be strong and big. It is food not cooked properly, does not taste good, and is not filling. Unhealthy food examples are rice, chips, and porridge. Maybe two times a week."

P6: "Foods that are not fresh from the shamba such as processed canned foods are not healthy and do not protect us from sickness. Unhealthy foods are canned meat, rice, and fish. Except for rice which I eat once or twice a week, I do not eat the other two."

P7: "Food that is not balanced is not healthy to me. If one of the foods that make a balanced diet is missing from your meal, your body will miss the whole protection from sickness and energy you need to be stronger. All foods if eaten alone are unhealthy for example; rice, ugali, or chapati eaten alone is unhealthy. I eat these foods every week."

P8: “Foods grown using chemicals and fertilizers are unhealthy. Even healthy foods such as maize, oranges, and potatoes grown with chemicals become unhealthy. Unless I am not aware, I do not buy foods grown with dangerous chemicals. That is why I get my food from my shamba.”

The fourth interview question that provided an answer to Research Question 3 was: “Do you have any foods you prefer to eat to other foods. a) If no, why is this? b) If yes, what makes you prefer these foods? c) How often do you eat these foods?” Examples of codes derived from participants’ response to this interview question were “taste,” “affordability,” “ease of preparation,” and “easy access.” Three of the participants’ responses to this question seemed to place an emphasis on ease of access. Participants’ responses were as shown below:

P2: “Karanga chapati is the best. I get it from a restaurant at the center maybe once or twice a week. I may cook it at home myself but the restaurant makes it so good”

P4: “I eat chips and sausage almost every day. There is a restaurant very close to my office. I usually run over there during my lunchtime and grab a quick meal of chips and sausage. It is tasty and a quick lunch.”

P7: “I do not have any one food I prefer over the other. I am not picky when it comes to food and I do eat what is available at that time. I am not sure how often I eat what I eat because I eat what is available to me at that time every day.”

Two participants’ responses indicated preference of specific food was based on taste.

P8: “I like eating chips and chicken from the center. Once or twice a week, my husband buys chips and chicken from the center. He will bring it in the evening when he comes back home from work. I love it. My children love it too. I can eat this every day.”

P5: “Yes, I prefer nyama choma and mukimo over most of the other food. It is delicious and filling. I may eat nyama choma on Saturdays or Sundays when we go out with my family but we eat mukimo at home more than once a week.”

Following are responses from two participants who indicated that their food preferences were based on ease of preparation:

P3: “I like mukimo more compared to the other foods. Mukimo is easy to cook and cheap. I cook it in bulk and family can eat this for almost a week.”

P6: “I do eat mukimo and githeri more than most of the other foods. They are easily available, cheap, easy to prepare and they are good for your body. I probably have these foods every day.”

The last participant indicated that affordability was a factor that influenced her food preferences:

P1: “No, but I like rice with beef stew because it tastes good and especially the beef stew. Beef is expensive and I cannot afford it every day, otherwise I would be eating this every day if I could.”

The fifth question used to provide an understanding of lifestyle and daily activities of the participants was “What does physical activity/exercise mean to you?” Examples of codes derived from participant’s responses are “sports/games/running,”

"hard working," and "not lazy." Five participants' responded that physical activity means sports or games:

P1: "Physical activity or exercise means running, playing soccer, basketball, volleyball, and such like games."

P2: "For me, I would say physical exercise means running and participating in games like volleyball."

P5: "It means playing active games for example soccer and running."

P6: "I believe physical exercise is what children do at school during the physical education which includes playing soccer, running, and volleyball."

P8: Physical activity and exercise means walking a lot, running and playing in active games like soccer."

The other three participants indicated that physical activity means being hard working and not lazy, which are characteristics that can be exhibited through home or farm life:

P3: "I don't know but I think I think it means doing things that make you become active." [Probed for what "things" she was referring to and what she meant by "active."] "Someone who is active works hard and is not lazy. An active person does things including working on the shamba (farm), taking care of their families, cleaning their houses and keeps their yard looking good."

P4: "Physical activity is being a hard worker and not lazy."

P7: "Physical activity for me means being active and hard working. Lazy people who do not work cannot be said to be physically active."

In relation to the question discussed above regarding physical activity or exercise, participants were asked "Do you do any physical activities or exercise? a) If yes, how often do you do this kind of activity or exercise? b) If no, why is this?" Examples of codes derived from participants responses to this question were "not young" and "hard working." Five participants mentioned that they do not exercise because it is meant for children. Their responses are presented below:

P1: "Oh no, I do not because I am not as young anymore. I used to run for the school in high school. It now time for the younger ones to take over."

P2: "I do not do any exercise. I was never good at physical education since I was a child."

P5: "No, but I encourage my children to be active for school PE (physical education)."

P6: "I am now a mother and people would think I lost my mind if they saw me running and playing volleyball. This is for children and not for mothers like me."

P8: "The only physical activity and exercise I do is walking. I do not run or play soccer since I am no longer a student. That is for school children."

The other three participants reported that they do engage in physical activity, but this may be because they perceive daily work on the farm or for the family as exercise:

P3: "I think I do. I am always busy on the shamba (farm) with the animals, cultivating the land and with my children. I always make sure my home, my shamba (farm) and family is well taken care of."

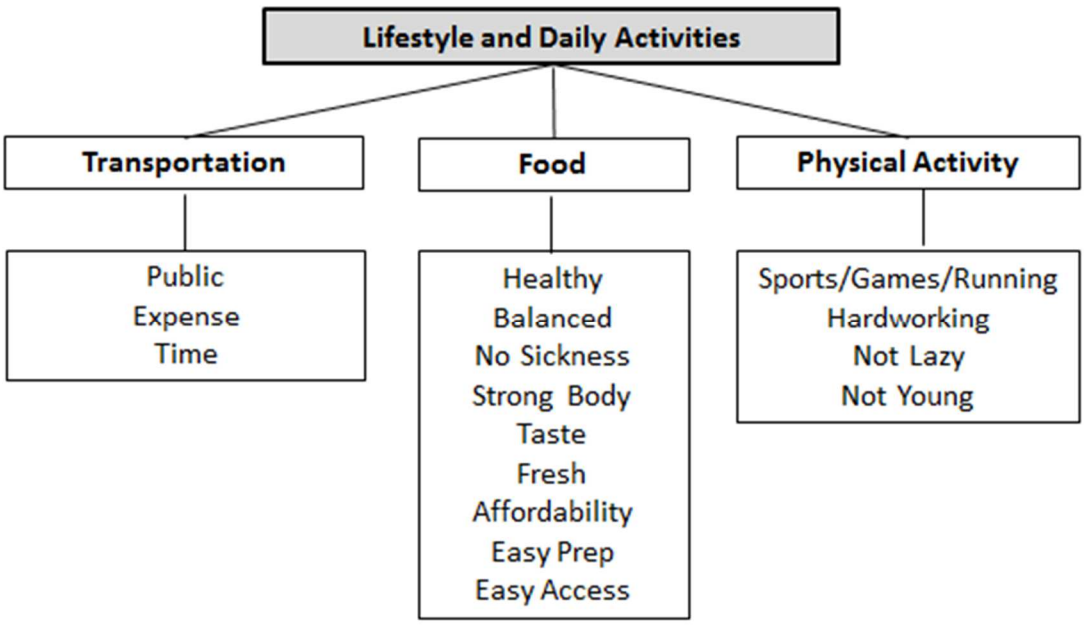
P4: Yes, I do some physical activity. I do not think I am lazy because I work so hard for my family."

P7: “I try to be physically active as much as I can. I work at the flower plantation everyday and it is very hard work.”

Overall, the interview questions regarding transportation, food, and physical activity provide a rich explanation of the participants’ lifestyle and daily activities. Themes for Research Question 3 indicate that participants’ are more concerned about convenience and affordability than about engaging in a lifestyle that would lower their risk for obesity (i.e., walking, diet high in fruits and vegetables, etc). Figure 3 provides a summary of the themes and codes related to Research Question 3. They are organized by transportation, food, and physical activity.

Figure 3

Themes and Codes for Research Question 3



Research Question # 4: How do beliefs of adult women living in rural Kenya affect their health behaviors related to obesity?

Four interview questions regarding being healthy and unhealthy were used to answer Research Question 4 because these concepts revealed the underlying beliefs of participants related to being overweight/obesity. Themes that emerged from the data from the four interview questions included: "physical attributes," "behaviors," and "wellness." When asked: "What are characteristics or attributes of a healthy woman?" the most common responses were: "big," "round," "wide," and "strong." The following are responses provided by participants that match these characteristics:

P1: "A woman with round big hips, strong hands and legs."

P2: "One with big, wide bottom and big breasts."

P3: "Nice and round looking body, glowing skin, hard working and can work on the shamba (farm) for long hours."

P4: "A woman who is not too thin and not too big."

P5: "Medium build woman who does not spend too much time in the hospital from being sick. Also, a healthy woman is one who is not on any medications and she is happy."

P6: "One with a big body, a big chest, and strong legs. A healthy woman is confident and relaxed, has a happy home, and does not run around looking for unnecessary attention."

P7: "A woman who has large breasts, wide hips and bottom, but most important is she is hard working."

P8: "Hard working woman who takes good care of her children and husband. She is strong, has a big body and has a good appetite."

It is notable that every participant identified being healthy with a "big" body, a characteristic that might be equivalent to overweight if measured more closely. Participants also reported that being "hard working," "confident," and "happy" were characteristics of a healthy woman, although these relate less to the concept of obesity. A similar interview question asked, "What does being unhealthy mean to you?" Examples of codes derived from this interview question were "sickness," "needing medication," "being thin," "inability to work," and "poor appetite." Many of the responses to this question indicated that being thin (i.e., underweight) is a side effect of being sick because of the inability to eat. In turn, being unhealthy might result in pain and the inability to work. Participants' responses were as follows:

P3:" Unhealthy means you are weak and not able to stand for a long time. An unhealthy person will vomit a lot, cannot eat much food, becomes very thin and has pain everywhere in their body."

P5: "Someone who is sick all the time has pressure (high blood pressure), sugar disease, headaches, stomach aches, vomiting and weak. They have low appetite and are too weak to work. Many unhealthy people just stay at home doing nothing and are not social."

P6: "I think it means being too worried all the time, stressed and sick. It becomes very difficult to eat well. You have a poor appetite, become thin and you end up visiting the doctor more than you work."

P7: "Being sick, have so much pain, taking many medications, going to the hospitals all the time, becoming very thin and unable to eat well. When unhealthy, you are not able to work hard."

P8: “Unhealthy means looking weak and thin. Asking other people to help with small activities because you are too weak to do it.”

The third question that helped provide answers to Research Question 4 was “Describe a healthy body size.” Five of the eight participants mentioned “strong” as healthy body size and five of the eight participants mentioned “wide/big” as being a healthy body size. Participants’ responses were as follows:

P1: “A big, fat, wide, and strong body is good and healthy.”

P2: “A healthy body size is beautiful, wide chest and big bottom.”

P3: “I believe a healthy body size is nice shiny skin, strong and big round body.”

P4: “A good body size is in between thin and big. To me that is the right size.”

P5: “A healthy body size to me means medium built with body curves, happy looking, and strong person.”

P6: “I would say a healthy body size is a big body with a big wide chest and strong legs and arms.”

P7: “Healthy body size is big large breasts, wide hips, and beautiful big bottom”.

P8: “A health body is strong and big.”

The fourth interview question that helped provide an answer to Research Question 4 was “Describe an unhealthy body size”. Examples of codes derived from participants’ response to this question were; “thin”, “small”, “weak,” and “sick”. Five of the eight participants used the word “thin”; three used the word “small”, six used the word “weak” and five used the word “sick” to describe an unhealthy body size. Participants’ responses were as shown below:

P1: “Unhealthy body size is thin and small.”

P2: “A body size that is weak and not strong.”

P3: When someone has dry skin, looks weak, is thin and sick then I would think of them as having an unhealthy body size.”

P4: “An unhealthy body size is weak and sick.”

P5: “It is a body that looks sick, weak, small, and not active.”

P6: “People with unhealthy bodies are thin, look depressed, and are weak looking.”

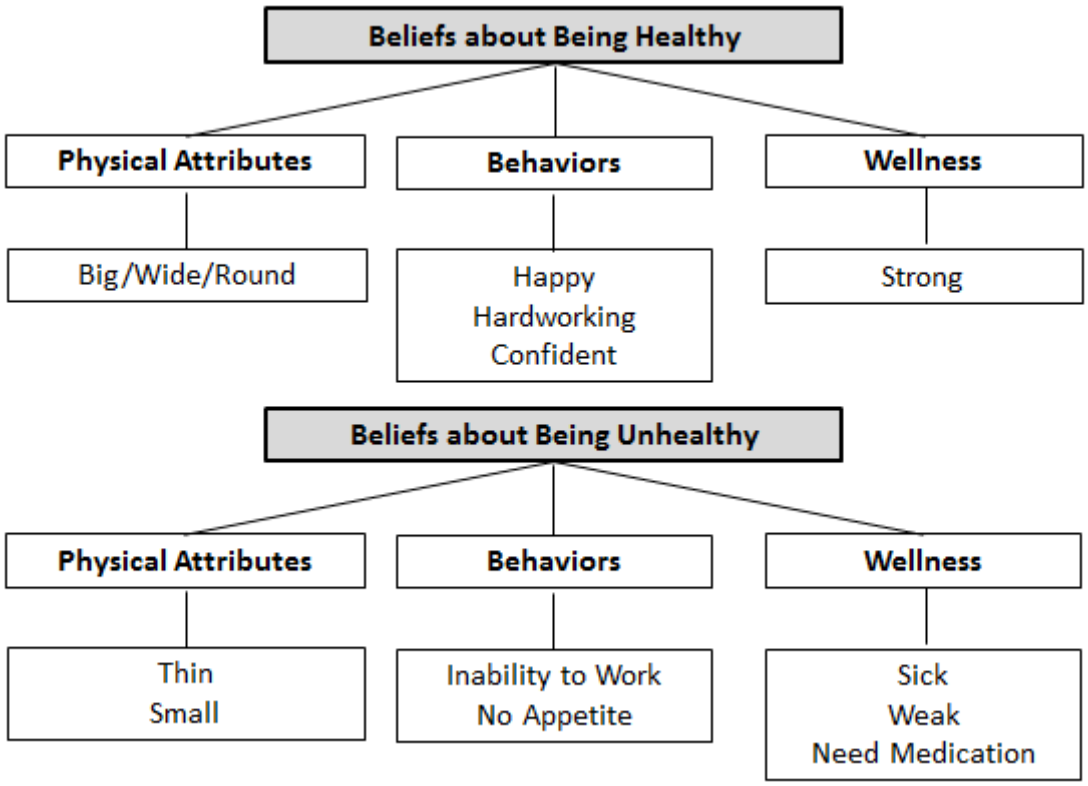
P7: “An unhealthy body to me means dirty, sick, small, and thin.”

P8: “I am not sure because people have different body sizes and it does not always mean they are sick or healthy. But I think mostly, an unhealthy body size is weak and looking very thin and sick.”

All of the responses to the four interview questions about healthy/unhealthy were very similar to those provided in Research Question 2 regarding body size. In fact, many of the codes were exactly the same. Therefore, the perceptions and beliefs of participants regarding body size and being healthy appear to be intertwined and should be considered in conjunction with each other. Figure 4 provides a summary of themes and codes that emerged from the data related to being healthy versus unhealthy.

Figure 4

Themes and Codes for Research Question 4



Summary

Participants' responses to the 20 open-ended interview questions provided answers to the four study's research questions as discussed above. After performing open coding through Nvivo 10 data analysis software, codes, and nodes were identified. These codes and nodes were developed through analysis of participants' verbatim responses as indicated in the Moustakas' modified van Kaam data analysis method. These codes and nodes were analyzed further for overall themes, which generated an understanding of

participants' life experiences. An understanding of participants' life experiences helped provide answers to the study's research questions. As shown above (see Table 2), main themes that emerged from analyzing participants' responses to the open-ended interview questions were as follows: for Research Question 1: physical attributes, behaviors, lack of knowledge; Research Question 2: physical attributes, character, and opinions; Research Question 3: transportation, food, physical activity; and Research Question 4: physical attributes, behaviors, and wellness. In Chapter 5, I further discuss the themes that emerged from participant responses and present an interpretation of the findings, limitations of the study, recommendations, and implications of the study findings.

Chapter 5: Discussions, Conclusions, and Recommendations

Introduction

Obesity and people being overweight is a growing global health concern (Wand and Ramjee, 2013). Both developed and developing countries have seen and continue to see a rise in obesity rates among their populations (WHO, 2013). Kenya is a developing country in Africa that is faced with the problem of rising obesity rates (Ziraba et al., 2009). Researchers such as Ettarh, Van de Vijver, Oti, and Kyobutungi (2013) and Ziraba et al. (2009) have conducted obesity related studies in Kenya to help understand the rising obesity rates. However, my review of the literature revealed that most of obesity related studies in Kenya were conducted among urban dwellers, resulting in a knowledge gap for obesity rates among rural dwellers. This study was conducted among women living in rural Kenya because as discussed in Chapter 1, studies by researchers such as Christensen et al. (2008) and Kaduka et al. (2011) show that obesity and being overweight rates are higher among women compared to their male counterparts. Therefore, this study was conducted to help bridge the identified existing knowledge gap.

The purpose of this study was to understand the knowledge, beliefs, attitudes, and perceptions of women living in Subukia, a rural region in Kenya. My study's focus was to explore and understand these factors in relation to the growing obesity and being overweight rates. I developed four study research questions that guided the study towards understanding the phenomenon. The four research study questions are as follows:

1. How knowledgeable are adult women in rural Kenya regarding being overweight or obesity and associated health risks?
2. What are the perceptions of adult women in rural Kenya related to being overweight or obesity?
3. How do lifestyle and daily activities of adult women living in rural Kenya affect their health behaviors related to obesity?
4. How do beliefs of adult women living in rural Kenya affect their health behaviors related to obesity?

I used a qualitative design and a phenomenological approach for this study in order to explore, describe, and understand lived experiences of rural women in Kenya. This approach was selected as suitable for this study as it provided information that helped in answering the four research questions I developed for the study (Creswell, 2009). I used an open-ended interview question guide to obtain information relevant for the obesity phenomenon. Eight participants were interviewed for the study and all the interviews were conducted at a local church in Subukia.

Data collected were analyzed through Nvivo 10 software and emerging themes were identified using Moustakas' modified van Kaam data analysis method (Moustakas, 1994, p 120). Major themes generated provided information, which not only answered the study's research questions, but also provided an understanding of participants' way of life (see Table 2). Major themes that helped answer the study's research questions were as follows: a) for Research Question 1: physical attributes, behaviors, and lack of knowledge; for Research Question 2: physical attributes, character, and opinions; for

Research Question 3: transportation, food, and physical activity; and for Research Question 4: physical attributes, behaviors, and wellness.

Interpretation of the Findings

Major themes identified after data analysis confirmed that this study's findings were consistent with findings from the literature review as discussed in Chapter 2. Key concepts arising from the literature review were confirmed from individual and general participants' interview responses. The first key concept from the literature review confirmed in the study's findings was the obesity and being overweight phenomenon. As discussed in Chapter 2, obesity and people being overweight rates continue to be on the rise globally (WHO, 2013).

Some of the reasons attributed to the global increase of obesity and being overweight were consumption of foods high in calories, reduced physical activity, and urbanization (Capingana et al., 2013; Chu & Moy 2013; Okeyo et al., 2009; Xiao et al., 2013). Participants interviewed in my study confirmed these findings. General interview questions inquiring about food consumption patterns and preferences revealed that participants consumed high caloric and high fat foods such as porridge, ugali, and mukimo, on a regular basis. Factors such as taste, ease of access, availability, and ease of preparation seemed to influence participants' preference of high caloric and high fat foods, which helped explain increasing obesity rates among women in rural Kenya.

In addition to food consumption patterns that showed limited knowledge of obesity awareness, participants were asked about physical activity. Participants had different meanings attached to the term physical activity or exercise. Five participants

described physical activity in terms of school-based physical education and they all said it was meant for schoolchildren. The five participants did not consider physical exercise important to them, but did consider it important for children. Three participants indicated that they engaged in physical activity or exercise though. Further discussion revealed that all three participants linked the terms "physical exercise" or "activity" to the daily work they do for a living. All three participants used the terms "working hard" and "not lazy" in response to the physical activity question. These responses confirmed study findings from peer-reviewed literature, which relate growing obesity rates to lack of physical activity. Participants' responses revealed the different meanings attached to the term "physical activity," which affirmed a lack of obesity awareness and helped address Research Question 1.

As discussed in the literature review section in Chapter 2, researchers Chandler-Laney et al. (2009) noted that people's perception of obesity was influenced by various factors such as environment, culture, and peer influences among others. The perception was also noted to be true in this study's findings. In an attempt to answer Research Question 2 on perception, participants were asked to discuss what a person's body size meant to them. Four of the participants described themselves as having big bodies, while the other four described themselves as being of medium build. Participants described their medium to big bodies as beautiful, strong, and attractive. Five participants described a big and round body size as being ideal. Four participants equated a wider and bigger body size to happiness. Three participants indicated that a big, round body was attractive.

Participants' responses showed that bigger bodies were readily accepted in their community and that this body size helped provide a sense of belonging. This belief, in turn, could result in increasing obesity rates among women living in rural Subukia. One participant even felt that a bigger body was essential in commanding respect from others. Two participants said big bodies made them feel beautiful and attractive to others, especially to their male counterparts.

According to Wiklund et al. (2011), individual attitudes and beliefs motivate individuals to either promote or prevent obesity related behaviors. A person with positive attitudes and beliefs towards obesity preventing behaviors was likely to engage and comply with such behaviors and vice versa (Wiklund et al., 2011). Wiklund et al. noted that participants perceived bigger bodies positively and some strived to either become bigger or maintain a big body. In their study, Chang et al. (2009) indicated that some cultures considered people with larger bodies a positive and as happier than people with smaller bodies were. This finding was validated in this study.

A study by Ziraba et al., (2009) indicated that increasing obesity rates in developing countries was due to the rapid spread of urbanization. According to Ziraba et al. (2009), urbanization had introduced high caloric, high fat food and advanced technology, which had resulted in less physical activity. My study findings were consistent with Ziraba et al.'s findings of less physical activity due to advanced technology. Convenience, ease of access/meal preparation, and affordability were among some of the key factors identified from participants' responses to interview questions that helped answer Research Question 3.

When asked about their preferred method of getting to Subukia shopping center, which is about a mile away or less for most Subukia residents, only two participants said they would walk. All other participants said they would use other means, which were faster than walking (see Table 3). Other means that participants mentioned included tuktuk (a three-wheeled vehicle), pikipiki (a public motorcycle), matatu (a public van), or borderborder (a public bicycle). Specific individual preferences were based on not only convenience, but also on cheaper and more affordable options. Urbanization had introduced transport options to Subukia, which had resulted in reduced walking, less physical activity, and an increase in obesity rates.

When asked about their food preferences, four participants said they preferred foods from restaurants. The foods of choice from restaurants included chips (fries), nyama choma (grilled meats), and karanga (potato, carrot, and meat stew). With urbanization, developing countries, including rural areas, have experienced an increase in take-out and fast foods restaurants. Based on their responses, participants preferred restaurant foods because it was convenient for them, easily accessible, and delicious to eat. This finding validated the study findings of Ziraba et al. (2009) and provided an answer for Research Question 3.

Research Question 4 of this study was developed to explore and understand the role of beliefs and attitudes into rising obesity trends among women living in rural Subukia. A research study by Ernersson et al. (2010) showed that personal attitudes and beliefs influenced an individual's behavior towards obesity prevention or promotion behavior. To understand beliefs and attitudes towards obesity and being overweight

among women living in rural Subukia, participants were asked to discuss the characteristics or attributes of a healthy or unhealthy woman. Participants used physical attributes to describe what they felt was healthy or unhealthy. None of the participants used obesity and being overweight or the associated chronic illnesses to describe "healthy or unhealthy." When asked to describe attributes of an unhealthy woman, six participants used the term, "thin," in their response. Based on these responses, participants believed that a thin body structure signified poor health and viewed it as a negative aspect. Three participants used the term, "poor appetite," to describe an unhealthy person. Participants believed having a good appetite and eating large amounts of food resulted in a larger body and good health. Poor appetite was viewed as negative because it would result in a thin body frame, which was not viewed as desirable.

Two participants responded to the question by using the term, "lazy," to describe an unhealthy woman. Participants' responses indicated that hard work was a virtue within the community and being lazy was a vice. This perception was also evidenced by participants' occupations. All but one of the eight participants engaged in physical labor on a day-to-day basis (see Table1). Participants, therefore, used the term, "lazy," to refer to an attribute that was undesirable and that they thought was unhealthy. One participant described "unhealthy" as being unhappy, which supported study findings by Chang et al. (2009). While some of these descriptive terms could be due to subjective views, other views were shared by all eight participants. The fact that the term, "thin," was used by all participants to describe "unhealthy" showed not only personal, but also cultural and

societal preferences. This information played a role in helping answer Research Question 4.

As postulated in Bandura's (2005) SCT, once an individual has knowledge of a certain behavior, various key components determine whether one will adopt the new behavior. These key components are outcome expectation, self-regulation, and self-efficacy (Bandura, 2005). It was evident from some participants' responses that they did not have knowledge of obesity and being overweight. In alignment with SCT's key component outcome expectation, since participants had no knowledge of obesity, they had no reason to adopt or practice obesity prevention behaviors. SCT states that once individuals observe a behavior, they evaluate possible outcomes that may arise from learning the behavior (Bredbenner et al., 2011). If individuals consider the behavior to have positive consequences, they feel motivated to learn the behavior (Bredbenner et al., 2011). Participants' interview responses showed that they considered obesity promoting behaviors positively, and therefore, adopted such behaviors. Obesity promoting behaviors adopted by participants were less physical activity and increased consumption of high caloric, high fat foods.

Self-regulation, another key component of the SCT, indicated that individuals engaged in certain behaviors or acquired new behaviors if they felt empowered and thought the new action will help resolve existing problems (Bandura, 2005). Findings from this study indicate that participants chose their actions based on what they considered suitable for them and what they felt they had control over. For example, when

asked about the importance of physical activity or exercise, five participants did not think it was important for them.

The concept of physical activity or exercise did not seem to be understood by participants as a way of preventing obesity and being overweight. Instead, participants associated physical activity or exercise to physical education offered in schools for school going children. As indicated in the SCT's self-regulation component, participants did not consider physical activity or exercise as important to them. This belief was because physical activity or exercise was not considered a solution to any of their existing problems, and did not feel they had the will power to engage in it.

Self-efficacy, which refers to individual belief of being capable of adopting and maintaining learned behaviors, is the third component of SCT (Bandura, 2005). Self-efficacy was noted as the major driving force to behavior adaptation (Bredbenner et al., 2011). Self-efficacy deemed fit to describe respective participants' responses to interview questions for Research Questions 2 and 3. When asked about their preferred transport means to the close-by Subukia shopping center, participants' choices were based on how quickly they could get to the center, how conveniently they could transport their goods back and forth and how affordable the transport means was (see Table 3). These factors support SCT's self-efficacy component. Participants chose to adopt "better" means of transportation because they could afford it, it was easily accessible, and it was rewarding (quicker, faster, and less tiring).

In addition, when participants were asked about their preferred food type, four participants indicated they preferred high caloric, high fat foods from restaurants. In

relation to the self-efficacy component of SCT, participants' choices were based on the belief they could afford it, it was easily accessible, it was delicious, and it did not take any time to prepare unlike food made at home. When asked what body size meant to them, all except for one participant's responses showed they preferred people with bigger, round bodies. Participants felt that people with bigger bodies were more attractive, strong, healthy, and beautiful. Being hard working was a positive attribute, which was regarded highly in this community based on participant responses to various different questions on health. Participants with bigger bodies were more content with their sizes than participants with smaller sized bodies. Participants with larger sized bodies may actually be at risk for obesity but the bigger size was more preferable.

Since women with bigger bodies were viewed positively within the Subukia community, participants did not indicate the need to change obesity promoting behaviors. Most of the participants exhibited an everyday lifestyle, cultural practices, and beliefs that promoted bigger bodies. This practice helped explain increasing obesity and being overweight rates. Their lifestyles were customized based on the convenience, affordability, beliefs, and cultural and societal expectations. They did not have knowledge of obesity and they did not feel threatened by it. Participants equated bigger bodies to good health and had no desire to engage in obesity prevention behaviors. Participants' self-efficacy was the drive to maintain bigger bodies and/or acquire bigger bodies in an attempt to fit in and belong.

Limitations of the Study

I conducted this qualitative study at Subukia, a rural region in Kenya. The study's purpose was to explore and understand the lifestyle, beliefs, knowledge, and attitudes of women living in rural Subukia and its influence on increasing obesity rates. Several limitations were present in the study process. Therefore, based on the limitations discussed below, interpretation of this study's findings should be conducted with caution. First, I used purposive sampling for recruiting participants for the study. Criteria for eligibility were that participants had to be fluent in English and should have completed KCPE (Kenya Certificate for Primary Education). Many of Subukia residents may have had been fluent in English but had not completed KCPE. This criterion may have isolated participants who may have had different and varied life experiences from the study. Similarly, women who did not meet the specified age criterion may have had different responses to the interview questions, which would have added additional credibility to the study findings.

Second, although data saturation was reached after the first six participants were interviewed eight participants were interviewed because they had already been scheduled for the interview. The additional two participants interviewed after data saturation validated the discontinuation of the interviews since even they, did not provide any new information. A lack of new information from the two additional participants was an indication that study findings could be transferred to populations with varied life experiences but in similar settings as rural Subukia. However, the small sample posed a

limitation to generalizability of findings because people have varied life experiences and the findings may not be a representation of the whole community.

Third, although reflexivity was observed, as a qualitative study, there was potential for personal bias, which may have influenced data interpretation. I conducted participant checking at the end of every interview to clarify any outstanding issues that needed clarification. I undertook this step to ensure my personal biases did not interfere with data interpretation. However, due to the subjective nature of a phenomenological approach, the limitation of personal biases interfering with interpretation of data was a possibility.

Another limitation of this study pertained to the nature of the interview questions. Interview questions for this study were designed to answer only certain aspects of participants' lives. The study focused on specific areas of participant's lifestyles, beliefs, attitudes, and perception. This limitation may have led participants to discuss only certain topics related to obesity. Because of this limitation, I may not have addresses all factors involved in understanding obesity among this population.

Finally, as a phenomenological study, data were obtained from participants narrations of their lived experiences. Study findings were derived from subjective, self-reported information. I assumed information provided by participants was authentic and truthful. Participants may have over reported, under reported, held information, or exaggerated their responses for various reasons. In an attempt to address this limitation, prior to start of the interview, I reminded participants that their information would be

kept confidential and anonymous. However, this assumption could be viewed as a limitation of this study.

Recommendations

Participants' responses to study's interview questions revealed a lack of knowledge and awareness of obesity and being overweight. Participants considered women with wider bodies as more desirable, which were based on cultural influences and societal expectations. With the rapid spread of urbanization, both urban and rural regions in developing countries have experienced new "western lifestyles" (Malaza et al., 2012). Introduction of cheaper and easily accessible means of transport in Subukia, for instance, promoted less walking, and less physical activity. Of the eight participants interviewed, only one said she would walk to the close-by Subukia shopping center. Several participants stated they buy fast food from restaurants instead of cooking at home since it was cheap and convenient.

To address the lack of obesity awareness, I recommend an obesity awareness educational program for women living in rural Subukia. Participants may need to understand the phenomenon of obesity and being overweight and its impact on their health. I recommend developing educational programs that shed light on various cultural and social norms that contribute to the promotion of obesity. An example of such a cultural and social norm includes the perception that women with big and round bodies are healthier and more physically desirable. The educational program would not only provide information on what obesity and being overweight is, but it would also address the impact of their lifestyles, beliefs, attitudes, and perceptions towards obesity. Key

factors that needed addressing in the educational program included obesity and being overweight definitions, nutritional values of foods and physical activity, and its importance to health and obesity and being overweight associated health risks. In addition, I recommend using data obtained from this study to develop intervention based programs. Such intervention programs could be designed to target specific groups with common goals within the community. An example would be an intervention program aimed at promoting healthier food choices or promoting healthier cooking options for women who love to cook.

This study's findings were conducted on a small sample of eight participants and purposive sampling was used in the recruitment of participants. Study findings were not generalizable since they were not representative of a larger whole. Therefore, I recommend the conducting of larger qualitative studies. Studies conducted on participants from different backgrounds and lifestyles would yield varied responses for possibly generalizable study findings. I also recommend conducting future quantitative studies based on this study's topic to generate hypotheses, which would be vital in quantifying obesity rates among different rural populations in Kenya. In addition, since data obtained only addressed specific factors based on the interview questions, it is possible that this study did not address all obesity variables. Therefore, I recommend adding other variables in future obesity related studies to provide additional information not addressed in this study.

Implications

Positive Social Change

This study's findings on women living in rural Subukia revealed a lack of obesity and being overweight knowledge and awareness. A review of literature revealed very few studies addressing the rising obesity and being overweight trends among rural population in developing countries. This study was conducted with the purpose of understanding the phenomenon of obesity and being overweight among women in Subukia, rural Kenya. This study was also conducted to help bridge the current knowledge gap that exists from the scant literature on the topic. Participants' responses to interview questions showed a need for obesity prevention educational programs among women in this rural region. Participants did not understand obesity or its impact on their health.

Obesity prevention educational programs would provide obesity and being overweight awareness to participants. This awareness would help participants understand how their beliefs, culture, attitudes, and lifestyle promote obesity and being overweight in the community. This educational programs would also enable participants understand the negative impact of obesity on their health and their lives in general. Increased knowledge of obesity and being overweight among participants would encourage participants to learn and adopt obesity prevention behaviors. As discussed in Bandura's SCT, self-efficacy would drive participants to not just learning and adopting new behaviors but also maintaining the positive behaviors (Bandura, 2012).

Once participants are empowered with obesity and being overweight prevention knowledge, they are likely to influence their children and spouses to adopt the obesity

prevention behaviors. Based on participant response, women in this community took care of their children and spouses. Most women were responsible for shopping for their families, cooking for their families, cleaning, and taking care of the children. Therefore once empowered with obesity prevention knowledge, the women would select healthier food choices and engage in activities that are more physically demanding. Their positive behavior change would influence their children and spouses lives as well. This empowerment would result to positive behavior change for not only women but also most of community members.

This study's findings showed a lack of obesity and being overweight awareness among women living in rural Subukia. There is a need therefore for policy makers in Kenya to design obesity prevention educational programs to address the issue. Policy makers could use this study's findings to understand and identify life facets that need to be addressed as part of an obesity prevention campaign. The health education program may not only bring obesity and being overweight awareness to women living in rural Subukia, but may also empower them to learn and adopt obesity prevention behaviors such as increasing physical activity.

Kenyan government public health officials may also learn from this study's findings. Although the study findings were specific to participants living in rural Subukia, urbanization was widespread among most rural areas in Kenya. Kenyan government public health officials may use this study's findings to educate women living in rural areas about obesity and being overweight brought about urbanization. They could use this study's findings to identify specific rural dweller's lifestyles, beliefs, and attitudes. This

information could then be used to design large-scale obesity prevention programs for rural communities.

Conclusion

This study's findings indicated a need for obesity and being overweight education programs for women living on rural Subukia who participated in this study. Participants responses to questions asked provided an understanding of their level of obesity knowledge. Participants had little to no knowledge of obesity and overweight, and they were not aware of obesity rising trends in their community. Based on participants' responses, a big round body was perceived positively and many aspired to have such big bodies. The need to conform to the cultural belief promoted obesity and being overweight among participants. Participants conveyed that women with bigger bodies were more acceptable within the community. Participants' self-image and esteem seemed to stem from what others within the community thought about them. There was therefore a need for participants to conform to culturally driven lifestyles as a means of belonging. In an effort to belong, participants seemed encouraged towards having and maintaining bigger bodies.

Participants' lifestyles, attitudes, and beliefs seemed to favor less physical activity and more consumption of high caloric foods. Participants' food choices were driven by preparation convenience, easy access, and taste. Participants did not to consider the nutritional value of food in relation to their food choices. This thought process was also true for physical activities. Women interviewed did not consider physical activity top

priority for them. Walking was not a preferred means of getting around. Rather, preferred means of transportation were governed by convenience and affordability.

This study's findings reveal a need for obesity awareness educational programs among rural dwellers in similar settings. There is a need for rural dwellers to understand obesity and being overweight; associated health risks; its relation to their current lifestyles, beliefs, attitudes, and perception. There is also need to learn about both short- and long-term obesity and being overweight prevention strategies. Policy makers, government public health officials, and both private and public health organizations need to work towards concerted efforts towards reducing obesity and being overweight among rural dwellers. It is important to understand rural communities' ways of life in order to design obesity prevention policies and programs applicable to their specific and unique lifestyles.

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Appendix A: Letter of Cooperation

My Name is Ann Mugo, a student at Walden University USA. I am pursuing a doctorate degree in Public Health and currently conducting a research study as part of the doctoral study. I will be conducting a study entitled "Obesity among Women in Rural Kenya: Knowledge, Beliefs, and Perceptions". As part of this study, I am seeking your permission to post the study's recruitment fliers on the church's bulletin board. I am also requesting permission to inform church members (of the study for recruitment) during the church service's announcement session and to conduct the study's interview in the church's hall. Individuals' participation will be voluntary and at their own discretion.

Data collected will remain confidential and may not be shared outside of the student's supervising faculty/staff without permission from the Walden University IRB.

Please select one of the two options and sign below:

[ ] I grant permission to this request

[ ] I do not grant permission to this request

Thank you for your time.

Sincerely,

Pastor's Name: _____
Pastor's Signature: _____
Today's Date: _____

Appendix B: Recruitment Flier

Attention Women!

Volunteers needed for a doctoral study on obesity among women.

You may be eligible to participate if you:

- **Are a woman**
- **Are between 20 to 45 years of age**
- **Have lived in Subukia continuously for the past 5 years**
- **Are able to read, write and understand the English language fluently**
- **Have completed the Kenya Certificate of Primary education (KCPE or CPE)**

Eligible women will be asked to participate in a 60-minute audiotaped interview. The interview will conducted at the church hall at a time and day of your choosing during the month of xxxxx, 2015.

If interested, respond to this invitation by calling me at xxxxxxxxx. Those interested will be contacted after the church service to arrange interview times. Participation is voluntary and no monetary or other compensation will be offered.

Thank you so much, I look forward to your participation!

Appendix C: Screening Questionnaire

Participant #:

My name is Ann Mugo, a doctoral student at Walden University. I am conducting a research study as part of the doctoral study. I will be conducting a study entitled "Obesity among Women in Rural Kenya: Knowledge, Beliefs, and Perceptions". I would like to invite you to take part in my research study. The study includes an interview session that may last approximately 60 minutes. The purpose of this interview is to understand participants' experiences and perception about obesity among women.

I will ask you a few questions to ensure you are eligible for this study.

Are you a woman? Yes_ No_
Are you between 20 to 45 years of age? Yes_ No_
Did you complete the certificate of primary education exam (KCPE or CPE)? Yes_ No_
Can you read, write and understand the English language fluently? Yes_ No_
Have you lived in Subukia for the last 5 years continuously? Yes_ No_

Eligible participant? Yes_No_

For participants who answer "yes" to all the questions: You are eligible and you have been selected to participate in my research study.

I will be conducting the study's interview at church hall every day from 8 a.m. to 6 p.m. Please let me know your availability so I can schedule time with you for the interview.

Day available for interview:_____ Date:_____ Time_____

You are encouraged to ask as many questions before, during, and after the interview. If you have any questions about the interview that you would like to have answered before or after the interview date, please feel free to contact me at xxxxxxxxxx.

For participants who answer "no" to one or more of the questions: I am sorry you are not eligible and have not been selected to participate in my research study.

Thank you

Appendix D: Interview Guide

Welcome! Thank you for agreeing to participate in my study. Your responses will provide an understanding of obesity among women in rural areas in Kenya. The interview will last about 60 minutes. This session is being audio recorded. I will be taking notes as we talk. At the end of this interview, I will briefly review my notes and verify accuracy of responses where I have any questions.

You may ask questions at any time during this interview.

Do you have any questions for me before we start?
Let us get started. Are you ready?

Possible probes for interview questions:

- ***Tell me more****...*

1. Obesity is increasing across the world including Kenya. What does the term obesity mean to you? (RQ1, RQ2, RQ4).

2. A person's health status may lead to obesity. What does being healthy mean to you? (RQ1, RQ2, RQ4).

3. What are characteristics or attributes of a healthy woman? (RQ1, RQ2, RQ4).

4. What does being unhealthy mean to you? (RQ1, RQ2, RQ4)

5. What are characteristics or attributes of an unhealthy woman? (RQ1, RQ2, RQ4)

6. A person's body size may be a factor leading to the development of obesity. What does body size mean to you? (RQ1, RQ2, RQ4)

7. Describe a healthy body size. (RQ1, RQ2, RQ4)

8. Describe an unhealthy body size. (RQ1, RQ2, RQ4)

9. Describe your body size. (RQ1, RQ2, RQ4)
10. Tell me how you feel about your body size. Tell me why you feel this way. (RQ1, RQ2, RQ4)

11. Physical activity (or lack of) may play a role in the development or prevention of obesity. What does physical activity/exercise mean to you? (RQ1, RQ2, RQ3, RQ4)

12. Do you do any physical activities or exercise? (RQ1, RQ2, RQ3, RQ4)
    a) If yes, how often do you do this kind of activity or exercise?
    b) If no, why is this?

13. Is physical activity or exercise important to you? (RQ1, RQ2, RQ3, RQ4)
    a) Why is this so?

14. Some regular activities of daily living may or may not lead to a physically active lifestyle. If you were to go to Subukia shopping center, how would you get there? Would you walk, drive; ride in public means or other means? (RQ1, RQ3, RQ4)
    a) Tell me why you prefer this means.

15. The kind of work people do on a daily basis may or may not promote physically active lifestyles. Do you work for a living? (RQ2, RQ3, RQ4)
    a) If yes, describe the kind of work you do.

16. Various foods may prevent obesity and other foods may increase obesity. What does healthy food mean to you? (RQ1, RQ2, RQ3, RQ4).
    a) Tell me three examples of food you think is healthy.
    b) How often do you eat these foods?

17. What does unhealthy food mean to you? (RQ1, RQ2, RQ3, RQ4)
    a) Tell me three examples of food you think is the unhealthy.
    b) How often do you eat these foods?

18. Do you have any foods you prefer to eat to other foods? (RQ2, RQ3, RQ4).
    a) If no, why is this?
    b) If yes, what makes you prefer these foods?
    c) How often do you eat these foods?

19. If you cook any of the foods you just named above, tell me how you cook it? (RQ2, RQ3, RQ4).

20. Can you think of anything else you may want to talk about before you leave?

Let me take this time to review my notes and clarify points from our discussion today.

That is all I had for you today.

Once again, thank you very much for your time!

Appendix E: National Institutes of Health Certificate

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Ann Mugo** successfully completed the NIH Web-based training course “Protecting Human Research Participants”.

Date of completion: 07/27/2014

Certification Number: 1501299