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Walden University

College of Health Sciences

This is to certify that the doctoral dissertation by

Gladys Adjei-Poku

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Walden University
2019

Abstract

Lived Experience of Tongans with Obesity and Diabetes

by

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MSN, Western Governors University, 2014

BSN, New York University, 1992

BS, University of Ghana, 1981

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Nursing

Walden University

August 2019

Abstract

People of Pacific Island descent are afflicted by obesity and diabetes more than other populations. Although interventions have succeeded in reducing these conditions among other groups, they have been unsuccessful among Tongans and other Pacific Islanders. Furthermore, little is known about the cultural perspectives of this population with a high rate of obesity and diabetes. Accordingly, this descriptive phenomenological study was conducted to investigate the lived experiences of Tongans with obesity and diabetes in a western metropolitan area of the United States to understand their predisposition toward these conditions and suggest appropriate interventions. Purposive sampling was used to recruit 11 Tongans, 18 years or older, with obesity and diabetes. Face-to-face interviews were conducted using open-ended questions. Data analysis consisted of verbatim transcription and splitter coding, which identified 5 emerging themes. The findings indicated that cultural customs have created an emotional attachment among Tongan participants to their native foods and that they feel obliged to eat abundantly at food-related social events. Moreover, they mistrust their healthcare professionals, which results in nonadherence to medical advice. The findings align with Martha Rogers' theory of the science of unitary human beings and Bandura's model of reciprocal determinism that there is a strong relationship between people and their cultural environment. This study's findings provide an understanding that may lead to positive social change in designing culturally specific preventive programs to decrease obesity and diabetes and ensure a better quality of life for Tongans.

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Dedication

I dedicate my dissertation to God in the name of Jesus Christ, who has been my strength as He has promised in Isaiah 41:10, “Fear not; for I am with thee: be not dismayed; for I am thy God: I will strengthen thee; yea, I will help thee; yea, I will uphold thee with the right hand of my righteousness.” To my husband, Michael, who supported me with prayers and encouragement and paid my full tuition at Walden out of pocket. To my son, Michael, and nephew Samuel Asante, who edited my work and encouraged me when I needed help. To my son, Yaw, and his family, who energized me when the going got tough and I was down.

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Chapter 1: Introduction to the Study

Diabetes is a chronic disease that has become a global epidemic affecting about 451 million adults (Cho et al., 2018). Diabetes continues to increase around the world, which includes an increase in financial impact and medical complications such as neuropathy, nephropathy, retinopathy, limb amputations, and depression (Cho et al., 2018; Ndwiga, MacMillan, McBride, & Simmons, 2018). Diabetes also shortens life expectancy by up to 15 years and poses significant social and financial burdens in terms of expenditure on healthcare and mortality, according to estimates from the International Diabetes Federation (Cho et al., 2018; Huang et al., 2015). Diabetes has a number of predisposing factors with obesity being one of the most significant risk (Lin et al., 2016). The increasing trend toward obesity has become a major global health problem, particularly in the United States (Akushevich et al., 2018; Huang et al., 2015), where its prevalence among Tongans and Native Hawaiians and other Pacific Islanders (NHPI) has become significant (Centers for Disease Control [CDC], 2017; Huang et al., 2015). There are almost 1 billion people with obesity and another 396 million who are overweight worldwide (Hu et al., 2017), though other reports have indicated higher rates of 2 million people worldwide who are either obese or overweight (Samouda et al., 2018). Among the Tongans and NHPI, there are trends in childhood obesity, which can lead to issues in adulthood (Braden & Nigg, 2016). Research has also shown that out of a population of 106,000 people on the Island of Tonga, over 50% have obesity with a body mass index (BMI) greater than 30, and over 18% suffered from diabetes (Matoto, Viney, Roseveare, Colaguiri, & Marais, 2014).

The study location is home to a quarter of the Tongan population in the United States (Dentzer, 2018). Tongans are naturally larger in frame, so a 300-pound man in this culture is considered relatively lightweight (Foster, 2000). This poses a challenge for the Tongan community where interventions to reduce diabetes prevalence that have worked for other groups have failed (McLennan & Ulijaszek, 2015). Positive health outcomes are essential to meet the mandate of Healthy People 2020 of the U.S. Department of Health and Human Services (National Diabetes Statistics Report, 2015). Accordingly, there is an need to evaluate the determinants of obesity and diabetes among specific ethnic groups and to consider their specific needs (Karter et al., 2015). However, even with over 30 years of public health nutrition and other educational programs, attempts to change the attitudes of Pacific Islanders to food, obesity, and exercise have not been successful (McLennan & Ulijaszek, 2015).

In this study, I explored the lived experiences of Tongans in a western metropolitan part of the United States who have diabetes and face challenges with weight control in relation to their attempts to achieve a healthy lifestyle. Providing culturally competent patient-centered care requires healthcare practitioners and researchers to understand the cultural factors related to diet, obesity, and diabetes among Tongans striving to achieve a healthy lifestyle (Jacques et al., 2017; Jia, Gao, Dai, Zheng, & Fu, 2017). Consequently, it is necessary to explore Tongans' and NHPIs' lived experiences to understand their perspectives on diabetes and obesity. The findings from this study may provide better understanding to develop culturally relevant programs to help the group decrease obesity, control diabetes, and ensure a better quality of life. Provider and

nursing care of the selected group can also improve with culturally relevant information gathered from the study, which adds cultural perspectives to the existing literature. In Chapter 1, I discuss the background, problem statement, purpose, research questions, and the significance of the study

Background of the Study

Diabetes is now the seventh leading cause of death in the United States and affects more than 30 million people or 9.4% of the total U.S. population (CDC, 2017). In 2000, about 12 million Americans had type 2 diabetes, a figure that increased by almost 92% to nearly 23 million in 2015 (CDC, 2017). Additionally, the CDC (2017) has indicated that of the total number of patients discharged from U.S. hospitals in 2014, 702 million had been admitted for diabetes-related conditions. This leads to a financial burden in addition to the poorer health of American. According to the 2014 issue of the Health Care Cost Institute report, caring for individuals with diabetes costs $16,021 per capita compared with $4,396 per capita for individuals without diabetes (Health Cost Institute, 2016).

The prevalence of diabetes and obesity is particularly high in the state for this study (American Diabetes Association, 2018). Although 10.2% of people in the state have diabetes, another 32.7% are at the prediabetes stage (American Diabetes Association, 2018). In addition, it costs people with diabetes in the state 2.3 times more in medical expenses than those without diabetes; about $2 billion is spent in the state on direct and indirect diabetes management (American Diabetes Association, 2018). Further, Tongans are at a higher risk of obesity and diabetes than the general population (Hafoka,

2017; LaBreche et al., 2016; Oshiro, Novotny, Grove, & Hurwitz, 2015; Teevale, Taufa, & Percival, 2015; Tseng & Kwon., 2015). Diabetes morbidity among Tongans is common, with over 6% experiencing limb amputation, 57% experiencing kidney failure, 43.8% experiencing stroke, and 33.9% experiencing heart disease (Matoto et al., 2014).

Culture is a significant determinant of the way people process information, perceive their health, and respond to treatment programs (Jia et al., 2017). Thus, information on the experiences and cultural perspectives of Tongans regarding obesity and diabetes is essential to address the needs of this high-risk population (Braden & Nigg, 2016). Part of the problem could be the lack of understanding of the meaning and essence of Pacific Islanders' lived experiences with obesity and diabetes. A cultural perspective is required in approaching this problem and that culturally oriented preventive programs could result in successful outcomes (LaBreche et al., 2016). These programs have the potential to modify determinants that decrease obesity, control diabetes, and increase survival.

Cultural perspectives are absent in most of the research literature. Therefore, this study is needed to explore the cultural context and the lived experiences of Tongans to understand their cultural viewpoint of obesity and diabetes. Studies that evaluate obesity and diabetes in ethnic cultures have not addressed the cultural perspective of these populations, and the findings may not reach the target groups (Braden & Nigg, 2016; Jeganathan, Langford, Sefo, Hewitt, & Verma, 2017; Oshiro et al., 2015). The objective of this descriptive phenomenological study was to explore the lived experiences of

Tongans in a western metropolitan part of the United States who have diabetes and face challenges with weight control in achieving a healthy lifestyle.

Problem Statement

The current trends of obesity and diabetes among Tongans are significant health and social concerns that require attention from healthcare practitioners, policy makers, and public health officials. Tongans are at a higher risk of obesity and diabetes than the general population (Hafoka, 2017; LaBreche et al., 2016; Oshiro et al., 2015; Teevale et al., 2015; Tseng & Kwon, 2015), and the populations of the Western Pacific Islands where Tonga is situated contain 37% of the world's diabetes population (Cho et al., 2018). Tongans and NHPI are also overweight, with an average BMI of 25 or higher, a 30% higher chance of being obese, and a twice as likely chance of being diagnosed with diabetes compared to Caucasians (Braden & Nigg, 2016). Further, studies conducted in Tonga to assess trends of obesity and diabetes among Tongans revealed that diabetes had increased threefold, which has significant implications for longevity (Lin et al., 2016). Diabetes accounts for 13.63% of total deaths in Tonga compared to 3.4% of total deaths in the United States (World Health Organization, 2016). Type 2 diabetes is a significant health problem among Tongans, and its incidence is increasing (Hall, Lattie, Mccalla, & Saab, 2016). Tongans and NHPI have a 300% higher likelihood of dying from type 2 diabetes than non-Hispanic whites (Hall et al., 2016). Therefore, there is a need to consider cultural traditions in developing programs or policies to address the incidence of diabetes among the Tongan population (Hall et al., 2016).

Healthcare practitioners do not fully understand the cultural factors related to diet, obesity, and diabetes among Tongans (McLennan & Ulijaszek, 2015). Researchers and healthcare practitioners do not know why programs that have reduced obesity and diabetes in other population groups have not worked with the Tongans and NHPI (McLennan & Ulijaszek, 2015). This affects health assessments and ongoing follow-up care of individuals in this population who are identified as having many unmet healthcare needs (Hagiwara, Miyamura, Yamada, & Sentell, 2016; Tseng & Kwon, 2015). Ethnic culture influences health outcomes, and there is a correlation between people's cultural affiliation, behavior, and the status of their cardiometabolic health (Jacques et al., 2017). By understanding the experiences of Tongans, healthcare professionals can develop programs to support their need for a healthy lifestyle, as there may be cultural determinants for obesity that are not being addressed (Braden & Nigg, 2016; Jeganathan, Langford, Sefo, Hewitt, & Verma, 2017). As a result, this study addresses the need for culturally oriented interventions by healthcare practitioners to improve the care of Tongans in the western metropolitan part of the United States who are striving for a healthy lifestyle. By exploring the lived experiences of the selected group, I aimed to address a gap in knowledge and understand the perspectives of Tongans on obesity and diabetes to reveal cultural factors that may help in planning programs for them.

Purpose of the Study

The purpose of this qualitative descriptive phenomenological study was to explore the lived experiences of Tongans who have obesity and diabetes as they attempt to achieve a healthy lifestyle. The phenomenon that anchors this study is an exploration of

the perspectives, essence, and experiences of Tongans with obesity and diabetes who are striving to achieve a healthy lifestyle. Uncovering these experiences can inform the existing literature on how the group identifies with, describes, and interprets its challenges with obesity and diabetes while maintaining a healthy lifestyle. For example, McLennan and Ulijaszek (2015) indicated that the consumption of obesogenic diets by Pacific Islanders creates a sense of belonging, whereas isolation from food-related cultural norms represents social deprivation.

Research Questions

The principal question that guided this research was "What are the lived experiences of Tongans in a western metropolitan part of the United States who have diabetes and face challenges with weight control in relation to their attempts to achieve a healthy lifestyle?" The interview protocol I developed included the following questions used to generate the data for this research:

1. Please tell me about your experience with diabetes.
2. How does obesity affect your daily life?
3. Tell me how you choose the foods you eat.
4. Tell me about experiences you have had with healthcare providers about your diabetes.
5. How does your culture help you to deal with overweight and diabetes?

Theoretical Foundation

In exploring the experiences of Tongans with obesity and diabetes, I selected both Martha Rogers's theory of the science of unitary human beings (SUHB; Petiprin, 2016)

and Bandura's model of reciprocal determinism (RD; Sarin & Lunsford, 2017) as the frameworks to anchor my study. Both models assert that people and their environment influence and are influenced by each other, which can affect health behaviors ((Niermann, Kremers, Renner, & Woll, 2015). Rogers's theory is a nursing theory that can be applied to patient experience with diseases, and it is focused on care and healing from a holistic perspective (Koithan, Kreitzer, & Watson, 2017). Individuals with obesity and diabetes, including Tongans in the selected region of the United States, are in constant contact with elements of their environment consistent with all three homeodynamic principles of Rogers's theory (resonancy, helicy, and integrality; Alligood & Fawcett, 2017).

People and their environment are viewed as unitary wholes, with fields that are mutually open and in a constant exchange of energy reflective of Rogerian integrality (SUHB, 2012). According to Rogerian theory, energy fields are a central unit of living and nonliving elements coexisting as irreducible wholes (Rahim, 2016). The Tongan participants are living components of environmental fields and are shaped by environmental factors such as dietary choices, culture, and ongoing access to healthcare and follow-up appointments, which translate into their obesity and diabetic conditions. Their experiences can offer a better understanding of their situation so healthcare professionals can provide better care with greater understanding. The RD model also postulates that when interventions are directed at the environmental elements, behaviors of people who are in direct contact with those environment contacts are changed (Haegele & Porretta, 2017), which can be described as Rogers's principle of resonancy

(Petiprin, 2016). This research provides experiences and perspectives of Tongans in the chosen geographical location to help health care providers manipulate the environment to create positive social change. The change will lead to a better quality of life, described as helicy (Badr Naga & Al-Atiyyat, 2014; Phillips, 2017).

Nature of the Study

My research inquiry involved a phenomenological approach based on Husserl's descriptive phenomenology (Derico, 2017), which requires participants to describe their firsthand experiences in their own words. I adopted descriptive phenomenology for my study to explore the lived experiences of Tongans with obesity and diabetes (see Burkholder, Cox, & Crawford, 2016). The participants were those who could express their lived experiences with obesity and diabetes and live in the western metropolitan area of the United States. This methodological approach provided the opportunity to explore the lived experiences of Tongans' perspectives of the subject this research and their values and meanings of their experiences (Bryman, 2016).

A phenomenological approach is used to examine the meaning people ascribe to their experiences and how they describe these experiences in their own words (Rudestam & Newton, 2015). Data are gathered that provide detailed perceptions people present in their attempt to share their lived experiences (Burkholder et al., 2016). It is also consistent with the rigor needed to analyze the essential elements of experiences that are common to a group of people belonging to the same culture or society (Patton, 2015). A phenomenological approach works with interviews to investigate the lived experiences of people (Rudestam & Newton, 2015), so I conducted in-depth interviews to gather data

from participants from a Tongan community in the study area. A qualitative, descriptive in-depth interview is used when rich and detailed information is needed, rather than “yes” and “no” answers (Rubin & Rubin, 2012). Interviews are also one of the most popular methods of collecting data in healthcare research because they can be used to establish peoples’ lived experiences of illness (Mitchell, 2015). My selection of the qualitative, descriptive in-depth interview is consistent with the goal of exploring and understanding the lived experiences of Tongans who have obesity and diabetes and live in the designated region.

The interviews were tape-recorded and transcribed verbatim to avoid excessive subjectivity, which may affect the validity of the study. The transcribed data were exported into NVivo Computerized Assisted Qualitative Data Analysis (CAQDA) software for analysis. Denominating data with codes, which is the most commonly employed method of organizing qualitative data, puts the data into manageable groups for analysis (Ravitch & Carl, 2016). Coding assigns meaning to the data and constitutes an essential part of qualitative research analysis (Ravitch & Carl, 2016). Coding helped to organize the data into the concepts, themes, and events that align with the data to provide answers to my research question.

Definition of Terms

Healthy lifestyle: A healthy lifestyle includes exercise in daily routines, avoiding a sedentary lifestyle, and engaging in healthy eating habits (Tabong, Vitalis, Dumah, Kyilleh, & Yempabe, 2018). Marck et al. (2018) defined a healthy lifestyle as regular physical activities, stress reduction, and a healthy weight. For this study, a healthy

lifestyle was defined as eating a healthy diet, exercising, and engaging in active weight loss programs.

Native Hawaiians and other Pacific Islanders (NHPI): Native Hawaiians and other Pacific Islanders are the people from Hawaii and the 22 nations and territories that cover large areas of Micronesia, Melanesia, and Polynesia, which are spread across the Pacific Ocean (Matheson, Park, & Soakai, 2017). Native Hawaiians and Other Pacific Islanders have been abbreviated in the literature as NHPI.

Overweight: Overweight is considered to be a BMI of 25 or greater. It is also considered a precursor to obesity (World Health Organization, 2014).

Obesity: Obesity is defined as excessive fat accumulation up to the point at which a person's BMI, which is the parameter used to indicate the level of overweight and obesity in adults, is 30 or greater (World Health Organization, 2014).

Assumptions and Limitations

In conducting the current study, the following assumptions were considered:

1. The interview participants have the same understanding about being "English speaking," and that we would understand and collaborate seamlessly.
2. Expressing lived experiences can be influenced by participants' capacity for recall.
3. Qualitative researchers seek knowledgeable interviewees who can provide the rich, in-depth interview responses needed to understand the phenomenon under study (Rubin & Rubin, 2012). I assumed that the selected interview

partners would provide the broad perspectives necessary to unravel the meaning of the phenomenon being studied.

4. The information provided by the Tongan participants will truthfully reflect their beliefs and experiences.

Scope and Delimitations

The phenomenon that anchored this study was the exploration of the perspectives, essence, and experiences of Tongans who have obesity and diabetes and are striving to achieve a healthy lifestyle. Descriptive phenomenology requires the participants to describe in their own words the experiences they have undergone firsthand, in alignment with Husserl's phenomenology (Derico, 2017). Therefore, Tongans who are 18 years or older, and are English speaking with the ability to use language to tell their own stories were recruited. Participants agreed to be interviewed and have their conversations tape-recorded. They also agreed to travel to the interview site or select a location convenient for them. Children, pregnant women, prisoners, cognitively impaired persons, and residents of any facilities were excluded from the study.

Potential Transferability

Exploring the lived experiences of Tongans in the western metropolitan part of the country is a localized study. Transferability of the study, therefore, may be affected. However, certain principles can make this study transferable. First, the study findings can be transferable to other communities that share similar attributes as those of the population in this research study, which include setting, population, and cultural affiliation (Patton, 2015). Similarly, transferability is possible if the findings are broken

up into essential components, which can become transferable to variables of another population (Patton, 2015). Though transferability is not synonymous with generalizability and phenomenology is not suited for generalizability, phenomenology can help to examine participants' responses to their experiences and transfer the responses and insights as valuable tools to other groups with similar and comparable experiences, backgrounds, and life circumstances (Burkholder et al., 2016).

Limitations

Phenomenological studies have some inherent limitations. First, in qualitative research, interview data is audiorecorded and supplemented by field notes. The transcribed data can be voluminous, and data analysis can be quite overwhelming and laborious. Consequently, I used a small sample size of 11 participants, as is typical of qualitative research, which may inhibit transferability (O'Gara, Tuddenham, & Pattison, 2018). The extensive nature of the data to be analyzed also means that the researcher needs to plan to be proactive (Azevedo et al., 2017). Thus, I started coding the data as soon as it was collected without waiting to complete all the interviews.

Another potential limitation is that qualitative researchers are required to assume a neutral position in the interview process. Neutrality is not always feasible, and the researcher has to understand specific techniques for dealing with personal biases, perceptions, theoretical persuasions, and experiences of the interviewees (Patton, 2015). I succeeded in finding a balance between neutrality and empathy by bracketing my personal biases and offered empathy when it was needed. As a result, there were no

significant drawbacks, which helps enhance the rigor needed in the interview process, (Patton, 2015).

Another limitation is that an interview can become complicated when participants focus their answers along political lines, become too emotional to proceed further, or engage in falsehoods or exaggerations. The researcher can decide not to provide follow-up questions in such situations but to go back and redirect the conversation to the interview question where they left off, if appropriate (Rubin & Rubin, 2012).

Finally, the selected participants were limited to one specific local area in the study's geographical location, which aligns with phenomenological studies involving elements common to people of a specific society (see Patton, 2015). As a result, the findings of this study might not be generalizable to other populations (Borimnejad, Valizadeh, Rahmani, Whitehead, & Shahbazi, 2018). Further, participation in this study was voluntary; therefore, participants who were difficult to reach or did not participate voluntarily were excluded, prolonging the recruitment process.

Biases

My personal philosophical viewpoint of the world could have affected the way I interpret the data (Creswell, 2016). However, I recognized my personal biases and set them aside to collect objective data that yield quality findings. By investigating a phenomenon objectively, subjectively, and intersubjectively (Laureate Education, 2009), a researcher can realize and accept his/her philosophical ideology, address it and set it aside to create a nonbiased perspective during the research study. My ideology of the world is that the knowledge, morale code, and truth a person holds is based on their

previous experiences and on their social context. I bracketed this notion and conducted interviews with the mindset of hearing the Tongan interview partners express their experiences and perspectives. In addition, I have a professional knowledge of chronic diseases compared to that of the research participants, so I could have influenced the interview process by offering prompts instead of allowing the participants to share from their level.

Significance of the Study

The literature indicates that the prevalence of obesity and diabetes is higher among Tongans and NHPI than any group in the world (Hafoka, 2017; Hawley & Mcgarvey, 2015). There are morbidity and mortality implications resulting from obesity and diabetes that affect the quality of life of individuals and their families including reduction in productivity and expenditure on healthcare. Thus, this study is significant for the selected Tongan communities and the field of nursing. This study provides culturally specific knowledge about obesity and diabetes by highlighting the meaning and essence of lived experiences of Tongans in the study area who have obesity and diabetes. The population of Tongans and NHPI in the western metropolitan region of the United States exceeds that of any other state in the country, except Hawaii. Four out of every 30 people in the selected region are of Tongan or NHPI descent (Semerad, 2013).

The research results could inform healthcare practitioners and relevant officials in the design of preventive programs that are culturally specific to foster positive outcomes for the target population. Educational programs designed by healthcare practitioners and public health officials to address the specific cultural needs of the Tongans have the

potential to increase positive changes related to how this population provides self-care to improve their quality of life. Furthermore, the study contributes to the knowledge of diabetes with its focus on Tongans in the western metropolitan region of the United States and provides a better understanding of the challenges they face. As this study has uncovered the distinct lived experiences of Tongans in the selected location, healthcare practitioners may gain better understanding of their cultural perspectives about obesity and diabetes and develop culturally relevant programs for the group with practice, further research, education, and policy implications.

Summary and Transition

Obesity and diabetes prevalence for Tongans indicate an upward trend at the state and national levels as well as in the Pacific. For example, Tongans and NHPI are 30% more likely to have obesity and twice as likely to be diagnosed with diabetes as Caucasians (Braden & Nigg, 2016). Compounded with the increased prevalence of obesity and diabetes is the rapid and disproportionate population growth of the selected group along the western part of the country (Dentzer, 2018). The literature addresses prevalence of obesity and diabetes among Tongan Americans and NHPI; however, their perspectives and experiences in the western metropolitan region of the United States relating to the prevalence of the two diseases have not been sufficiently researched (Hagiwara et al., 2016; McLennan & Ulijaszek, 2015).

With such a high risk of obesity and diabetes among Tongans, their rapid population growth in the selected part of the country, and the lack of understanding regarding their perspectives with obesity and diabetes, the need to explore the group's

experience with the diseases is significant. Therefore, I explored the lived experiences of Tongans with obesity and diabetes who live in the selected region. The findings might inform healthcare practitioner with a better understanding of how to design programs to foster positive outcomes for the target population and improve provider and nursing care of patients with obesity and diabetes. In addition, the study contributes to the knowledge of obesity and diabetes among Tongans in the study area and provide a better understanding of existing literature in a new population and location to reduce obesity, control diabetes, decrease diabetes complications, and improve the quality of life of the group. The study used qualitative descriptive in-depth interviews. The interview data were transcribed verbatim, coded, and analyzed.

In Chapter 1, I discussed the background, the problem statement, the purpose, and nature of the study. Additionally, in Chapter 1, I had an outline of the research questions, the significance of the study, and the theoretical framework. Chapter 2 provides the current literature that establishes the relevance of the problem of the study in addition to a synopsis of the theoretical foundation that anchors the study. In Chapter 2, the theory domains are presented under the subheadings Obesity, Diabetes, Pacific Islanders, Tongans, and Culture.

Chapter 2: Literature Review

Introduction

The purpose of this descriptive phenomenological study was to explore the lived experiences of Tongans in a western metropolitan part of the United States who have diabetes and face challenges with weight control while trying to achieve a healthy lifestyle. Tongans and NHPI are at a higher risk of obesity and diabetes than the general population (Bacong, Holub, & Porotesano, 2016; Hafoka, 2017; Oshiro et al., 2015; Teevale et al., 2015; Tseng & Kwon, 2015). This trend extends to youth and children in this population. For instance, Novotny et al. (2015) reported that over 30% of Hawaiians 5 to 8 years old are overweight or obese, and Samoan children are 17 times more likely to be overweight or obese than White children. The effects of the disease in Tongan an NHPI youth must not be ignored because youth obesity is likely to translate into adult obesity (Braden & Nigg, 2016).

As NHPI and Asian Americans have grown faster than any other population groups in the United States over the past 30 years, their healthcare issues and the high prevalence of diseases among them have become increasingly relevant in the context of U.S. healthcare (Tseng & Kwon, 2015). However, little research has been focused on the group’s perspectives and lived experiences. Healthcare practitioners do not fully understand the cultural factors related to diet, obesity, and diabetes among Tongans (Kirtland, Cho, & Geiss, 2015). Therefore, more studies relating to culturally appropriate interventions are needed (Perkins et al., 2016). Researching the increase in the incidence of obesity and diabetes among Tongans and NHPI from their perspectives and lived

experiences may offer an understanding of the cultural context of both conditions as well as inform culturally appropriate interventions and programs that might help address both conditions. Chapter 2 provides an overview of the literature search strategies, the theoretical foundation, and detailed literature related to the main theoretical domains of the phenomenon of study—namely, obesity, diabetes, Pacific Islanders, Tongans, and culture.

Literature Search Strategy

I investigated several sources to identify the literature most pertinent to understand and integrate the central themes that would indicate the gap that justifies my research. The literature review encompassed a search of peer-reviewed articles published in English between 2015 and 2018. However, when critical information was needed in older sources, they were used. Databases searched, most of which were from the Walden University library, included CINAHL, CINAHL & MEDLINE (a combined search), and ProQuest Nursing & Allied Health Source. In addition, the CDC, Department of Health and Human Services, and the World Health Organization sites were also extensively searched. Furthermore, the library for the Church of Jesus Christ of Latter-day Saints was searched for information about the target group. The search words used were a keyword combination of *Obesity, Diabetes, Pacific Islander, Culture, Tongan, Selected State, Selected City, US*, and *social change*. The searches were conducted electronically and included the references of the relevant articles. Because my search of the literature on Tongans produced sparse results, I broadened the search to include NHPI, and where necessary, expanded the search date beyond 5 years to access more literature about

Tongans. For example, in my research on Tongan dietary practices, I had to include literature from 2001. Likewise, to capture more data on Tongans in the selected location I accessed information from the *Salt Lake Tribune*, the leading newspaper in the area.

Theoretical Foundation

A theoretical or conceptual framework is a hypothetical structure that researchers use to link a study's findings with a body of knowledge in a field (Grove, Burns, & Gray, 2013). Such a framework is a blueprint that researchers and scholars have developed, tested, and validated (Grant & Osanloo, 2014). Two main frameworks align and anchor this study: Rogers's model of SUHB (Petiprin, 2016) and Bandura's model of RD (Grier et al., 2015).

Martha Rogers's Model of Science of Unitary Human Beings

Rogers's SUHB is a nursing model that strengthens the understanding of the concept of humans in continuous and mutual coexistence with their environment (Fawcett, 2015). The Husserlian descriptive phenomenology is more appropriate for the SUHB than other methodologies (Fawcett, 2015). My choice of the SUHB reflects the need to consider the cultural components, lived experiences, and perspectives of the target population in planning care and developing comprehensive and holistic programs that will address the problems related to obesity and diabetes in the group. Rogers's theory is congruous with appropriate care and developing programs that facilitate an environment that aligns with the perspectives of irreducible human beings such as the Tongans in the western part of the United States.

The SUHB is focused on care and healing from a holistic perspective (Koithan et al., 2017) and postulates that human behavior is a reflection of the comprehensive effects of the collective influence of environmental factors (Leddy, as cited by Rahim, 2016). Rogers's theory is ingrained in the homeodynamic assumptions of resonancy, helicy, and integrality (Alligood & Fawcett, 2017). Rogers used principles of physics to explain health as a product of the relationship between human beings and their environment that highlights the necessary integrality of the person and the environment (Reed, 2016). Resonancy refers to the constant changes in the energy level of people in response to changes in the energy levels of the environment (Petiprin, 2016). For instance, with a better understanding of the perspectives of Tongans, better programs will be developed with holistic care tailored to the needs of the group. From the Rogerian concept of integrality, the energy fields of the Tongans are one and continuous with the environmental determinants of obesity and diabetes, meaning a change in one element will cause a comparable change in another such as the health of Tongans (Rahim, 2016).

The behavior and attitude of Tongans are affected by environmental factors such as dietary choices, culture, and the processes of healthcare and follow-up appointments, which translate into their obesity and diabetic conditions. This study provides their experiences, which can offer a better understanding of their situation so healthcare professionals can provide better care. This research can help health care providers establish guidelines to manipulate the environment to create positive social change, which will lead to a better quality of life, described as Rogerian helicy (Badr et al., 2014; Phillips, 2017).

The Reciprocal Determinism Model

In exploring the lived experiences of Tongans with obesity and diabetes in the western metropolitan areas of the country, I considered Bandura's theory of RD in alignment with my phenomenon of study. RD is an assertion that people's behaviors are a reflection of their past and current experiences. The RD framework postulates that people's behaviors are influenced by the constructs of their belief systems, and a change in people's environmental variables can change their beliefs (Sarin & Lunsford, 2017). According to Grier et al. (2015), RD is a social cognitive theory about the environmental influence on the behavior of individuals. People acquire and maintain behaviors reflective of their environmental constructs; conversely, the environmental variables are influenced by the behavior of people (Grier et al., 2015).

The theoretical approach of Bandura's RD implies the mutually dependent coexistence of people and their environment including their past experiences (Niermann et al., 2015). This concept mirrors the Rogerian model of the coexistence of irreducible humans and environmental energy fields (Rahim, 2016). Moreover, The RD model's triadic relationship of the environmental elements, the personal factors, and behavioral outcomes (Haegele & Porretta, 2017) mimic the SUHB model by Rogers. According to SUHB, there are energy fields that are shared mutually by humans and their non-living elements coexisting as irreducible wholes (Rahim, 2016), which influence and are influenced in continuous exchange of energy.

Science of Unitary Human Beings, Reciprocal Determinism, and Tongans who have Obesity and Diabetes

SUHB and RD address humans and their environment, which makes them compatible with Tongans with obesity and diabetes and the determinants that inflate or reduce the prevalence of obesity and diabetes. Both the RD and SUHB recognize the importance of people going through a disease process and their need for social support. The Tongan American and NHPI populations have a higher per capita incidence of obesity and diabetes than other populations (Hafoka, 2017; Hawley & McGarvey, 2015; Charlton et al., 2016). Researchers have identified several reasons for the high prevalence of obesity and diabetes among Tongans: cultural beliefs, traditions (Jia et al., 2017), colonization, socioeconomic status, dietary options, physical activity opportunities, prenatal and early life factors, policy-level variables, and access to education and healthcare, education level, and geographic locations (Braden & Nigg, 2016; LaBreche et al., 2016; Lin et al., 2016; Samouda et al., 2018; Wan et al., 2018). These factors could be determinants of the high prevalence of obesity and diabetes in the selected group.

The cultural perspectives of people are crucial in modifying determinants that decrease obesity, control diabetes, and increase survival. But cultural perspectives are absent in most of the research literature (Ogden, Carroll, Kit, & Flegal, 2014). The cultural perspectives of Tongans are indispensable components of the SUHB energy fields and Bandura’s environmental elements and central to understanding the development of appropriate interventional programs by healthcare practitioners to improve the care of the group as they strive for a healthy lifestyle.

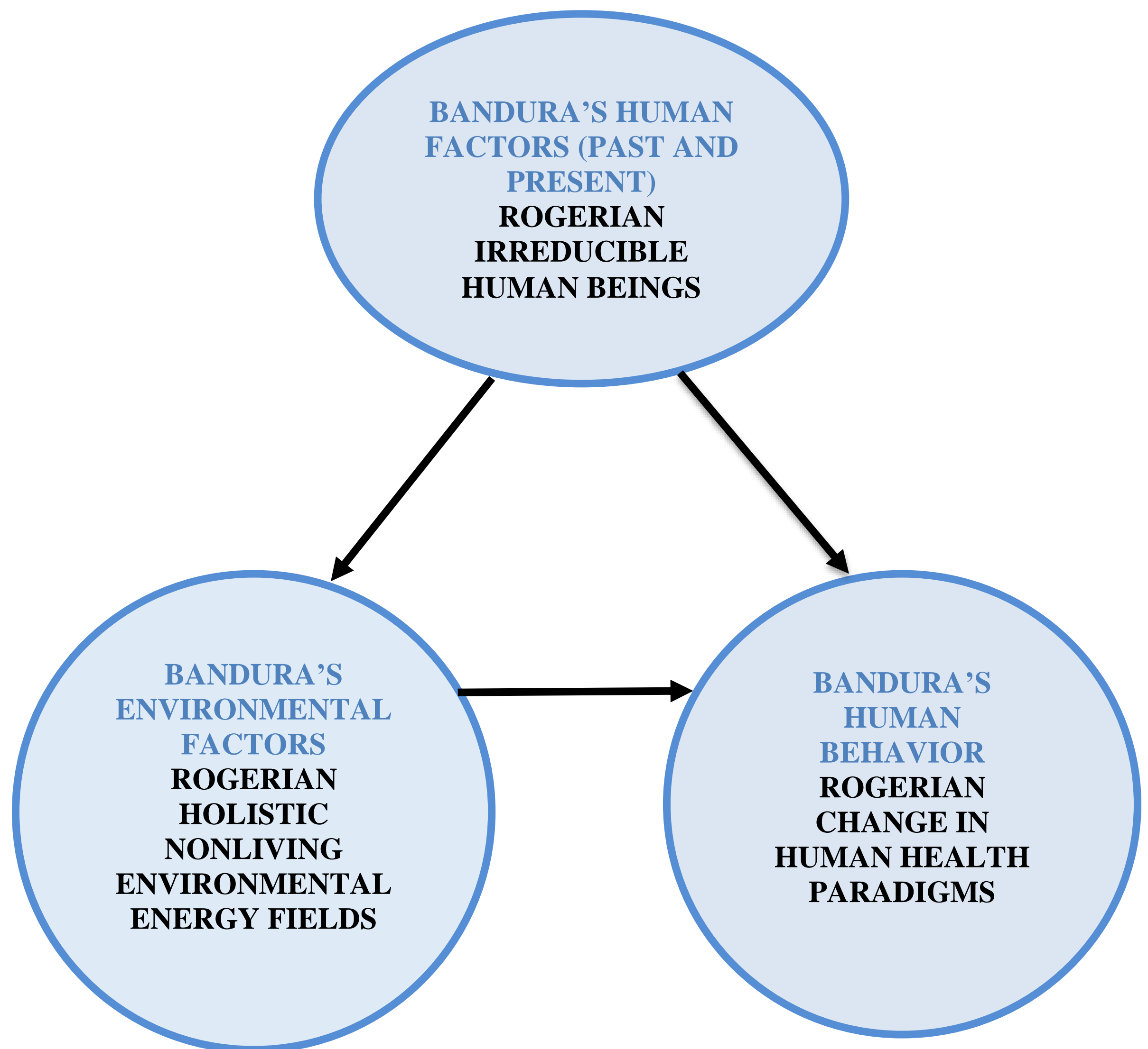

Figure 1. Mapping of reciprocal determinism and science of unitary human beings. Taken from Grier et al.'s (2015) and Reed's (2016) descriptions of the models.

Literature Review

The literature review is presented under the following domains: Pacific Islanders, Tongans, Obesity, Diabetes, and Culture.

Pacific Islanders

Pacific Islanders have an ancestry that ranges from Micronesia and Melanesia to Polynesia Carlton (2012, May 8). The first Pacific Islanders to arrive in the selected state came from Hawaii in 1873 and New Zealand in 1884 (Semerad, 2013). Tongans and Pacific Islanders usually migrate from the islands to three main countries: the United States, Australia, and New Zealand (Hawley & McGarvey, 2015). About 20 different subgroups have been identified under the NHPI umbrella, and although they have different norms, traditions, languages, geography, economy, and population size, they all share a similar island culture as well as the fact that they were all colonized by the United States (Braden & Nigg, 2016; Charlton et al., 2016). Pacific Islanders are a heterogeneous group that should be categorized into separate entities to fully understand their specific health needs (Hagiwara et al., 2016) such as studying Tongans separately as is in this current study.

Compared to other population groups, Pacific Islanders are particularly at risk because of the prevalence of obesity and diabetes (Bacong et al., 2016; Cho et al., 2018). Researchers have theorized that because Pacific Island inhabitants live in relatively small geographical areas, and are isolated, they are powerless in negotiating in the discourse on international trade policy and hence suffer food shortages (McLennan & Ulijaszek, 2015). The resulting food shortages, which makes the Pacific Islanders open to foreign

food products, has genetically predisposed them to weight gain (McLennan & Ulijaszek, 2015).

Though studies have focused on obesity and diabetes and their relationship with demographics, age, socioeconomic status, diet, and physical activity, research has not been focused on the lived experiences of the group (Braden & Nigg, 2016; LaBreche et al., 2016; Lin et al., 2016; Wan et al., 2018). Additionally, the aggregation of NHPI and Asians in health disparity research has masked the predisposition of NHPI toward diabetes and its prevalence. This has prevented healthcare practitioners and other relevant officials from addressing health issues specific to the group (Bacong et al., 2016). The disaggregation of ethnic groups in current research and the consequent reevaluation of the findings have revealed the high prevalence of diabetes in the group, which has informed health disparity interventions (Bacong et al., 2016; Braden & Nigg, 2016).

The current U.S. population includes about 1.2 million NHPI (Bacong et al., 2016; LaBreche et al., 2016), of whom 37,000 live in selected state, an increase of 60%-70% in the state over 10 years (Semerad, 2013). As one of the fastest-growing ethnic groups in the United States, Pacific Islanders often have many unmet health care needs. Considering this group's accelerated growth, the relative lack of data on their culture and lifestyle, and the burden of obesity and diabetes afflicting them, it is imperative that culturally-focused interventions be applied to establish the significant determinants of the diseases and mitigate them (Braden & Nigg, 2016). According to projections, the Asian and Pacific Islands will account for as much as 50% of the world's incidence of diabetes by the year 2030 (Huang et al., 2015).

Currently, of the more than 10 million Pacific Islanders spread over 22 nations across the Pacific, over 50% are obese and 25% live with diabetes Carlton (2012, May 8). Furthermore, they are three times more likely to die of diabetes than non-Hispanic Whites are. Of the 10 countries with the highest prevalence of diabetes, at least six are from the Pacific Islands, which further emphasizes the need for greater preventive strategies by healthcare professionals and policymakers for this population (Matoto et al., 2014; Tin, Lee, & Colaquiri, 2015). Of the studies focused on obesity and diabetes, little is known about the real causes of the disease among the selected group and what the most impactful determinants are to modify or decrease the incidence of this diseases and increase longevity (Braden & Nigg, 2016).

Dietary choices of Native Hawaiians and Pacific Islanders. NHPI appear to consume significantly fewer vegetables and more fast food and sodas compared to their White and Asian counterparts (Bacong et al., 2016; Kessaram et al., 2015; McLennan & Ulijaszek, 2015). Kwon et al. (2015) noted that NHPI have higher vulnerability to obesity partly due to the group's high consumption of high-calorie fast foods and partly due to the group's concept of body image. According to Semerad (2013), the main cuisines of the Islanders in the selected geographical area are bananas and plantains, fish, pork, and root tubers. Meta-analyses of diet-focused interventions for those at risk of type 2 diabetes have identified the following factors that lower the odds of disease onset: low intake of saturated fats, total fat, and trans-fatty acids, as well as high consumption of non-starch polysaccharides, omega-3 fatty acids, and low glycemic index foods (Hall et al., 2016). However, Pacific Islanders have shifted from their indigenous low-fat,

complex carbohydrate, leafy greens, and fish diet to foreign alternatives such as refined starches, sugar-sweetened beverages, and oils (Charlton et al., 2016).

People of Pacific Island descent, whether living in the United States or in the Pacific, suffer the predicament of obesity and diabetes more than other population groups around the globe (Hafoka, 2017; Hawley & Mcgarvey, 2015; Charlton et al., 2016). Here in the United States, the group shows higher obesity and diabetes trends. For example, Tongans and Samoans studied in parts of California showed 95% incidence of higher than normal BMI and 90% prevalence of obesity (Bacong et al., 2016). In the Pacific, it is projected that Pacific Islanders and Asians will bear 50% of the world's prevalence of diabetes by the year 2030 (Huang et al., 2015). Charlton et al. (2016) noted that one of the problems was food insecurity in the Pacific due to urbanization and population growth. Food insecurity is now a real threat that needs robust reforms to reverse the regrettable trajectory, and one such unfortunate outcome is the existence of obese adults living with malnourished children in Pacific households (Charlton et al., 2016). This alarming trend does not get better when the group migrates to the United States. According to Charlton et al. (2016), the diets of Pacific Islanders who migrate to the United States get even worse with time due to the incorporation of processed and sugar filled foods and drinks in meal structure.

Consequently, public health officials have embarked on the use of evidence-based policy systems and environmental strategies such as vegetable gardens and farmers' markets to enhance the availability of nutritious food (Kwon et al., 2015). Kwon et al. (2015) argue that an increased abundance of vegetable gardens boosts the consumption of

healthy foods, which in turn lowers BMI. To support changes in the dietary practices of targeted communities, including NHPI, the CDC provided a $3 million grant to fund healthy lifestyle programs for 15 Asian Americans and NHPI communities in what is called the Strategies to Reach and Implement the Vision of Health Equity (STRIVE) Project (Kwon et al., 2015; Patel et al., 2015). However, there is no certainty as to whether these programs are effectively reaching the most vulnerable, targeted populations. Even though the initiatives are described as reaching over one million people and are considered relatively inexpensive, Patel et al. (2015) noted that they lacked the cultural context relevant to the NHPI. In response to the challenge, Kwon et al. (2015) advocate culturally focused interventions, such as culturally relevant gardens and farmers' markets that would attract the target group.

According to Hall, Lattie, Mccalla, and Saab (2016), careful consideration of Pacific Islanders' financial capabilities is critical in the development of dietary education for the group, which often cannot follow nutritional guidelines above their means. Ndwiga, MacMillan, McBride, and Simmons (2018) reported findings by Umpierre et al. that combining both healthful dietary practices and physical activity yielded more substantial reductions in diabetes markers and reduced obesity than just physical exercise or a healthy diet alone. Healthy nutritional practices exclude the consumption of sugar-sweetened beverages like soda and soft drinks, juices, and flavored milk (Kessaram et al., 2015), which unfortunately have become some of the most accessible options for Pacific Islanders. The group has replaced their vegetables, fruits, fresh fish, and root crops with processed energy-dense foods due to globalization, trade liberalization, urbanization,

accessibility, convenience, and affordability (Kessaram et al., 2015; Charlton et al., 2016). This trend has not only resulted in a sedentary lifestyle, but also an increase in leisure behavior among NHPI, according to Tin, Lee, and Colaquiri (2015).

Tongans

Geographically, Tonga comprises 170 islands in the Polynesia part of the Pacific (Matoto et al., 2014). The nation is divided into five main island groups, namely Tongatapu, Vava'u, Ha'apai, 'Eua, and Niuas (Lin et al., 2016). In the United States, these differences are not known as most people recognize the group as Tongans or Tongan Americans. Tonga is sometimes referred to as the "diabetes heavyweight of the Pacific" Carlton (2012, May 8). The population of Tongans on the Tongan Island is about 106,000. While 50% of the population have obesity, nearly one in every five people have diabetes (Matoto et al., 2014). According to Matoto et al. (2014), diabetes morbidity was common among Tongans with diabetes, with more than 6% reporting limb amputation, 57% reporting kidney failure, 43.8% with strokes, and 33.9% reporting heart disease. Likewise, a random survey of a sample of Samoans and Tongans in Los Angeles and San Mateo revealed that more than 95% of participants were above the normal BMI ranges, with 90% classified as overweight or obese (Bacong et al., 2016). In another study, Lin et al. (2016) suggested that obesity among Tongans will increase to 64%-80.5% by 2020.

The Church of Jesus Christ of Latter-day Saints has had a presence in the Island of Tonga for more than a century, and their numbers there surged during World War II, which made it easier for Tongans to migrate to the selected state in large numbers, with the first arrivals in 1924 (Church of Jesus Christ of Latter-day Saints, 2018). There are

more Tongans in the Church of Jesus Christ of Latter-day Saints, which is the predominant religion in the selected geographic area, than any other nation in the world (Church of Jesus Christ of Latter-day Saints, 2018). Currently, every county in the selected state boasts a considerable number of Tongans, who are one of the two largest Polynesians segments in the state (Semerad, 2013). Two of the cities in the selected state, respectively, have the largest and second-largest populations of Tongans of any city in the United States (Dentzer, 2018). About 25% of all U.S. Tongans live in selected state, and the overall proportion of NHPI in selected city is higher than any other city in continental U.S. (Dentzer, 2018). In fact, LaBreche et al. (2016) suggested that weight loss programs across the US should focus on cities with high populations of NHPI, and the authors made specific mention of selected city for this study.

Although often studied as a single, undifferentiated group because of sample size limitations, Pacific Islanders are highly heterogeneous, and it is crucial to consider Pacific Islander population groups separately to understand their health needs and health care patterns, such as exploring their lived experiences with obesity and diabetes. In efforts to understand Tongan perspectives on obesity and diabetes, Matoto et al. (2014) explained the need to understand that, as a cultural group, Tongans consider the absence of symptoms as being disease-free, which may affect how they receive lifestyle positive social change. Unfortunately, diabetes is usually at an advanced stage before any symptoms are identified. Although not many health related studies have focused on Tongans, the findings from most of the studies conducted to date indicate that diabetes is a big problem among Tongans. For instance, the first population-based health studies

conducted in Tonga in 1975 showed a 7.5% prevalence of diabetes, a figure which almost doubled to 15.1% in 1998 (Matoto et al., 2014).

Furthermore, Healthcare practitioners, policymakers, and other relevant officials have not determined why programs that have reduced obesity and diabetes in other population groups have not worked with the Tongans and NHPI populations (McLennan & Ulijaszek, 2015). This might be an indication of previous research's lack of attention to culture in health related studies involving this population. Programs have not been effective in part because they lack a cultural focus, and culture is not factored into these programs' design, as no empirical studies have emphasized the importance of culture in programs designed to address obesity and diabetes among Tongan Americans and NHPI (Braden & Nigg., 2016; Jacques et al., 2017; Jeganathan et al., 2017; Oshiro et al., 2015). Healthcare professionals' understanding of these culturally related determinants may foster effective assessments of the health and ongoing follow-up care of individuals in this population. Similarly, understanding the cultural factors that influence the experiences of Tongans will help healthcare practitioners to address the needs of the selected community.

The persistent, high prevalence of obesity and diabetes among this population indicates that there has been little improvement in their lifestyle in spite of increased attention to these diseases (Evans, Sinclair, Fusimalohi, & Liava'a, 2001). Hence, the realities of Tongans, and their perception and experience of obesity and diabetes are crucial (Patton, 2015). Understanding the essential elements of their lived experiences and identifying the critical elements in their perspective is imperative because effective

diabetes management involves the direct participation of the affected individuals who must be responsible for their care (Matoto et al., 2014).

Dietary choices of Tongans. Tongans, like their NHPI counterparts, consume similar foods, namely starchy root vegetables, such as Taro and yams, bananas and chestnuts, with protein sources coming from marine foods (Stantis, Kinaston, Richards, Davidson, & Buckley, 2015). Evans et al. (2016) report similar trends of Tongans shifting indigenous food items to imported foods with high fat content, such as corned beef, mutton flaps, and refined and starchy foods. Reports by Hawley and McGarvey (2015) from Samoa indicate similar trends in which fish, yams, fruits, and vegetables have been replaced with instant noodles, high-sugar snacks, and turkey tails. Over 80% of the indigenous foods have been replaced with imported alternatives (Hawley & McGarvey, 2015). Evans et al. (2016) made a salient point about this switch, stating it is partly influenced by affordability. According to Evans et al. (2016), these imported health-compromising foods are 15%-50% cheaper and more readily available than the healthier, locally produced alternatives. Witter et al. (2015) reported similar findings among Fijians, among whom the primary drivers for food procurement are cost and convenience due to the high prices of local foods and the replacement of local choices with cheaper, less healthy Westernized alternatives. The authors assert these factors explain the higher prevalence of diabetes among urban dwellers compared to rural groups. Evans et al. (2016) suggested that since obesity and diabetes are lifestyle diseases, positive social change strategies that control the lifestyle of the Tongan people would reduce obesity and diabetes.

According to Evans et al. (2016), Tongans, like the members of all other Pacific cultures, have food preferences that are linked to their cultural norms, practices, and perspectives. Therefore, transforming these patterns through educational and other program initiatives would reduce disease and improve survival (Evans et al., 2016). Freeman (2015) proposed government agencies should enact policies that reduce health disparities and promote public health by removing subsidies from health-compromising food items from the markets of these indigenous communities with a high incidence of diabetes.

Obesity

Obesity and overweight are defined as excess weight over healthy weight for a given height (CDC, 2017). When the difference between the energy humans consume, and the energy they expend is positive, the resulting fat accumulation over time adds on to be the extra body weight (Albuquerque, Stice, Rodríguez-lópez, Manco, & Nóbrega, 2015). Obesity has been identified as the most significant risk for factor diabetes and other chronic diseases (Lin et al., 2016), with high morbidity and mortality (Hu et al., 2015). Most of the literature indicates that researchers use BMI as a measure for overweight or obesity. The challenge is that the BMI range is different for different researchers. For example, while the CDC classifies a BMI of 25-30 as overweight, and a BMI greater than 30 as obese (CDC, 2017; Villanueva, Arteaga, Maize, & Cortés, 2018), Wang et al., (2018) define overweight as a BMI greater than 24 and less than 28, and suggest that a BMI of 28 or higher is indicative of obesity.

Bacong, Holub, and Porotesano (2016) have cautioned researchers and healthcare teams not to base measures of obesity on BMI alone because of the limitations of this benchmark. BMI cannot differentiate adiposity from muscle mass, and even though BMI should measure excess fat, it measures excess weight (Bacong et al., 2016; Department of Health and Human Services, n.d.). However, the Department of Health and Human Services (n.d.) encourages the use of BMI because of its simplicity and economy of application, as well as the non-intrusive nature of the measurement.

Obesity is a global health problem that is worsening, especially among minority ethnic populations (Bacong et al., 2016). The high global obesity crisis has attracted much public health attention due to its association with life-threatening diseases (Hobbs et al., 2018). While genetic predisposition has been recognized as contributing to diabetes Hobbs et al. (2018) have emphasized the importance of environmental factors as well, especially the cultural components of the disease. Researchers have tried to identify the catalysts for the increasing prevalence of obesity and have come up with various contributing factors, such as dietary choices, night shift work, age, activity level, behavioral characteristics, gender, genes, and education level (Hobbs et al., 2018; Samouda et al., 2018; Cheng et al., 2018).

Globally, poor nutrition and bad lifestyle choices have been blamed for most of the high prevalence of obesity, diabetes, heart disease, and cancer (Bacong et al., 2016). Some researchers, such as Albuquerque, Stice, Rodríguez-lópez, Manco, and Nóbrega (2015), believe natural selection plays a part in the predisposition of some genes to increase the phenotypic risk of developing obesity. Cheng et al. (2018) contended that the

most important consideration is that obesity is a complex and multi-factorial disorder, which must be called a disease to highlight the seriousness of its effects on health. Samouda et al. (2018) found that geographical location is another variable that determines the prevalence of obesity, and maintained that categorizing obesity as a disease could serve as a valuable means of informing policymakers of the need to allocate funds to support obesity-related interventions and programs. In addition, McLennan and Ulijaszek (2015) asserted that the various theories surrounding the determinants of obesity are deficient without including the historical and sociocultural components.

Apart from the pivotal causative role obesity has in the development of diabetes, the condition also contributes to other serious health problems such as heart disease and cancers, some of which could become irreversible and life-threatening (Albuquerque et al., 2015). Moreover, there are considerable social and personal ramifications for people who have obesity. These range from social stigma to low self-esteem, depression, and suicidal ideation (Albuquerque et al., 2015; Tseng & Kwon, 2015). Dimitrov Ulian et al. (2018) focused their study on obesity as it impacts individual's self-image, and found that improving an obese person's body image involves planning interventions that address not only weight loss via diet and exercise but also focus on the perspectives of individuals and their need for self-worth. Dimitrov Ulian et al. (2018) noted that the negative connotations society places on obesity results in binge eating and other eating disorders, low self-esteem, and stigmatization. Accordingly, programs should address social stigmas and engineer changes in people's perceptions so they can welcome individuals of all body sizes and work to foster their psychological well-being (Dimitrov Ulian et al.,

2018). This Health at Every Size approach has been found to promote not only healthy lifestyle behaviors but also to foster self-image, which creates sustainable weight loss lifestyles (Dimitrov Ulian et al., 2018).

Obesity morbidity in the United States follows the global trend and has become such a concern for healthcare practitioners and other relevant authorities that greater efforts are being directed towards understanding the reasons for the increase (Bacong et al., 2016). Bacon et al. (2016) found that the obesity problem of Pacific Islanders is consistent with the national data, which indicates that NHPI experience greater obesity and obesity-related health disparities than other races. Despite all the efforts, attention, and mandates from healthcare leaders, the prevalence of obesity continues to be high, especially among Pacific populations in places such as Pacific New Zealand, which has a 66.9% obesity rate, making it one of the highest in the world (Glover et al., 2017). Similarly, a 2010 National Health Interview Survey statistics showed that when all races are considered together 34% of Americans are categorized as overweight, and 24% are considered obese (Bacong et al., 2016). The same survey indicated that when non-Hispanic White American adults are considered separately, their obesity prevalence is 26% compared to 42% for the NHPI group (Bacong et al., 2016). In contrast, and more alarming, Kwon et al. (2015) found that the incidence of obesity among Asian Americans and NHPI is about 76-90%, and the number is increasing because of the younger generation's assimilation of U.S. culture. Kessaram et al. (2015) found a similar trend of the high prevalence of obesity in NHPI youth, and suggested this situation was an enormous problem because it indicated the disease could persist for generations into

adulthood. Abdominal obesity, also known as truncal obesity, which is noticeable in many Pacific Islanders with obesity, has been described as abdominal adipose tissue in waists with a circumference greater than 102 cm for men and 88 cm for women, respectively (Tsujimoto & Kajio, 2017). Abdominal obesity has been found in all obese people (Villanueva et al., 2018) and is considered to predispose individuals to insulin resistance and diabetes (Bhaswant, Shafie, Mathai, Mouatt, & Brown, 2017; Villanueva et al., 2018).

In Tonga, the prevalence of obesity is projected to reach 64.5% for men and 80.5% for women by 2020. As a result, it is imperative that decisive measures on preventive modalities are put in place to reduce obesity. One such measure to mitigate the high rate of obesity among the NHPI youth, as suggested by Braden and Nigg (2016), is to promote more extended breastfeeding by mothers, because breastfeeding has been found to reduce childhood obesity. Braden and Nigg (2016) advocated that there is an urgent need for holistic interventions that meet the specific cultural perspectives of NHPI communities due to the disproportionate problems they face because of obesity. Braden and Nigg (2016) concluded that multiple interacting factors are involved in the predisposition toward obesity in the NHPI populations, and only a holistic approach, including cultural considerations, can maximize efforts to reduce obesity, prevent repercussions, and increase survival. Matoto et al. (2014) echo the approach that a strategic plan to reduce obesity should involve the patients' perspectives. Similarly, McLennan and Ulijaszek (2015) recommended that the problem of obesity should be

tackled as a product of interdependence and interconnectedness, rather than independence and individual choice.

Diabetes

Diabetes is a chronic metabolic disorder characterized by elevated blood sugar levels, which can lead to multiple significant and life-threatening sequelae, including kidney failure, cardiovascular problems, stroke, limb amputation, blindness, and early death (Akushevich et al., 2018; CDC, 2014; Cho et al., 2018; Han et al., 2016; Karter et al., 2015). Diabetes accounts for about 10% of the worldwide mortality among people aged 20 to 99 (Cho et al., 2018). Other complications include nerve disease, non-alcoholic fatty liver disease, gum disease, hearing loss, erectile dysfunction, and complications in pregnancy (National Diabetes Statistics Report [NDSR], 2015). Furthermore, life expectancy is shortened by up to 15 years in people with diabetes, and 75% of people with diabetes die from macro/microvascular complications such as foot ulcers (Chapman, 2017). Diabetes also has social effects on youth, such as low self-esteem and stigmatization (Braden & Nigg, 2016).

Alarmingly, diabetes affects 451 million people globally, a statistic that is expected to increase to 640-690 million by the year 2045 (Cho et al., 2018; Shi, Li, & Hou, 2017). Diabetes will have the most destructive impact on developing countries such as Asia and the Pacific regions where the rate is currently about 50% (Huang et al., 2015). Diabetes ranks very high on the international health agenda because it is not only a global pandemic but also a menace to people's health and a burden on the global economy (Wang et al., 2018). According to the 2010 Global Burden of Disease study,

mortality from type 1 and type 2 diabetes increased worldwide by about 20%, from 16.3 to 19.5 per 100,000 between 1990 and 2010 (Lin et al., 2016). Globally, the economic cost to people with diabetes in 2017 was about USD 850 billion, with the most significant impact on low-income nations and populations (Cho et al., 2018). Depending on geographical location and income levels, between 6% and 16% of the global healthcare budget is allocated to managing diabetes (Cho et al., 2018).

Moreover, global deaths attributable to diabetes were approximately five million in 2017. Huang et al. (2015) report the prevalence of diabetes in the United States to be 9.3% of the population, and while 21 million individuals have been diagnosed, another 8.1 million remain undiagnosed. Diabetes risk factors are mainly lifestyle related, with some genetic and non-genetic components. It is documented that weight loss has a dual benefit of preventing diabetes as well as its complications (Huang et al., 2015). Lin et al. (2016) noted that the prevalence of diabetes among NHPI increases with age, and that with the current population growth, the prevalence of diabetes would continue to grow.

Culture

Cultural affiliations in the Pacific are complicated because the Islanders are associated with different colonial masters, such as France, the United States, and New Zealand that exert certain cultural norms on the Islanders (Hawley & McGarvey, 2015). Hawley and McGarvey (2015) acknowledge that despite the different cultural identities, the islanders share a similar burden of a high prevalence of obesity, diabetes, and other non-communicable diseases. Matoto et al. (2014) discussed culture-related challenges, such as food, that have been found to hinder the efforts to address the obesity and

diabetes problems in Tonga. Food occupies a special place in the lives of Tongans. While it has been linked to the incidence of diabetes and obesity in Tongans, food also remains the single most important means to reduce the prevalence of diabetes (Matoto et al., 2014).

Culture, ethnicity, norms, beliefs, values, and attitudes influence the incidence of obesity and diabetes management (Manski-Nankervis, Furler, Audehm, Blackberry, & Young, 2015). For instance, Pacific Islanders believe the consumption of obesogenic foods instills a sense of belonging to the society, while abstinence from such foods portrays alienation (McLennan & Ulijaszek, 2015). LaBreche et al. (2016) assert that some of the Tongan cultural perspectives are problematic. For example, the Tongans believe their cultural norms, practices, and family expectations take priority over the need for a healthy lifestyle, and hence the group resists changes that conflict with the importance they ascribe to the family. Labreche et al. (2016) explained that a prominent person in the hierarchy of the people would need to be involved to get the group to accept lifestyle changes that may lower obesity and control diabetes. Leaders such as pastors, other ministers, and family leaders would not only motivate the group to bring about change but would also help develop programs that represent the culture of the population and enable better participation (Labreche et al., 2016). Labreche et al. (2016) concluded that the best way to reach Tongans and NHPI to change their behavior, habits, and attitudes is to develop programs and education that conform to their culture.

Kessaram et al. (2015) echoed the assertions made by Labreche et al. regarding the culture perspectives of Tongans and NHPI. According to Kessaram et al. (2015), the

centrality of food is to express nurturing and care and carries tremendous value in the group's social circles. Tongans and NHPI fashion their eating patterns according to the dictates of their family leaders and those of high socioeconomic ranks (Kessaram et al., 2015), and their families and societies' needs override individuals' needs (Wong et al., 2015). In addition, the culture of the target group, especially Tongans and Fijians, expects their males to be muscular, with sturdy and hefty bodies, which exerts pressure and influence on their eating patterns (Kessaram et al., 2015). Moreover, due to globalization, Tongans and NHPI have placed higher importance on the culture and food of the West, which may have contributed to compromising health and lifestyle choices (Kessaram et al., 2015).

According to McLennan and Ulijaszek (2015), there is a cultural paradigm shift across the Pacific from local cultural norms to capitalist values, which can influence the choices people make and their propensity toward obesity and diabetes. McLennan and Ulijaszek (2015) argued that post-colonial influences have affected the cultural norms of the Pacific. The dilemma is that the management of diabetes depends on two critical premises, namely self-care and ongoing changes in lifestyle patterns, both of which are strongly influenced by cultural norms, practices, and dictates (Wong et al., 2015).

Integrated Literature Review

The Western Pacific Island is home to 37% of the total global population of diabetic individuals, and Tonga is a member of the Western Pacific Islands (Cho et al., 2018). The Pacific Islands cover a third of earth's surface and comprise 22 nations of about ten million people (Matheson et al., 2017). Diabetes remains one of the most

significant health issues in the Pacific. The projected increase in the incidence of diabetes to 640-690 million by the year 2045 is alarming, and the fact that 50% of this number will be in Asia and the Pacific regions requires urgent attention (Huang et al., 2015). According to the CDC, Tonga has the unenviable record of being ranked third (behind the Cook Islands and Nauru) in terms of the percentage of the adult population that has diabetes in the Western Pacific Islands (Matheson et al., 2017). According to Semerad (2013), about 13% of people in the selected western metropolitan geographic location are Tongans or NHPI; and the number has grown by about 60-70% in the past decade. In addition, there are more Tongans in the Church of Jesus Christ of Latter-day Saints, the predominant religion in the selected geographic area, than any other population group in the world (The Church of Jesus Christ of Latter-day Saints, 2018), which explains the high presence of Tongans in the region under study in this dissertation.

Healthcare professionals are faced with the challenge of caring for individuals from cultural backgrounds with which they may not be familiar, such as Tongans who hail from the Pacific Islands. Exploring the lived experiences of Tongans with obesity and diabetes is essential as it adds to the available knowledge of healthcare practitioners and researchers who are interested in fully understanding the cultural factors related to obesity and diabetes among Tongans striving to achieve a healthy lifestyle. Until 2000, the U.S. Census aggregated NHPI with Asian Americans in a single racial group (Asian American and Pacific Islanders; Braden & Nigg, 2016). This masked health disparities experienced by the NHPI population and its subgroups and led to a lack of aggregated data on these heterogeneous groups (Braden & Nigg, 2016). Once the NHPI group was

categorized separately, research showed alarming rates of obesity and related diseases (Braden & Nigg, 2016). Compared to Caucasians, NHPI are 30% more likely to be obese, 30% more likely to be diagnosed with cancer, twice as likely to be diagnosed with diabetes, and three times more likely to be diagnosed with coronary heart disease (Braden & Nigg, 2016). With the above statistics indicating that Tongans have one of the highest incidences of obesity and diabetes in the world (Hafoka, 2017; Hawley & Mcgarvey, 2015), it is incumbent on healthcare professionals to investigate their lived experiences and design appropriate diabetes care and preventive programs that address the needs of the selected population.

Gaps in the Literature

In spite of the high prevalence of obesity and diabetes among Tongans, the research literature is unclear about the perspectives and lived experiences of the group. Many researchers have highlighted a gap in the literature. First, based on the suggestion of Hall et al. (2016), further studies that focus on culturally relevant content that might inform policies to mitigate the alarming increase in the incidence of diabetes are needed. Second, Perkins et al. (2016) proposed that further studies that focus on culturally appropriate nutritional interventions should be conducted with the Samoan community.

In addition, LaBreche et al. (2016) advocated for enacting culturally oriented programs that are likely to succeed. Furthermore, Jeganathan et al. (2017), supported by Braden and Nigg (2016), expound on the critical need for further research that reflects culture-related determinants of obesity and diabetes among the Tongan and Pacific Islander groups. It is vital that cultural norms and behaviors are explored and recognized

to align programs to the perspectives of the target population to reduce obesity and control diabetes. Accordingly, this study attempts to fill the crucial gap by exploring and analyzing the essential elements of the experiences common to obese and diabetic Tongans striving for a healthy lifestyle

Summary and Conclusions

The literature review was completed by a comprehensive search of several databases including Walden University library, CINAHL & MEDLINE, ProQuest Nursing & Allied Health Source, the CDC, the Department of Health and Human Services, the World Health Organization, and the Church of Jesus Christ of the Latter-day Saints library. The search words used were keyword combinations: Obesity, Diabetes, Pacific Islander, Culture, Tongan, Selected State, Selected City, United States, and social change.

The theory presented in this research study highlights the understanding of a social phenomenon where participants can interpret their world and describe it through an interviewer to the researcher (Bryman, 2016). This study uses a naturalistic approach that focuses on context and elucidates how environmental systems work to influence human life, and determine perceptions and experiences of people to diseases (Patton, 2015). The frameworks of Martha Rogers and Albert Bandura, which I carefully selected to anchor my study, help with understanding the relationship between Tongans with obesity and diabetes and their cultural environment as they strive to achieve a healthy lifestyle

To gain more insight into the above phenomenon and to explore the cultural perspectives and experiences of Tongans with obesity and diabetes, I searched the

literature to obtain data on the burden of the two diseases on the group. Also, I searched for information about the determinants of obesity and diabetes in the selected group, as well as the work other researchers have done and their conclusions drawn on ways to address the predisposing factors of the disease. This search helped identify a gap in the literature that justifies the need for my study.

In California, the NHPI population increased by over 40% from 2000 to 2010, according to the 2010 census as reported by LaBreche et al. (2016). Researchers and health advocates have suggested ways to combat the increased prevalence of obesity and diabetes among these and other populations, including creative ways such as high taxes on unhealthy foods. It is time to include the lived experiences of the affected populations in the preventive dialogue, and understand the perspectives of the target group.

According to Braden and Nigg (2016), a deterministic perspective in establishing the most significant modifiable elements that cause obesity and diabetes in the selected population is to consider interactions of multiple components in an attempt to decrease the incidence and improve survival. Even though colonization could be a factor that expanded and intensified the prevalence of obesity in the Pacific, the theory of obesity among Pacificans should not be viewed as a concept of individual choices alone, but a product of interdependence and interrelationships within the cultural networks among the Pacific Islanders (McLennan & Ulijaszek, 2015). Novotny et al. (2015) advocated that interventions should start with the children and youth of the Pacific Islanders, considering that the prevalence of overweight and obesity has increased from 21% in Pacific 2 year olds to 39% by the time they are 8 years old.

With the high prevalence of diabetes among Tongans and NHPI, collapsing research findings of the group with Asian Americans would cloud the real incidence of diseases among the target group. According to Hall et al. (2016), it is essential to develop lifestyle intervention programs that are especially effective for the target population and to address their specific concerns. Ogden, Carroll, Kit, and Flegal (2014) maintain that continued surveillance of the trends of both obesity and diabetes remains a critical and ongoing focus. LaBreche et al. (2016) suggested that if programs geared towards populations are culturally oriented, they are likely to succeed. However, there are challenges ahead; along with the rising prevalence of diabetes among Tongans and NHPI, severe diabetes-related complications are a growing economic burden on healthcare systems (Ndwiga et al., 2018).

Furthermore, the poor quality of life due to diabetes is significant. First, the complications associated with obesity have negative health-related consequences such as back pain, arthritic pain, depression, restricted movement, and respiratory problems (Busutil et al., 2017). Second, obesity is the single most significant risk factor for diabetes (Lin et al., 2016), which in turn has other serious complications, such as kidney impairment, nerve damage, limb amputations, blindness, depression, and low self-esteem that affect quality of life (Busutil et al., 2017; Cho et al., 2018; Glover et al., 2017; Matoto et al., 2014; Ndwiga et al., 2018).

Hall et al. (2016) explained that lifestyle-changing programs of ethnic minorities should start with options considered compatible with the cultural norms of the target population. Hall et al. (2016) believed that such interventions that are culturally

motivated would foster adherence to programs. This study provides essential public health findings that add to the available knowledge of healthcare practitioners and researchers interested in fully understanding the cultural factors related to diet, obesity, and diabetes among Tongans striving to achieve a better quality of life. Ndwiga et al. (2018) assert that lifestyle modifications can improve the prevalence of diabetes among Polynesians and enhance a healthy quality of life, and it is crucial that any such lifestyle-changing programs are culture-specific and can be adapted seamlessly by the target group.

Projections of obesity and diabetes in Tongans and other Pacific Islanders have been based on demographics, age, socioeconomic status, colonization, dietary practices, physical activity, prenatal and early life factors, policy-level variables, rural versus urban factors, education level, and locations and neighborhoods (Braden & Nigg, 2016; LaBreche et al., 2016; Lin et al., 2016; Wan et al., 2018). A greater focus on the factors that influence obesity and hence the prevalence of diabetes is called for to establish the interactions of multiple elements that lead to this burgeoning health dilemma including the cultural component that this study explores. This would be an important starting point in attempting to successfully address these issues and improve long-term health and survival among the affected populations.

In Chapter 2, the literature search approach, theoretical framework, and literature reviews were discussed. In addition, the theory domains of the phenomenon of the study were presented. In chapter 3, I discuss the research design and rational, the role of the researcher, methodology, and trustworthiness.

Chapter 3: Research Method

Introduction

The purpose of this descriptive phenomenological study was to explore the lived experiences of Tongans with diabetes in a western metropolitan part of the United States who face challenges with weight control. A qualitative descriptive method is frequently used in health science and has been supported by previous researchers (Colorafi & Bronwynne, 2016). The descriptive qualitative research method I used was appropriate because my study is health related, and the methodology provided a rich description of the data (Colorafi & Bronwynne, 2016).

This study contributes significantly to a better understanding of the effect of cultural factors related to diet, obesity, and diabetes among Tongans pursuing a healthy lifestyle (see Perkins et al., 2016). The ways in which individuals perceive their health, respond to treatment modalities, and accept programs are directly related to their cultural perspectives, beliefs, and ideology (Jia et al., 2017). Culture also affects the way in which people process information, and their behavior may affect their health due to the direct correlation between health behaviors and health-related outcomes (Jia et al., 2017). When cultural perspectives, norms, and behaviors are explored and identified, healthcare teams can align programs to the perspectives of the target population to reduce obesity and control diabetes. In addition, this study fills the gap in the literature and address recommendations previous researchers have made to develop culturally oriented intervention programs to enhance the group's acceptance of such programs. In this

chapter, I discuss the research design and rationale, the role of the researcher, methodology, and trustworthiness.

Research Design and Rationale

Research Question

The principal question that guided this research was “What are the lived experiences of Tongans in a western metropolitan part of the United States who have diabetes and face challenges with weight control in relation to their attempts to achieve a healthy lifestyle?”

Central Concepts and Phenomenon

Some studies have shown that the prevalence of obesity and diabetes is high among Tongans and NHPI and that the mortality rate of Tongans from diabetes has been estimated at between 94 and 222 per 100,000 men and between 98 and 190 per 100,000 women (Lin et al., 2016). However, little is known about the real cause of the disease among Tongans and the appropriate measures to decrease the incidence of diabetes in these population groups and increase their survival (Braden & Nigg, 2016). Moreover, studies have not explored the lived experiences of the population represented in this study. Accordingly, my study may fill this gap in the literature by shedding light on the perspectives of the group toward obesity and diabetes. It is also important to conduct research on ethnic minority groups with a focus on cultural traditions (Hall et al., 2016). The most suitable approach for exploring this social problem and the research question relating to the cultural perspectives of Tongans was phenomenological.

Rationale for the Phenomenological Approach

A phenomenological method was consistent with the rigor needed to analyze the essential elements of experiences that are common to a group of people belonging to the same culture or society (Patton, 2015). Phenomenology is used for research on people's personal and first-hand point of views as they consciously recall it and describe it (Burkholder et al., 2016) in addition to their experiences and perspectives (Sutton & Austin, 2015). The selected tradition was therefore consistent with the design needed to advance knowledge of Tongans' cultural perspectives in relation to their experiences with obesity and diabetes. A phenomenological approach is also appropriate for interviews and extended conversations to investigate the lived experiences of people (Rudestam & Newton, 2015). I adopted this approach because it focuses on interviewees who can contribute significantly to the information needed to explain the phenomenon under study (Rudestam & Newton, 2015). Purposive or purposeful sampling aligns with phenomenology because it allows the researcher to select participants who can describe their experiences. Although quantitative methods are used to consider relationships and patterns through employing numbers and probabilities in which researchers have much control over the process, qualitative research is concerned with exploring the phenomenon in the participants' natural settings (Rudestam & Newton, 2015), which fit with the purpose of this study.

There are many forms of qualitative research designs such as case studies, ethnography, ground theory, and phenomenology. Case studies are focused on a single individual, event, organization, program, or process (Patton, 2015). Ethnography is

focused on a prolonged interaction and observation of a group of people to explain the behavior of their culture (Hoey, 2014; Rudestam & Newton, 2015). Grounded theory involves comparative analysis to describe what has been observed (Patton, 2015; Barello et al., 2015). Phenomenology is different from the above traditions by being used to examine how people describe their world in their own way to provide detailed information about the meaning, structure, essence, and perspectives of their lived experiences (Patton, 2015). A qualitative phenomenological description focuses on depth, not breadth, and is based on retrospective and recollective accounts of a selected population (Patton, 2015; Rudestam & Newton, 2015), which makes it align with my study.

Role of the Researcher

In qualitative studies, the researcher is the instrument of choice in the data collection process (Rudestam & Newton, 2015). Quality must be assured in collecting data and ensuring such quality depends partly on the researcher (Creswell, 2014). Researchers have their own philosophical view of the world, which may affect the outcome of research findings. Thus, it was essential that I recognized my relativist and constructivist viewpoint and set it aside to minimize the effect it could have on my data collection and the overall study findings.

Although I do share a religious affiliation relationship with the study participants, I do not have any professional, personal, or other relationships with any of the intended participants. Whereas we belong to the same religious denomination, the participants belong to a different congregation. To remain objective, it was critical to avoid

discussions about church or any other religious matter with the group during the interviews. Researchers need to be as objective as possible to reduce subjectivity and to strive for neutrality (Patton, 2015). For this study, remaining transparent in reporting all sources of bias and errors was fundamental to achieving and maintaining objectivity. It was equally important to portray a supportive attitude toward my interview partners as appropriate, and avoid being judgmental, especially because the study involved individuals with obesity, which has a negative connotation in many cultures. Rapport building was also critical to form appropriate relationships with my interview partners as iterated by Rubin and Rubin (2012).

Methodology

Study Participants

The participants in this study were Tongans with obesity and diabetes, who live in a western metropolitan part of the country and could articulate their own stories and experiences competently and vividly. These requirements are in alignment with Husserl's descriptive phenomenology that this study adopted (Derico, 2017). Further, personal connection and trust between the researcher and the participants are essential for both the recruitment and interview process (Rubin & Rubin, 2012). The selected Tongan participants belong to the same religious denomination as me, and even though they are in a different congregation, a trusting interview relationship was anticipated due to periodic inter-congregational activities. Therefore, access to the participants in my study was based on a personal connection with the group. I obtained access through the known minister and the first elder of the congregation. In addition, it was convenient to have

participants in one location that was easily accessible, which helped create a single interview space that participants could locate and would accommodate private conversations (Creswell & Poth, 2018). Although an interview site was selected, participants were given the option of choosing locations that were convenient and comfortable for them (see Burkholder et al., 2016).

Sampling Design

Sampling, described as the process of defining which candidates to include and which ones to exclude, is an important component of the qualitative research process (Robinson, 2014). Although quantitative research involves random and representative sampling with generalizable findings, qualitative studies involve purposeful sampling where the researcher's focus is on selecting participants who can provide the knowledge being sought (Ravitch & Carl, 2016; Rudestam & Newton, 2015). Purposeful sampling was used in this study and involved the intentional selection of the interview site and interview participants who could inform an understanding of the social and research problem being explored (see Creswell & Poth, 2018). The logic behind purposeful sampling for this study was the need for in-depth and information-rich findings to explore the perspectives and experiences of Tongans in the western part of the country who have obesity and diabetes.

This sampling method is consistent with phenomenological studies (Creswell & Poth, 2018; Patton, 2015; Rudestam & Newton, 2015). In addition, it is important to use a homogenous population with common characteristics for phenomenology research to identify common perspectives, essence, experiences, and themes for that group (Creswell

& Poth, 2018). Moreover, the selected sampling procedure for this study meets two of the three levels of sampling criteria of qualitative research proposed by Creswell and Poth (2018): site and participant levels.

Inclusion and Exclusion Criteria

In exploring the lived experiences of Tongans with obesity and diabetes, the following inclusion and exclusion selection criteria were used.

Inclusion criteria:

- Tongan
- 18 years or older
- Nondisabled
- Have obesity and diabetes with BMI of 30 or greater. I planned to select individuals who self-identify as having obesity and are interested in participating.
- A member or visitor of the church selected for this study
- Speak or read English
- Agree to be interviewed and tape-recorded
- Ability to use language to tell their own stories vividly
- Travel to interview site or select a site of their choice
- Not pregnant

Exclusion criteria:

- Participants with English proficiency challenges
- Children

- Pregnant women
- Participants who are unable to travel independently to the interview venue
- Prisoners
- The cognitively impaired
- Inability to read and understand the consent document
- Residents of any facility
- Mentally/emotionally disabled individuals

Sample Size

Sample size in qualitative research involves both the number of participants selected and the extensiveness of information the researcher collects from each participant (Creswell & Poth, 2018). The wide range of appropriate sample size selection by expert researchers and writers makes the task challenging. There are no set rules governing sample size selection for qualitative research (Patton, 2015), and it is impossible for a qualitative researcher to know when saturation would be reached (Bryman, 2016). Qualitative researchers have interviewed between 1-325 participants, but most studies have involved the use of three to 10 interviewees (Creswell & Poth, 2018). Further, research that adopts phenomenological methods interviews up to 25 participants (Creswell & Poth, 2018; Dawidowicz, 2016), whereas five-15 or eight-12 may be a possible number of participants (Burkholder et al., 2016).

Despite varied thoughts regarding appropriate sample size, the literature offers some guidelines. I followed suggestions of using an adequate number of interviewees that will capture critical information as well as establish theoretical relevance, which means

form themes that explain the phenomenon being studied (Rudestam & Newton, 2015). Additionally, Abraham (2017) argued that the sample size should be large enough to allow participants to shed enough light on the phenomenon under study yet small enough to achieve precision. When no new information surfaces from further interviews, theoretical saturation has been reached, and more interviews will no longer be necessary (Baker, Edwards, & Doidge, 2012; Rubin & Rubin, 2012). Other experts in the field of phenomenological research, such as Abraham (2017) and (Patton, 2015), have reached saturation using various sample sizes between 12 and 18. In line with these guidelines, 11 individuals meeting the inclusion criteria were selected and participated in the study

Contacting and Inviting Participants

I obtained permission from the church board, which comprises the church Pastor and the church leaders, to post large flyers on the bulletin boards at the participants' place of worship and create smaller sizes to be inserted in the sleeve of their worship program so individuals have copies for themselves. The flyer had my phone number and the Walden e-mail address for those interested to contact me. I contacted participants who had reached out to me who met the inclusion criteria and self-identified as having obesity and diabetes via telephone to arrange a convenient time and location for an initial meeting. The objective of the initial meeting was to explain the purpose of the study, review the consent information, discuss the requirements for participation, and reassure them that participation in the study is totally voluntary. They were also informed they could discontinue participation whenever they choose without any repercussions. Moreover, participants were informed that participation will not pose any risks beyond

those of typical daily life and that their anonymity and confidentiality of information will be protected. The informed consent iterated to participants that they will be audiotaped, and that they will receive copies of the interview transcript. Walden Institutional Review Board (IRB) approved the informed consent.

Interviews

Interviews were used as the primary tool to gather data. These interviews helped to explain the lived experiences of the selected participants with obesity and diabetes. Phone invitations were sent to participants who responded to the posted flyers. Interviews were held at a participant's choice of location. All interview protocols followed IRB requirements including maintaining participants' privacy and confidentiality. As recommended by Creswell and Poth (2018), the interview guide had five central questions. I conducted a one-on-one, semi structured interviews with participants.

All the questions in the interview guide were open-ended, standardized, and stated simply and clearly (see Appendix A and Appendix B for the initial and updated interview guides, respectively). Qualitative interview questions should be open-ended and clear to help participants provide answers that are meaningful to the study (Patton, 2015). Clarity in the interview questions was crucial for the selected population of my research for whom English is a second language. Additionally, it is important for the researcher to reduce bias in the research process and enhance comparability by presenting the interview questions in a standardized, open-ended format (Patton, 2015). Standardization of the main interview questions allows participants to answer the same initial questions

while creating variability with probes and follow-up questions as well as simplifies data analysis process (Patton, 2015).

The main interview questions were blended with prompts and follow-up questions to generate depth and detail (Rubin & Rubin 2012). Researchers should prepare questions in advance when conducting qualitative studies and modify them as needed as the interview process proceeds (Rudestam & Newton, 2015). I provided an opening statement that included a greeting to the participants before each interview, and ended with closing statements, debriefing, and thanking the respondents for their participation. I also reiterated assurance of confidentiality, asked for follow-up information and potential future interviews if needed as suggested by Creswell and Poth (2018). All interviews were audio recorded. A maximum of two interview sessions were scheduled per day, over the data gathering period. The interviews lasted between 22-67 minutes. I labeled clearly all data collected, including field notes to make it easy to retrieve during analysis.

I conducted the interviews with genuineness, empathy, neutrality, attentiveness, and trustworthiness, as recommended by Patton (2015). Confrontations were curtailed, because resolving contradictions was less of a priority than information seeking. I sought non-threatening clarification from participants, and remembered to back away from information that seemed sensitive to them (Rubin & Rubin, 2012). All interviews were held in a quiet, private location of participant's choosing. The collected data, namely the recordings, notes, and signed consent materials were stored in a locked area.

Interview Questions

The principal question guiding this research was: "What are the lived experiences of Tongans in a western metropolitan part of the US who have diabetes and face challenges with weight control in relation to their attempts to achieve a healthy lifestyle?" The interview questions I developed to generate the data for this research were the following:

1. Please tell me about your experience with diabetes.
2. How does obesity affect your daily life?
3. Tell me how you choose the foods you eat.
4. Tell me about experiences you have had with healthcare providers about your diabetes.
5. How does your culture help you to deal with overweight and diabetes?

Data Analysis Plan

This study involved collecting participants' reported experiences and breaking them down into codes, patterns, and themes to understand the commonalities of their lived experiences with the phenomena of obesity and diabetes. Qualitative analysis involves converting the interview data into findings and making sense of the voluminous information gathered from participants, with no set rules for the process (Patton, 2015). Different researchers use different means to reach the same qualitative analysis conclusions. Creswell and Poth (2018) provide qualitative data analysis strategies that involve organizing the data by preparing the files of the data and making sure they are securely stored. I followed this strategy by reading the transcripts and taking notes by

hand and with a software. The most frequently adopted form of analysis in qualitative studies is to denominate the data with codes so they can be assigned to manageable groups for analysis (Ravitch & Carl, 2016).

I transcribed and coded the data as soon as they were collected while the interview events were fresh in my mind and did not wait until later when recall may be difficult and the data had become voluminous. Themes were aggregated into events to generate ideas that provide answers to my research question (see Ravitch & Carl, 2016; Creswell & Poth, 2018). Answers to the research question might help healthcare professionals and other relevant officials understand the perspectives and experiences of the selected group so that they can make critical decisions that improve programs, reduce obesity, control diabetes, prevent diabetes complications, and reduce obesity and diabetes-related mortality rates. To ensure data consistency, triangulation was done by comparing interview data with my field notes. Copies of interview transcripts were provided to participants to ensure their words and ideas were accurately represented.

Issues of Trustworthiness

In qualitative studies, researchers seek to understand what has happened in the lives of people, rather than predict future events (Rubin & Rubin, 2012). Research of a naturalistic nature requires a methodology that uses the researcher as the main instrument for data collection and is responsible for designing research that yields thorough, accurate, and credible findings that answer the research question. Trustworthiness in qualitative research involves credibility, transferability, dependability, and

confirmability, which respectively, are the equivalent criteria for validity, external validity, reliability, and objectivity in quantitative research (Bryman, 2016).

Credibility

Credible research findings are crucial if they are to become a source of information for relevant professionals and other officials to use in developing programs and enhancing practice. According to Rubin and Rubin (2012), qualitative studies involve collecting data that are balanced and thorough enough to address social and research questions. Credibility is attained by gathering data that are devoid of gaps and represent depth from interviewees who have explicit experience and meaningful and comprehensible perspectives of the phenomenon under exploration (Rubin & Rubin, 2012). Patton (2015) asserted that to enhance credibility, qualitative researchers should explore multiple ways of reaching conclusions and use triangulation methods to appraise consistency, as needed. Bryman (2016) supported the use of triangulation as well and cited Guba and Lincoln to support the assertion that triangulation is an effective means to ascertain credibility.

For this study, I compared interview data with field documents to establish consistency. It was equally important to adhere to Patton's (2015) suggestion to stay away from numbers in my analysis and stick to in-depth, information-rich data, which is consistent with qualitative inquiry. When researchers interview participants with firsthand information about a research topic, credible findings will be assured. Rubin and Rubin (2012) suggest directly asking interviewees if they have first-hand knowledge about the subject. The participants for this study were individuals who self-reported

having diabetes, were English speaking, and could articulate the story of their lives with obesity and diabetes. Rubin and Rubin further suggest additional guidelines to ensure credibility. These guidelines, which I incorporated into my study process, include modifying the research design as necessary as the research progresses, exercising transparency in the data collection process, bracketing biases to ensure objectivity, and mitigating any potentially undesirable influences the researcher’s preconceptions may have had on the research process (Rubin & Rubin, 2012). I quoted from the interview transcripts abundantly and have provided concrete evidence for the conclusions reached.

Transferability

In this study, qualitative phenomenological methods were used to explore the lived experiences of Tongans in the western metropolitan part of the country who have diabetes and face challenges with weight control. Because this was a localized study, transferability and generalizability of its findings may be limited. Patton (2015) suggested specific criteria that make a study transferable and generalizable, such as communities that have similar attributes and comparable cultural backgrounds to those of the original population studied. Therefore, the findings, with caution, can be generalized to settings and populations that are similar to the participants in this study. Similarly, Rubin and Rubin (2012) also suggested that the findings of qualitative research could become transferable to other populations and other sites if the interviewed population and site are analogous to other groups. Furthermore, transferability is possible if the findings are broken up into essential variables, and the researcher can define which parts of the study variables relate directly to parts of variables of another population (Patton, 2015).

Bryman (2016), however, argued that the focus of qualitative researchers is depth, not breadth, and therefore they should provide information-rich findings and let the readers make their own conclusions about transferability and generalizability.

Dependability

Dependability in qualitative research depends greatly on the accuracy and diligence with which researchers complete and keep records for the study (Bryman, 2016). For this study, dependability involved collaborating with the writing center, my committee chair, and other members who acted as auditors and reviewers of my work. Dependability also included the effective management of all records and documents of the study. Saving and backing up my reports from the beginning to the end of my dissertation was essential components of ensuring dependability.

Confirmability

The philosophical worldview of research studies has the potential to influence the research process (Creswell, 2016), and can affect the confirmability of the studies' findings. Ensuring confirmability involves the recognition that absolute objectivity in qualitative studies is impractical, yet the researcher must avoid influencing the research process and its findings by putting their personal bias in check. For the purpose of this research, I did well to control my own viewpoints, and set them aside to ensure objectivity.

Ethical Procedures

Strict ethical conduct in research is significantly essential, more so in qualitative studies where the researcher will be talking directly with people on one-on-one to seek

information about their personal and private lives. Creswell (2014) called upon researchers to abide by the different codes of ethics by getting Institutional Review Board approval and obtaining participant's consent without coercion. I obtained the approval to conduct this study from the Walden University Institutional Review Board (IRB), (Walden University IRB approval # 12-20-18-0721521). According to Bryman (2016), four ethical principles need to be considered and avoided in social research, namely, harm to participating individuals, the absence of informed consent or deficiencies in a developed consent, a breach of privacy, and blatant deception.

There were no risks associated with the one-on-one interview data collection process for this study. Participation in this study was voluntary, with no obligations. Participants were informed they were free to withdraw their participation at any time without consequences. I guarded against pressing participants to answer questions that made them uncomfortable. Although it could be difficult to anticipate all the potential sources of harm to participants, Bryman (2016) maintained that researchers should diligently seek to protect participants from harm during every phase of the study.

Data gathered for this study will be kept for a period of at least 5 years, as required by the Walden University, and then destroyed. Participants were given copies of the interview transcripts of the sessions in which they participated whether they asked for it or not. Data gathered, such as names or details that might identify the participants, will not be shared. Instead of indicating actual names of the interviewees, I have assigned codes to the interviewees' responses and my notes. Participants' personal information will not be used for any other purpose besides this research study. In addition, I have also

ensured the findings of the study do not contain any identifiable information. Confidentiality is critical to all IRB departments and the Walden University Center for Research Quality team. Bryman (2016) argued that privacy is linked directly to the participants' right to privacy, another significant tenet. He added that participants' contact information and interview transcripts that identify participating individuals may not be stored on computer hard drives. Creswell (2014) explained that all ethical considerations in research are part of the discourse on social change, which should be strictly upheld, and it is critical to demonstrate absolute respect for the culture, traditions, and beliefs of the participants. These reflections are especially crucial for me to adhere to because the study participants are from a minority ethnic group with a culture different than mine. Creswell further notes that biases, vested interests, deception, falsification, and exploitation of participants must not become part of any segment of the entire dissertation process.

Summary

The ultimate goal of qualitative researchers is to use codes, themes, and patterns to find answers to research questions. According to Patton (2015), naturalistic research involves the validation of findings against data back and forth until the data that fit into themes are identified in order to draw conclusions that inform the perspectives, which in this study is the perspectives of Tongans with obesity and diabetes. The naturalist research paradigm comes with the unique challenge of providing and maintaining confidentiality and other ethical considerations of participants who have volunteered to be part of the study. Unlike quantitative studies, where it is easier to create anonymity to

protect participants, qualitative studies involve specific people, places, and settings, and ethical issues are deemed imperative (Bryman, 2016).

In this chapter, I discussed the research design and rationale, the role of the researcher, the methodology, and trustworthiness. In Chapter 4, I discuss the setting of the interview, demographics of participants, data collections process, data analysis, and produce evidence of trustworthiness.

Chapter 4: Results

Introduction

The purpose of this qualitative descriptive phenomenological study was to explore the lived experiences of Tongans in a western metropolitan part of the United States who have diabetes and face challenges with weight control. The planned sample size for this study was 10-20 Tongan individuals who met the inclusion criteria for the research. I received 12 calls from potential participants, of whom only six met the inclusion criteria and were recruited for the study. In addition, five visitors to the church met the inclusion criteria and were recruited for participation. Most of those who did not meet the inclusion criteria had English language proficiency challenges. Sample size in qualitative research involves both the number of participants selected and the extensiveness of information the researcher collects from each participant (Creswell & Poth, 2018).

Participants were interviewed using in-depth, one-on-one interviews adopting the emic approach of qualitative data collection and analysis, which conserves the perspectives and voices of the participants (Creswell & Poth, 2018; Uher, 2015). This approach was considered the best for this descriptive qualitative study because an exploration of insiders' descriptions used to relate knowledge about certain phenomena is the best way to develop understanding and describe the lived experiences or the emic of that group (Patton, 2015). In presenting the results of the study in this chapter, I will discuss the setting of the interviews, the data collection process, the demographic profiles of the participants, and the analysis procedures. In addition, I will state the evidence of

trustworthiness and discuss the results of the study to explain how the quality of the research was maintained through my role as the researcher.

Research Question

Open-ended interview questions were used to collect data, which were analyzed to answer the research question: What are the lived experiences of Tongans in a western metropolitan part of the United States who have diabetes and face challenges with weight control in relation to their attempts to achieve a healthy lifestyle?

Five main interview questions developed to generate the data to answer the research question were the following:

1. Please tell me about your experience with diabetes.
2. How does obesity affect your daily life?
3. Tell me how you choose the foods you eat.
4. Tell me about experiences you have had with healthcare providers about your weight and diabetes.
5. How does your culture help you to deal with overweight and diabetes?

Prompt questions were generated to solicit for depth and details to gain understanding and answers to the research question.

Research Setting

The plan was to hold interviews on the premises of a church that participants attend and could easily access; alternatively, they were asked to select a location that was convenient and comfortable for them (see Burkholder et al., 2016). The setting needed to be in a quiet, comfortable location that provided privacy and where the discussions could

not be overhead. Participants chose to have the meetings in their homes because they explained that the winter temperatures were too cold for them to come out, and the church premises takes a couple of hours to warm up once the heat is turned on. Consequently, all the meetings were held in the homes of the eligible participants, except for three, one of whom chose to meet in a friend's house. Another wanted to meet at her local library where she does her homework. We met in one of the small library rooms with the door closed for privacy and without distractions. The third participant asked me to come to her office.

To avoid taking too much of the participants' time at one sitting, the design was to complete the consenting process and interview on separate days. However, some participants agreed to engage in both the consent and interview procedures in their homes during one visit. I met other participants for about 15-20 minutes to review the consent with them and visited them a second time to conduct the interviews. I made sure the settings provided privacy, so most of the meetings were held either in the interviewee's office or study of their homes. In some instances, when no other family members were in the house at the time of the meeting, I conducted the interview in the dining area or living room.

Demographics

In this study, I recruited 11 Tongans who were 18 years or older who had been diagnosed with diabetes. However, most of the callers did not meet some of the inclusion criteria. Some had prediabetes instead of being diagnosed with diabetes and were politely excluded. In addition, some wives called on behalf of their husbands, but I had to ask that

their husbands call me directly. In one instance, a mother called trying to get her adult son to participate. I said that the son needed to call me directly to express his voluntary participation.

Table 1

Demographic Characteristics of Study Participants (N = 11)

Characteristic		# of Participants	Percentage
Age (years)	30-40	3	27%
	41-50	0	0%
	51-60	3	27%
	61-70	5	46%
Gender	Male	6	54%
	Female	5	46%
Born in Tonga	Yes	10	90%
	No	1	10%

Furthermore, many of the potential members who had diabetes and were 18 years or older were non-English speaking and could not be recruited. Only six of the church members met the inclusion criteria, spoke English, and were willing to participate and be audiotaped or recorded voluntarily. The other five were friends and acquaintances who visit the church and introduced to the study by their friends. Six of the participants were male, and five were female. Except for one participant who was born in the United States, all the interviewees migrated from Tonga, and all 11 participants were diagnosed with type 2 diabetes. Nearly half of the participants were between the ages 61 and 70.

Data Collection

Recruitment

Data collection occurred between January 9, 2018 and February 12, 2019. After obtaining permission from the minister and first elder of the church, four large flyers,

each measuring 20 inches by 14 inches, were posted on the church's bulletin boards. Smaller flyers (11 inches by 8 inches) were inserted in the sleeve of the congregation's worship program, so individuals had copies for themselves. The flyers had my phone number and my Walden e-mail address for those interested to contact me. The flyer information excluded the words "obese" and "obesity" to avoid the possibility of the potential participants feeling stigmatized. Instead, the words "challenges with weight control" were used. Those interested in voluntarily participating started calling me from the first day the flyers were posted. Even though I provided my e-mail address and phone numbers for potential participants to reach me if interested, they all reached me by phone. I completed the screening procedure with the first phone call to ascertain that the inclusion and exclusion criteria were met. A copy of the screening questionnaire is presented in Appendix C. Tongans who were 18 years or older, with diabetes, and were facing challenges with weight control were recruited. Participants had to be English speaking, agree to be interviewed, audiotaped, or recorded, and be members or visitors of the church selected for this study. Furthermore, participants who were pregnant were excluded from the study. A criterion for inclusion was consent to travel to the church premises to be interviewed or identify another place of participants' choice that could provide privacy during the interview.

Conducting the Interviews

For this phenomenological study, I interviewed Tongan participants with firsthand information and experience of obesity and diabetes to help explain why there is a high prevalence of these conditions among the Tongan population (Rudestam & Newton,

2015). During the interviews, I explained the purpose of the study in detail, reviewed and obtained consent, discussed the requirements for participation, and reassured the participants that their presence in the study was voluntary and that they would be free to discontinue participation if they chose to without any repercussions. Furthermore, participation would not pose any risks beyond those of typical daily life experiences, and their privacy was assured unequivocally.

A sample size of 10-20 subjects was planned for this research. Eleven participants meeting the inclusion criteria were interviewed and considered appropriate to garner the necessary information relevant to the phenomena under study. Most of the participants provided extensive details in their answers to the interview questions. According to Creswell and Poth (2018), the extensiveness of the interviews is as important as the number of participants in determining the sample size of a study. The discussions lasted between 22-67 minutes and were tape-recorded. The tape recording and transcription were done with the help of a software provided by TranscribeMe, which records and transcribes audio files and uploads transcripts into secure storage (TranscribeMe, n.d.). All transcripts were saved under a password, and the names and details that might reveal a participant’s identity were removed.

All interviews started at a time in accordance with the participants’ wishes. The participants were ready and appeared eager to be interviewed. I was the instrument of this qualitative research and conducted the interviews alone without the involvement of other research personnel. I share a religious affiliation with the participants but belong to different congregations. I planned to avoid any discourse about church with any of the

participants, and this subject did not come up in any of the interviews. The participants, most of whom did not have a strong command of the English language, were nevertheless easy to understand. Consequently, the participants did not appear to have any difficulty understanding me, and our conversations were fluent and friendly. I built rapport with the participants within the first few minutes before the interview because the interview involved the discussion of obesity, a sensitive social topic (Rubin & Rubin, 2012). The participants were pleasant, hospitable, and transparent about offering information. Most of the participants offered nourishment to me according to the norms of the Tongan culture. I had to turn the offers down politely for professional reasons, and said I had just had dinner and had a water mug with me as well.

As mentioned, the interview guide was updated with more prompt questions, as the interviews progressed due to new themes that emerged. After interviewing 11 participants, no new information surfaced from the last two. Therefore, I determined that the same information was being described at which point I decided that theoretical saturation had been reached and more interviews were no longer necessary (Baker et al., 2012; Rubin & Rubin, 2012). Accordingly, I did not recruit more participants. Two of the participants received $15 each, one for traveling to be interviewed at a friend's home and the second for traveling to the library as planned. All participants received copies of the transcripts of the interview that they participated in whether they requested to have a copy or not. All articles used were backed up on a web-based tool called "Paperline." All documents relating to the study are stored in Dropbox, which is a web-based storage tool with username and password. Hard copies of all the documents, which include records of

the selection criteria of participants, notes from fieldwork, transcripts generated from interviews, and information about the analysis process, are kept in a secure, locked device, as suggested by Bryman (2016).

Table 2

Interview Details

Participant #	Interview Date	Interview Length (min:sec)	Location of Interview
P01	01/09/2019	38:34	Home
P02	01/09/2019	21:32	Friend's Home
P03	01/14/2019	44:05	Home
P04	01/20/2019	36:34	Home
P05	01/20/2019	37:20	Home
P06	01/26/2019	66:46	Home
P07	01/28/2019	66:40	Home
P08	1/30/2019	42:20	Library
P09	02/06/2019	40:53	Home
P10	02/08/2019	22:36	Office
P11	02/12/2019	29:10	Home

Data Analysis

Data analysis consisted of verbatim transcription, followed by coding, which involved categorizing, organizing, and storing the data, using NVivo 12 plus version of CAQDA software (QSR International, 2018). CAQDA is an effective way of denominating interview data to be assigned to manageable groups for analysis. I adhered to Creswell and Poth's (2018) qualitative data analysis strategies, which consist of reading every line of the transcripts and taking notes by hand with a software. I used both techniques to analyze my data. The transcript was then condensed into codes and themes and presented as a table, figure, or in a discussion format.

I used splitter coding, which is more detailed, line-by-line method, to avoid possible superficial analysis of the data as against lumper coding, which involves broad overviews as proposed by Saldana (2016). I read every line of the participants' responses and conducted first cycle coding, which provided fluidity to the data to allow further coding and analysis (see Saldana, 2016). Coding provides the means of distilling and breaking down the data into analytical relevance that provide answers to the research question and identifies emerging themes and patterns in responses to understand the phenomenon under study, which in this study is the lived experiences of the Tongans with diabetes and obesity.

The audiotaped interview transcripts were loaded into a paid transcriber software called TranscribeMe, which transcribed the data verbatim into a word processing program. I thoroughly reviewed the transcribed documents against the audiotape recordings for accuracy. Then I coded and identified emerging themes and patterns to understand the commonalities of the lived experiences of the Tongan participants. The most frequently adopted form of analysis in qualitative studies is to denominate the data with codes so they can be assigned to manageable groups for analysis (Ravitch & Carl, 2016).

Evidence of Trustworthiness

Data collection should represent depth of information from interviewees as well as balanced and thorough data to address social and research questions (Rubin & Rubin, 2012). To ensure credibility, the collected data should be free of gaps and be provided by interviewees who have explicit experience and meaningful and comprehensible

perspectives of the phenomenon under exploration (Rubin & Rubin, 2012). To ensure trustworthiness, I employed certain approaches in the data collection process. First, although the posted flyers invited interested participants to call me, some women called on their husbands' behalf and some parents called me on behalf of their adult children. To authenticate evidence of trustworthiness, I reiterated respectfully that individuals needed to call me directly if they planned to participate voluntarily in the study. This helped potential participants to understand the voluntary and nonmandatory nature of their participation and to exercise their prerogative to become participants and withdraw whenever they so desired.

Trustworthiness was also ensured by including a diverse population that included both genders, different age groups, some born in Tonga and one born in the United States. In addition, extensive interviews explored participants' rich information about their lived experiences as Tongans with obesity and diabetes in the comfort of their selected location (Burkholder et al., 2016). Furthermore, to ensure the study's trustworthiness, I reflected on my personal philosophical viewpoint, biases, and background, and set them aside. By bracketing my viewpoints, I conducted interviews with a nonbiased perspective to ensure objectivity in exploring the lived experiences of the participants. Moreover, I used multiple forms of data collection methodologies: in-depth individual face-to-face interviews, copious field notes, and a tape recorder. Once the recordings had been transcribed verbatim, I reviewed them against the recorded data and added field notes I had collected for more complete information. Above all, I portrayed a supportive and nonjudgmental attitude towards all participants, especially

because the study involved the discussion of obesity, which could have a negative connotation.

Study Results

Transcribed data were imported into the NVivo 12 plus version of CAQDA. The extensive nature of the interviews generated a substantial amount of data. A word frequency output of the data generated is presented in figure 2 below.

Figure 2: Word Frequency Output.

Nodes were created, and participants' responses were assigned to these nodes by reading every response line by line to categorize the data into themes that represent the lived experiences described by the study group. The themes and their subthemes are presented in the following sections.

Theme 1: Living with Diabetes

To explore the participants' experiences of living with diabetes and what it means to them, I asked them to describe their perspectives on, and experiences with, the disease.

Through candid and transparent interviews, the participants described their challenges and how diabetes had negatively impacted their lives. They understood that diabetes is controllable and possibly reversible and most were anxious to get rid of it quickly. As the participants told their stories, some themes emerged that represented their main concerns about the illness. The subthemes describing the participants' experiences living with diabetes are detailed in Table 3.

Table 3

Theme 1: Living with Diabetes

	Subthemes	Participants
	Hopelessness and helplessness while living with diabetes	P01, P02, P03, P04, P05, P07, P08, P09.
	Fear of a negative outcome while living with diabetes	P01, P02, P03, P04, P06, P07, P08, P10.
	Trusting in God while living with diabetes	P01, P02, P03, P04, P05, P06, P07, P08, P09.
	Inheriting diabetes	P03, P04, P05, P06, P07, P08, P10, P11.

Hopelessness and helplessness while living with diabetes. Participants identified physical symptoms associated with diabetes that included experiencing incessant thirst and tingling in their hands and felt. In addition, there are symptoms such as numbness in their extremities and frequent urinary tract infections (UTI) that they face daily. Most of the participants said diabetes had imposed great stress on their lives and made them feel hopeless and helpless. Some described how they felt restricted, imprisoned, and cornered by a complete loss of control. Terms used to describe their feelings included: surprised, depressed, constrained, feeling weird, troubled, scared,

regretful, and guilty. One participant said he felt helpless and feared he might lose his sight or a limb. Another said he felt so helpless that he decided to continue his starchy and fatty diet and then take medications to stay alive. He said to himself, “Okay, just eat it and take the pills after.”

The participants said they felt helpless trying to control diabetes because they needed to eat to keep going. One interviewee elaborated, “So that’s a struggle. I mean, I’m trying to lose weight, but I feel like I have to eat.” Another participant echoed this sentiment, “I can’t do that. I feel held back. That’s how I feel – imprisoned. I feel scared. Honestly, because it has made me realize I might not have too many chances. It’s a scary situation.”

Similarly, many participants felt diabetes had created limitations in their lives because it prevented them from doing so many things they wanted to do but were unable to because of the physical, dietary, and other regimented restrictions.

Fear of a negative outcome while living with diabetes. With the full understanding of the debilitating complications of diabetes, the participants expressed their fear of adverse outcomes if they failed to combat the disease. One said, “Time to stop. It’s time to do something about it.” Yet another added, “It just (means) kidney failure [laughter], because it brought you into dialysis.”

The participants were particularly concerned about the worst outcomes of diabetes, such as blindness and death. One interviewee felt he may go to bed one day and not wake up again. In fact, the feeling that the participants might die suddenly and prematurely was pervasive. For one participant, the hopelessness and helplessness he

feels is so intense he said he hoped to go to bed and not wake up: "It's bringing me down. Sometimes I am hoping I will not wake up the next morning." While the participants feel discouraged, they are also trying to prevent complications from diabetes: The group said they had come to a point where their lives could end catastrophically if they did not do something:

> It means I've come up to the point where if I don't do something, this might be it. I might go to bed and not wake up, so [I feel] challenged whether I'm going to make it through it, and I'm going to be able to conquer this situation I'm dealing with right now.

Trusting in God while living with diabetes. All the participants in this study are affiliated with one religious group or another, and they all referred to prayer as one of their strategies for coping with obesity and diabetes. God, worship, church potluck, and church were common terms they used during the interviews. One participant said he was happy to be able to lose some weight and be able to stand up for long periods to participate in the worship service. Another interviewee shared that her routine prayer is, "God help me today to choose what to eat that's right and will be good for me to keep this weight off." Another participant said it was not her job to do anything because she thinks "the Lord is the one who takes care of your life."

Inheriting diabetes. Eight of the interviewees said they believed they were genetically predisposed to contract diabetes and that it runs in their families. They took pains to list family members who had suffered from the disease and had passed away, and others who continued to struggle with it. For instance, one participant said, "It's from my

mom, yea, to pass on to me." Other sentiments expressed by the participants regarding a possible genetic predisposition to the disease included: "My father had diabetes, and my mother had diabetes, it runs in both my families. My mother's and my father's."

Theme 2: Living with Obesity

Participants who were interviewed weighed between 175 and 290 pounds at the time of the interviews and admitted experiencing a long struggle with weight control. Some had not been watching their weight and were not aggressively trying to lose weight because they did not like to be thin. Others felt convinced they looked sick after losing weight, and enjoyed the positive compliments from their Tongan community members for putting on some weight. Nevertheless, they agreed their excess weight was responsible for their physical ailments.

The group agreed they felt out of place when they were with their American colleagues because they were overweight. Some participants did not feel the need to lose weight, while those who planned to lose weight did not consider it an urgent matter. Only a few of the participants considered weight loss critical. However, the feeling of hopelessness, helplessness, being challenged, and fear of a catastrophe resonated in their responses to the interview questions. The subthemes describing the participants' experiences living with obesity are detailed in Table 4.

Table 4

Theme 2: Living with Obesity

	Subthemes	Participants' contribution
	Hopelessness and helplessness living with obesity	P01, P02, P03, P04, P06, P07, P08, P09, P011.
	Fear of a negative outcome while living with obesity	P01, P02, P03, P04, P06, P07, P08, P09, P011.
	Feeling attached to the Tongan diet while living with obesity	P01, P02, P03, P06, P08. P011.

Hopelessness and helplessness while living with obesity. The interviews revealed clear indecision among the participants about whether to lose weight because of the divergence in attitudes towards overweight between Americans and their Tongan peers. The group said they felt helpless living with two opposing perspectives on body weight and the challenge of not knowing which one was appropriate for them. One participant said that although he understands the need to lose weight, he pointed out how that need conflicted with the Tongan cultural perspective:

> [In our Tongan culture] if you are small, you are looked at funny – they'll make fun of you. And, you know, we have to be not too big, but big. If you are small, they will talk about you. I feel sorry about being overweight, because if you're overweight, you cannot do anything.

Another one echoed the same sentiment and said he is caught between two ideologies because, "Some of them they say, Oh, you look good [when he loses weight]. Some of them they say, oh, you look bad because I'm getting skinnier."

One issue that highlighted the group's feeling of hopelessness was the impact of obesity on their lives. For example, some participants said they felt helpless due to the long time it took for them to go up and down the stairs in their homes. They said they were unable to breathe or sleep lying down because of their weight. As a result, they were tired all the time and would doze off throughout the day, even while driving. They said they felt scared because they knew their weight made their diabetes worse. These feeling of hopelessness were more intense for the younger participants because they were not able to do the things their peers were doing and because of the restrictions they had to endure. One 40-year-old participant said:

> A lot of times I feel hopeless. There's just so many things I want to do. But with my weight, I guess I just feel really restricted with it, honestly. Clothes-wise, I can't get the clothes I like….Sometimes I can't fit in the rides (of the amusement park)

Fear of a negative outcome while living with obesity. All interviewees acknowledged unequivocally that overweight and obesity have detrimental effects on their diabetes and lives. They acknowledged that gaining weight aggravated their diabetes, affected their sleeping patterns, and predisposed them to accidents as a result of falling asleep while driving. They agreed that being overweight was cumbersome and made them feel they were on the edge of an impending calamity because of their constant tiredness and their inability to participate in daily activities. They, however, recognized that losing weight enabled them to maintain normal blood sugar levels, move around more easily, and breathe better.

Feeling attached to the Tongan diet while living with diabetes. Participants shared an extensive amount of information regarding the drivers behind their selection of food. They knew their ethnic foods are obesogenic and had contributed to their obesity. However, they were so used to their food that it was a struggle for them to change from a Tongan diet to any other. The efforts of the Tongan participants to follow a healthy diet is intertwined with, and hampered by, their affinity for ethnic food items, cultural norms and practices, social status perspectives, health ideology, and social events. Generally, the Tongan participants agreed they ate large portions of food, particularly foods such as starchy root tubers and fatty meats. The resonating themes during the interview indicated that the participants preferred their Tongan food items to salads, soups, and other healthier choices.

Culture is a big thing for Tongans in their choice of the foods they eat. The participants in this study mostly expressed that their struggle with food choices that will help them lose weight were real and that they were frustrated that their healthcare providers' suggestions for an appropriate diabetic diet conflicted with their preferred choices of the Tongan diet. They said it was not easy for them to replace the Tongan diet with another. One participant described his feelings as follows:

> Okay. Um, I know for sure that Tongan food, the Polynesian food, it brings us a lot of weights, make us big. But it's not easy to, to stop 'cause we grew up with it – the taste of it. The food I like to eat is the one is my favorite, Uh, I like the food from my country such as beef. Only the side that have fat in there [laughter].

Another participant added:

> The food I eat compared with what the doctor wants me to eat is not the same. It's different, uh, like the one he tell me to eat, like the fish. Sometimes I don't like to eat fish. I like to eat the pork (and beef with the fat).

Ten out of the 11 participants grew up in Tonga, and believe their basic diet on the island comprised a lot of carbs that were more economical and accessible. Many of them felt their history predetermined the way they eat. One participant acknowledged this by saying:

> I think culture is one major factor that influences the way you choose food. That's one big thing for me. I choose the foods I have because of how I grew up. And I grew up in America even though I'm Tongan, but I have a lot of Tongan-influenced foods that I grew up eating as well. And so that influences what I want to eat sometimes as well, the Tongan food and the way we eat it. A lot of starchy foods coming from the island. A lot of starch. But that's what most of the food we eat in Tonga is.

Some participants argued that they had tried eating some bread instead of starchy root tubers, but claimed that wheat bread neither fills body nor provides them with the energy they get from the Tongan food items. One participant said, "I get the energy from our food. I don't get the energy from rice and bread and stuff like that." Another participant mentioned that there was a lot of food he could stop eating, such as taro, cassava, tapioca, and yam, however, he added, "You don't feel full, but when you bite the taro, you get energy."

Another participant said she is used to eating lots of sweets, and even though they are not typical Tongan foods, she prefers them to salads. “I hate salads. Tongans don’t eat salad. Honestly, I felt like he [my doctor] didn’t know me, the type of foods I eat. I’m not like – a good salad? And I kept telling him I don’t eat salad. I don’t like salad. In fact, I despise salad. And I don’t understand what salad is.” Another participant shared how he modified his salads to include 20 pieces of chicken nuggets.

Theme 3: Feeling Challenged

The participants lamented that they were not able to do the things ordinary people do and they felt challenged with everything about life. Living with diabetes and obesity has brought many challenges to the participants, including the possibility of frequent hospital visits, lost time with family, the cost of their needs, and their dependence on the family. These challenges the participants endure are detailed in Table 5.

Table 5

Theme 3: Feeling Challenged

	Subthemes	Participants’ contribution
	Feeling challenged with daily routines	P01, P02, P03, P04, P05, P06, P07, P08, P10, P11.
	Challenges with staying on a healthy diet	P01, P02, P03, P04, P06, P07, P08, P10, P11.
	Feeling challenged maintaining ethnic identity	P01, P03, P04, P07, P08, P10, P11
	Challenged facing financial burdens.	P03, P04, P05, P06, P07, P0
	Feelings of emotional attachment to the Tongan diet.	P01, P02, P03, P05, P06, P08, P10, P011.

Feeling challenged with daily routines. Among the challenges the participants faced was trying to manage the course of their diabetes and obesity and the feeling they might not make it. They said they were required to keep track of everything they ate, including the amount of carbohydrates; they also had to follow their medication regimens and monitor their daily blood sugar levels. One participant commented, “Diabetes is to keep track of the food I eat and take the medicine. For me diabetes is just check the sugar, and if it been high and take, uh, medicine and too low and eat something to g-go up.”

These are daily routines many of them accepted, but the group considered these schedules as very challenging. Another participant said:

> When I was 260-280 lbs., I was not sleeping well. To walk up a flight of 15 stairs, I’m winded. Now, this is something normal people should be able to climb up, and I have to pause at the top. And before I do anything, I think about it, should I do it, I’m going to be tired. I’m going to be – no, I won’t do it, then I don’t do it. So a lot of things, I end up not doing.

Because of their weight some of the participants would avoid attending some events because they could not fit into the right outfits. It was equally hard for them to go shopping when they could not fit into their favorite styles and brands.

Challenges with staying on a healthy diet. What resonated most with all the interviewees was the difficulty in deciding whether to avoid the many Tongan weddings, funerals, and other events altogether or control their eating at these events. Tongan social events are frequent and elaborate, with lots of food individual attendees are expected to consume. At all these events, Tongans are expected to eat abundantly and frequently.

Some participants tried to avoid as many of the events as possible so they would not have to fulfill the cultural requirements of eating a lot, which worked against their efforts to keep their glycemic index in check. One participant who tried to avoid these events said, "Twice a month or so; but if I wanted to go to everything [every Tongan event] it's going to be once a week or twice, but I just pick and choose. I said, I can't attend everything, I'll just pick what's most important. But I would say twice a month or once a month is fair."

Other comments included "And, uh, uh, if I go into a funeral or a wedding, I cannot see nothing but the Tongan, the Polynesian – the Tongan food is there, and it's not easy for you to turn away from it. During a marriage or a funeral or any other thing in a church potluck, they make a lot of food." Another participant related his experience of Tongan social events and said "… This island culture that we have is around food. If you're having a family gathering, you can't just call the family together. You better have a kitchen full of food waiting or you're probably going to be talked about…"

Many participants indicated that to have a gathering for friends and family one should make sure the oven has a lot of food in there cooking, because of their cultural practice to cook and eat a lot. Another interviewee who shared a contrary perspective said, "But there's no culture in the Tongan to force you. They have everything, but it's up to you to choose what you eat and drink; the word is obedient. You have to obey what you're supposed to do."

The abundant consumption of food resonated throughout the interview, but even more important is that it is the same food items that are served at home and at all social

events. Participants claimed that they found it hard to get away from the funerals, weddings, and birthdays, especially the 21st birthday, which is significant in the Tongan culture. For 21st birthday events it is commonplace for a family to slaughter 10 or 20 pigs. While some participants saw the frequent social events as a way of engaging in the community and looked forward to it, others had considered it excessive and had found a way to attend less of it. Important trends about the excessive eating surfaced during the interview such as the expectation of serving guests and also eating with the guests even if the host has just had a meal.

In addition, the interviewees shared that it is commonplace for Tongans to sit down and eat and sing and relax even when there are no specific reasons to do so, and if they go to a new gathering, they have to eat to avoid being gossiped about. Refusing to eat is considered rude. The participants described their events as very elaborate – as feasts. Attendees' portions are usually three pieces of chicken, two hamburgers, and four hotdogs. They described all their food-related social events as occasions that kept the culture vibrant and alive.

Other comments participants voiced included "And I mean, yeah, (when I get people over, and I want them to enjoy the food) it's made with a lot of love, but it is made with a lot of fat. It's the environment we're in." "We always make a lot of food. I don't know. In any social occasion, there has to be food. That's our way of connecting with each other. Maybe in all culture, but us I think we overdo it.

Making healthy dietary choices. The younger interviewees selected their diet based on how they felt than on trying to eat a healthy diet. One of the three younger

participants said, “A lot of it is on how I feel. Do I feel like a pizza, today? No. I shouldn’t be eating that. A hamburger. What do I feel? I don’t just choose it on health. It’s what I feel when I wake up.”

In their attempts to follow a healthy diet, many of the participants avoided refined sugar items and stopped drinking soda; they said they drank water or diet sodas instead. Also, some have avoided the use of sweets and resorted to including vegetables in the diet, and taking walks on their lunch break at work instead of just sitting down and relaxing. Others shared some diet programs they joined, which one of them described as “going on juices for seven days to detox.” A participant learned to eat dinner before 6 pm and avoided eating too close to bedtime. Many of the participants said they no longer ate large pieces of cake and did not go for seconds on desserts and coconut milk products. For some of the participants the time, money, and motivation to get a healthy diet were not readily available; hence, they resorted to whatever was available to them, just for the sake of having something in their stomach.

Feeling challenged maintaining ethnic identity. Several interviewees cited cultural factors as important challenges in their fight against obesity and diabetes. Two main themes emerged in the area of cultural identity challenges for the participants. First, there was the conflict of either engaging in social events and managing their food consumption or avoiding attending such events altogether. Second, there was the cultural inclination to be indifferent about the illness, so much so that they procrastinated doing anything about the disease process until their condition had deteriorated significantly.

Living with denial of illness. The Tongan participants' answers to the cultural inquiries signaled their reactive approach rather than proactive attitudes in seeking solutions through healthcare professionals. They admitted that they did not see the need to become health conscious or follow through with healthcare advice until some obvious negative consequences of their diet had resulted. This theme gathered more responses from the participants than other themes. Participants seemed to be more in denial about their diabetes and obesity in this area of attaching importance to their illness than they were in other areas of the interview. A lot of information was provided about this subtheme, which highlighted its importance to the study group.

The following statements reflected the participants' attitudes, experience, and perspectives towards their illness and healthcare teams: "We are going to die anyway, so we might as well just do what we're doing and be as happy as we can for the duration of the time we have." "Right when I walked out of that door of the doctor's office, what he just told me went in one ear and out the other ear because I didn't feel sick." All the participants asserted that they are aware of the lack of urgency towards illnesses, and wondered why they do not attached the appropriate seriousness their ailments. They have accepted this lack of attention and expressed contentment with living a free and happy life as they describe it.

Other participants noted that their Tongan community procrastinate and end up dying for waiting too long to seek medical care, a behavior they blame on a cultural propensity. One participant said, "I don't know why we have that kind of mentality. It's only when you get sick that you go see a doctor. That's one thing I notice about our

culture; people do not take sickness serious." Some of the participants believed that diabetes is not as serious as they have been told, while most of them thought that Tongans take diabetes less seriously than Americans do. While some considered diabetes will resolve on its own after some time, others thought the doctors were using the diagnosis to make money out of the participants. Yet others resigned not to do anything and trusted that God is responsible for healing them.

More feedback was given as follows: "Oh, yeah, and if it ends up this way, so be it…, okay, just eat it and then give me the pills after." Another participant admitted being non-compliant and said:

> You don't really believe it, if you are a doctor, you told me, take this pill, and after two months you come back to me, the pill is [will be] sitting there. I don't take it… I think twice what he told me. I don't take it right away.

Others in the study group would start their prescription medications and continue with them until the major symptoms subside. They stopped taking their medication because they felt better, and did not see the need to continue with it. There was a degree of mistrust towards healthcare professionals. For example, one participant said, "See it's not important for someone until he get in trouble and gets sick and sick. Most of the time for me I think the doctor is telling me some untrue thing."

The participants also alluded to the reluctance by some Tongans not to heed medical advice because they contend that the doctors need to have more experience about their culture to speak to them, which one described as the doctors need "to get inside their

mind [laughter]. Because most of the time, Tongans don't really listen. They look at you but they don't listen. You feel you don't have responsibility for anything."

The participants saw no need for any interventions if they did not feel sick or displayed no apparent symptoms. The group said they followed their healthcare practitioners' orders only when serious symptoms manifested. The group did not routinely follow up on what their doctors prescribe, as one of them asserted and said: "You know what, Gladys? I don't know (the medication they write for me). Because I was on denial…I take it when I feel like I need to or whatever else." The pervasive element of mistrust results in some participants failing to attend follow-up appointments and take their prescribed medications until they feel their symptoms return. Some sentiments expressed on the subject included continuing to drink alcohol against the doctor's advice, not showing up for their follow-up appointments, and self-diagnosing, and tailoring their medications according to how they feel.

One participant, who is a church leader, told me Tongans, especially the men, would rather die than tell their doctor they have an illness that makes them look weak. And if a Tongan's sister is present during a clinic visit, he will not reveal his history in front of her because male Tongans are taught to respect their sisters. Accordingly, they will not talk about things like prostate cancer or a lack of libido in front of them.

Challenged facing financial burdens. For many of the participants, the financial burden was one of their biggest challenges. They said they struggled with the affordability of food and medications. The other challenge was deciding whether to put their whole family on a healthy diet and cook two meals (one appropriate for diabetics

and another that comprised starchy roots and meat for the rest of the family). The interviewees noted that controlling the progression and complications of diabetes was costly in terms of the high price of medications and following a healthy diet. One interviewee lamented that the cost of insulin was about $300-$400 a month, and there was the additional cost of other medications. Another one said the lack of funds negatively affected their weight loss strategies. The participant said:

> Eating healthy is expensive. Nobody talks about that. I go there, and I go shopping; nearly $100 just for a couple of things; nobody is talking about that, and then with our whole household, when I do the shopping per month, it is between $500-$700.

Feelings of emotional attachment to the Tongan diet. The main staples that constitute the Tongan diet are cassava, taro, tapioca, yams, manioc, sweet potatoes, cristalo, and kumala cooked mostly with pork, corned beef, or mutton. As the participants told their stories, it became clear that they struggled with forsaking their ethnic foods for the American and diabetes options. They said they prefer to eat pork, which they are used to because they grew up with it, and prefer that to the fish their healthcare professionals recommended. One participant described his perspective like this:

> Our people eat a lot of pork because there are pigs on the islands. They were brought over to Tonga generations ago. The doctor tells me to eat, like the fish, but I like the pork and beef or mutton with the fat.

Most of the participants did not allude to routine, and the extensive use of vegetables. It is hard for them to stay away from their ethnic foods. Some of them said

they did not eat wheat bread because “it isn’t filling,” and that they derived more energy from Tongan food. The participants asserted that they did not get energy from rice and bread. One participant appeared irritated with her doctor because the doctor kept suggesting she eat salads. Another interviewee said that while she was growing up, all she could think of was eating cassava and meat. Another participant said, “I know it has a lot to do with our type of eating, but then it’s very hard to switch from that heavy eating to eating salads. To go from that to drinking soup.”

The group indicated that they were used to eating greasy food, little vegetables, and a lot of taro, tapioca, cassava, and the yam, adding that it is not easy to abandon the Tongan foods choices. The interviewees acknowledged the high starch content of the Tongan diet and its detrimental effect of them, but also emphasized their struggle to replace them with healthier choices. One participants in her 30s said, “I know I should be eating the right kind of food, but sometimes it’s just whatever is there. I’ll just eat it for the sake of having something in my stomach; whatever is easy and fast.”

The challenge of controlling meal portions. The difficulty controlling the amount of foods the Tongans eat was attributed to the significant role it plays at social events. All the participants emphasized the importance of food as a cultural norm around which many activities were planned, and the requirement to eat an abundance of food was a sign of respect for the host families. The following are some of the responses received from the interviewees. One said, “I grew up in a culture where we eat a lot.” Another interviewee said, “When Tongans go to a new gathering, they have to eat because not to do so would be considered rude.” Other participants said they knew eating

too much food was not good, but they did it anyway, accepting that they are aware of the implications of overeating but cannot help it because they feel strongly about meeting the stipulated cultural practices. One such practice is eating with friends and family who come over even after the host has already had a meal. The group believes that when friends and family show up, the expectation is to serve them food. However, the host must eat with them and not let the guest eat alone. Their assertion is that when your guest eats, the host eats as well.

Theme 4: Striving to Survive

Among the many challenges confronting the participants was the feeling of lack of motivation and the energy to exercise. They were continually expected to attend many social events all planned around food. Although many participants felt they were ready to give up trying to beat these cultural expectations, others thought they could pull through. They were determined to survive their financial predicament, the emotional toll, the physical limitations, and the social and cultural setbacks they experienced. Despite these seemingly insurmountable obstacles, the participants adopted several strategies to help them overcome these challenges. Some exercised, ate the right food at the right time, and drank plenty of water. They considered each day as a new day with opportunities to do what they had failed to do the day before. They survived one day at a time. One participant said, “We continue with this disciplined lifestyle; today is a new day. If I failed yesterday, I try again today.” Another interviewee said, “Like a support system. So if you can surround yourself with people in the community, they’re doing the same or

having the same problems as you, which you'll feel more comfortable in being more active through dieting or exercise."

Some participants shared with me that they are surviving with a positive attitude, while others were participating in gym classes. One participant told me she is "staying away from marinating a lot of stuff," something she used to do a lot previously. Also, she has done away with her favorite food items, such as pastries, candies, and chips. The participants' efforts to survive are listed in Table 6.

Table 6

Theme 4: Striving to Survive

	Subthemes	Participants' contribution
	Surviving through self-help	P01, P02, P03, P04, P05, P06, P07, P08, P09, P10.
	Surviving with ethnic remedies	P01, P02, P03, P06, P08, P10, P011.

Surviving through self-help. In addition to the steps some participants have taken to control their obesity and diabetes, they also take walks at work on their lunch breaks, they are opting for less sugary drinks, and are drinking more water. The participants admitted they were able to breathe better after losing weight, and felt better when their blood sugar levels were normal. For example, one participant indicated that he felt "more alert, alive, and energetic" by eating less starchy items, increasing his intake of vegetables, and cutting out sweets. Another participant indicated that he felt stronger and could stand up in church longer to sing and participate in many areas of worship. He added:

> I breathe good, and I feel good with all my veins and muscle, and all those things. Even that at church, we would stand, but still I feel better. When my weight is coming down, I feel healthier, I feel not too tired of walking. I feel happier.

Surviving with ethnic remedies. Many of the participants, especially the younger ones, were not aware of the cultural or ethnic remedies. However, the interviews uncovered some ethnic medications Tongans take while trying to address their problems related to obesity and diabetes. One participant said: “But, you know – when I took those Tongan medicine, I still take the medication from the doctor here.” A concern is that while the participants are on both traditional and prescription medication, they conceal this practice from their doctors.

The participants indicated that taking ethnic concoctions made from boiling roots, leaves, and the bark of trees is a standard practice among most Tongans who grew up on the island. This practice is supported by the church and other leaders of the Tongan community. Additionally, there are designated and practicing senior Polynesian women who provide unique massage therapies called *Phi To’o* to the community, a treatment that is supposed to help heal multiple diseases. The participants generally believed that *Phi To’o* is very significant.

Other participants have chosen to take their ethnic remedies instead of the prescriptions the doctors have given to them. One participant said, “I have some medicine, Tongan medicine. And I said I’m going to go take this, and not what the doctor say.”

Theme 5: Seeking Support from Healthcare

This theme explored the Tongan participants' experiences with the healthcare system. Under this theme the participants discussed their experiences in accessing healthcare, the instructions provided by healthcare practitioners, and how the participants have reacted to the guidelines provided by their healthcare teams. The subthemes emerging from their experiences are detailed in Table 7.

Table 7

Seeking Support from Healthcare

	Subthemes	Participants' contribution
	Seeking help from healthcare professionals	P01, P02, P03, P04, P05, P06, P07, P08, P09, P10, P11.
	Meaningful interactions with the healthcare team	P01, P02, P03, P04, P05, P06, P07, P08, P09, P10, P11.

Seeking help from healthcare professionals. The study participants provided abundant feedback to demonstrate the enormous disconnection they are experiencing with their healthcare teams and the lack of information they face regarding their diseases. As mentioned above, the group does not attach the necessary exigency to their illness; nonetheless, the group was quick to point out how discouraged they are about their relationships with their healthcare teams whom they felt did not treat their illness with the urgency and empathy it required. In articulating their relationships with their healthcare practitioners, the participants made the following comments: "I feel they're just getting me in and getting me out." "You know what, Gladys? I don't know the medication the doctor gave me; I didn't want to take it. That's the truth, and I think my doctor never

really walk me through any plan." The general perception of the group is that the doctors do not address their specific needs, and that even though some of the doctors understand the Tongan dietary practices, the majority do not.

Other comments elaborated on the skepticism toward healthcare professionals. The participants believe their healthcare practitioner generalize care instead of addressing them as individuals and who they are. The group think that the doctors only have a few minutes for them during follow up visits. One of the participants commented she does not get the dietary counselling from her healthcare practitioner. The latter gives the patients advice to watch what they are eating or doing without a clear direction on how to do that. Other responses revealed the Tongan participants' position that their providers fail to dig into their illness and situations, and instead the doctors make blanket generalizations, label the group, and hold preconceived ideas against them.

One participant shared an experience when his father with diabetes visited him in the United States from Tonga. He took his father to see a physician and continued to visit the provider for follow-up appointments. After his father returned to Tonga six months later, he found all the medications that had been prescribed were still in his father's room. None had been taken. The participant's dad died two months later after returning to Tonga. This participant said that after his father's death he had become more compliant with his medication regimen and did not wait until he felt weak to go to the doctor.

Some participant attributed the challenges they experience with the healthcare system to problems with communicating in the English language and the unfamiliar medical terms the healthcare teams use. One participant shared that he does not like

going to the doctor only to keep asking them to repeat and explain to him in simpler English. One interviewee expressed frustration at not being heard, and felt "it's just all about the money." Another participant said her friends had warned her not to let her health professional know she was taking any kind of herbs from Tonga because she could be removed from the transplant wait list. Another participant feared being asked to go back to his country so he does not complain about anything happening to him.

More criticism came from another interviewee, who think the doctors are not listening and feels no matter how hard he tries, it ends up being a waste of time for him. The participant iterated that:

> To be honest, a few of the providers are not sincere, no. They're there for what they got to do, and then they're gone. They don't care. I feel it sometimes, and I believe they try but they don't understand me.

The group said they would like support similar to the one-on-one conversations I held with them in the study interviews. The group said they wanted the healthcare professionals to be more attentive to their predicament. They added that they felt good about participating in the study and being interviewed because it gave them the opportunity to verbalize their perspectives and experiences. All the participants said they felt a sense of satisfaction by talking about their feelings relating to diabetes and obesity, their challenges, and their cultural customs, and were eager to share these issues with their healthcare providers who had not made time for them.

Some of the participants expressed their appreciation for being heard and understood, saying: "I feel good because it's something I want to talk about [my diabetes

and obesity].” The participants expressed profound gratitude for the opportunity to talk one on one about their situation to give their perspective because it takes some stress of the. The group emphasized that they had not had a similar experience of being asked to talk about their experience for so many minutes at a time. They considered this study as an opportunity to help their community deal with obesity and diabetes. A couple of the participants said: “Today makes it more real to me when you are talking to me.” “It makes me feel heard. I feel like I’m important. Someone took notice of what’s really going on and is trying to really find a solution.”

Recommending meaningful interactions with the healthcare team. The study participants shared some perspectives about issues they considered essential for their healthcare practitioners to know. They believe there are so many aspects of the culture the doctors have to learn about to create meaning conversations between them and their healthcare practitioner. One participant said, “Tongans don’t like to complain, so they’re not saying anything” [to their healthcare practitioners]. One participant said it would be appropriate for doctors to ask relevant questions and dig for answers from Tongan patients with obesity and diabetes. There was not a single participant who said they had a positive relationship with their healthcare providers. There seemed to be a disconnect between the group and their healthcare providers, which a participant noted by saying “There’s no connection there. They can’t even relate and I don’t feel the doctors have any understanding or even a desire to understand.” Many of the interviewees suggested healthcare professionals should receive regular training to provide feedback regarding the treatment of Tongans and Pacific Islanders.

One participant wanted doctors to become more familiar with the culture and not to push what they are used to away with no acceptable alternative. The group emphasized that if healthcare teams ignored their culture, they would be left with nothing, because they are not willing to pick up a foreign culture they are not used to or understand. Other participants suggested that healthcare teams should make regular home visits to learn about the Tongans' culture and situation. Another participant complained that her doctor had never really walked her through any plan. She said doctors and nurses need to learn more about this group of patients, what lifestyle they led, what they ate, and what they liked to do. One participant said:

> I feel like there's still a lot of things they can do to help fix me personally because I'm different from the next guy… Don't just give us the same remedy… because I'm different from him….

Some participants' complained they had not been properly educated about their obesity or illness. One participant said she had never been told about portions until her diabetes started getting really bad. She suggested that the best type of learning and the best type of instruction for the Tongan group is to be hands on by doing the education with the doctors and nurses. One interviewee suggested there was a need for training and feedback so there was a regular feedback loop regarding the treatment of Tongans and Pacific Islanders. "I'd like it to be a consistent part of their curriculum that they actually have to take in on a regular basis and that we have monthly follow-ups with them." Other interviewees wanted healthcare professionals to conduct more research on the Tongan people and culture.

Summary

By exploring the lived experiences of Tongans with obesity and diabetes in a western metropolitan area of the United States, this study makes an important contribution to the literature by providing important insights into and understanding of the participants' lived experiences and the cultural factors that have impacted their health and eating habits. In-depth, face-to-face interviews were conducted in phenomenological approach using 11 interview partners.

The study group of Tongans, 18 years and older with diabetes and obesity, provided honest and transparent information regarding their experiences with, and perspectives on, obesity and diabetes. The study participants are trying to change their lifestyle to reduce obesity and control diabetes. However, they do not have full confidence or trust in their healthcare teams. They feel at odds with the advice given to them by their healthcare professionals because it conflicts with their cultural norms and practices.

The study group has many challenges, conflicts, misinformation, and a lack of information about their situation, and they face many challenges in dealing with their illnesses. In addition to the five themes above, the participants were asked to describe how they felt about sharing so much information during the interview sessions. They indicated that they needed more one-on-one conversations about diabetes and obesity.

In Chapter 4, I discussed the research questions, the research setting, the interviewees' demographics, and the data collection method, including the challenges encountered. Also, I explained the data analysis process, trustworthiness, and the results

of the study. Chapter 5 contains detailed discussions of the summary of the research, the conclusions, limitations, implications for future preventive programs for the study group, and recommendations for further studies.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this qualitative study was to examine the lived experiences of Tongans with obesity and diabetes in a western metropolitan part of the United States to explore their cultural predispositions to the two diseases as they strive to achieve a healthy lifestyle. Little information is available regarding the cultural determinants of diabetes among Tongans and the appropriate interventions that should be implemented to decrease the incidence of the disease and mitigate its harmful effects on the group (Braden & Nigg, 2016). Understanding the perspectives of the selected group might help to identify culturally relevant determinants of the obesity and diabetes and lead to appropriate interventions.

Overweight and obesity and their effects on diabetes challenges the sustainability of the Tongan community's efforts for a healthy lifestyle. Tongans are a Pacific Island ethnic group that has a higher risk of obesity and diabetes than the general population, both in the United States and in the world (Bacong et al., 2016; Hafoka, 2017; Oshiro et al., 2015; Teevale et al., 2015; Tseng & Kwon, 2015). To provide culturally competent patient-centered care to the Tongan community, it is important that healthcare practitioner and researchers understand the specific cultural factors related to diet, obesity, and diabetes among Tongans trying to achieve a healthy lifestyle. Thus, this research contributes to the literature on their culture and lifestyle by pointing to the factors responsible for the high prevalence of obesity and diabetes among them and suggesting interventions to address this problem.

The findings for the study related to the two frameworks of Rogers's theory of SUHB and Bandura's model of RD. Both frameworks affirm that there is an interlacing relationship between people and their environmental elements such as culture. Accordingly, the themes identified from this study helps to highlight the cultural factors that determine the selected group's diet and their consequent struggles with weight control, diabetes, and access to healthcare. The study also accentuates some of the culturally related attitudes of the study group that creates complexities around their attempts to live a healthy lifestyle. Chapter 5 presents the key findings, an interpretation of the results, and the limitations encountered. The chapter also offers the conclusions and recommendations based on the study's findings.

Key Findings

This study's findings support the concerns of researchers, policy makers, and healthcare practitioners on the high prevalence of obesity and diabetes among the Tongan community and other Pacific Islander groups (Akushevich et al., 2018; Huang et al., 2015; CDC, 2017; Jacques et al., 2017; Jia et al., 2017). The findings also highlight the struggles of the study's participants to maintain a healthy lifestyle as they confront the challenges of dealing with obesity and diabetes daily. Although the Tongan participants understand the health implications of their ethnic dietary practices, they feel obliged to frequently attend social events planned around an abundance of food. At such events, guests are expected to consume large portions of food to honor their hosts, which makes their weight loss goals challenging. Compounding the problem is the fact that the food served at such events comprises mainly starchy roots and fatty meats.

Although the participants in this study were aware of the potential complications of obesity and diabetes, which they partly attributed to genetic inheritance, they displayed denial toward their diseases. Generally, the Tongan participants stated that they are reluctant to volunteer health information, including their use of ethnic and alternative medical practices to their health providers. The men in particular said that they were uncomfortable discussing issues that made them feel less masculine in front of their sisters. The disconnection and lack of communication between the participants and their healthcare providers has resulted in mistrust and nonadherence to medical advice.

Interpretation of the Key Findings

Emotional Effects of Obesity and Diabetes on Participants

An essential finding of this study is that when the participants learned they had diabetes, it had significantly unfavorable connotations for them, leaving them surprised, shocked, regretful, fearful of losing a body part, confused about what to eat, and feeling that it was time to “stop and do something about it.” The diagnosis of diabetes generally imposed different levels of stress on the lives of the participants, and they felt helpless and hopeless in their efforts to overcome the culturally detrimental factors that had contributed to their condition. The one-on-one interviews highlighted how the participants’ denial turned into anxiety and the dread of impending complications, including death. All participants in this study expressed one form of emotional experience or another including the fear of death. According to Kalra, Jena, and Yeravdekar (2018), when diabetes patients fail to overcome their challenges, their emotional state becomes disarranged.

The stress of participants after diagnosis was compounded by depression, limitations on activities, worry about things they could no longer accomplish, and feeling imprisoned, restricted, and held back. These experiences of the participants are consistent with the findings of Shiyanbola, Earlise, and Brown (2018), who reported that participants in their study exhibited emotions such as fear, depression, and a sense of impending death. The feelings of hopelessness, helplessness, and depression have been found to impede weight reduction interventions (Kim, Austin, Subramanian, & Kawachi, 2018). Moreover, Sacco, Bykowski, and Mayhew (2013) reported that medical problems stemming from diabetes negatively impact the functional abilities of diabetes patients, which results in more functional impairment. The latter fosters depression especially in patients with higher BMI whose weight exerts pain on them. Consequently, as obesity restricts activities, which impedes weight loss efforts, the feeling of helplessness and hopelessness worsens. Unless interventions are implemented to break the cycle, diabetes in the study group could become intractable.

Genetic Predisposition

The participants realized that their diagnosis stemmed from multiple factors. Although most of them believed they were genetically predisposed to diabetes, others felt that they developed the illness as a result of poor eating habits, the Tongan culture, and other lifestyle choices. Most of the participants linked their diabetes to a familial predisposition, citing some family members who have either died from diabetes or continue to struggle with it. According to Somorjit et al. (2018), diabetes predisposition is associated with both environmental and genetic factors. This is echoed by Sarah et al.

(2018) who assert that a predisposition toward diabetes is aggravated by both genetic architecture and other lifestyle factors, which aligns with the responses the participants provided in this study and therefore, cultures like that of Tongans plays a significant role in the prevalence of diabetes. The participants may have a genetic component to their disease, and it may also be true that some cultural elements have played a part in their prevalence to diabetes; however, the participants emphasized that their diet is a significant contributing factor to their diabetes.

Diet as a Contributor to Obesity and Diabetes

The study participants unanimously agreed that their diet has contributed to their worsening obesity and diabetes trajectory and believed some of the critical factors impacting the two diseases were the norms and practices of their culture that relates to their eating habits. This is supported by Perkins et al. (2016), who found that Samoans' dietary habits contributed to obesity and diabetes. Overeating in the Tongan culture is widespread, and food is central at all events in the Tongan society. All the participants said that they loved eating and that it was rude not to eat a lot at a friend's house or during an event. They believed it was culturally normal for people at Tongan events to fill their plates with three pieces of chicken, two hamburgers, and four hotdogs because in such environments a person is allowed to eat whatever he or she wants to. But if these eating habits are practiced over time, obesity and its consequences such as diabetes will worsen.

Further supporting eating habits as a contributor to obesity and diabetes, the participants said that they cook a lot as a culture, eat a lot, are expected to eat a lot, and

grew up eating a lot. People are supposed to practice cultural hospitality by serving friends, families, and even strangers who come to their homes or events. It is customary for Tongans to eat with guests who come through their doors, even if the hosts have just eaten a meal. Sitting down at the table to eat with guests shows love, connectedness, and belonging. Refusal to eat with a guest is analogous to "slapping them in the face." Guests eat to honor and respect their hosts, and the hosts eat with guests to show love and make the guests feel welcome. This expectation leads to both the hosts and the guests eating more. The problem is compounded by the group's strong preference for their native foods and dislike of salad-based items. They did not understand how salads and soups would fill them up the same way their native starchy roots such as cassava, potatoes, taro, tapioca, and manioc did. My impression from the interviews was that many of the participants had not tried the salads and soups, yet they did not believe it had the satiety value as the starches did.

The participants said that they understood the direct effects of dietary choices on their weight. They said if they ate a healthy diet, they would eventually maintain a healthy weight. They realized that all the starchy food they selected and ate in abundance would translate into excess weight. They also acknowledged that choosing a Polynesian diet comprising mainly of carbohydrates and fatty meat would make them gain weight. The participants agreed that increased awareness of effective strategies to mitigate the challenges of obesity and control diabetes would help people suffering from these conditions. However, the affinity for the food they grew up with, the obligation to attend events, the expectation of eating more, and the need to uphold cultural norms made it

hard and sometimes impossible for them to stick to the healthy choices that could change their lifestyle, reduce weight, and control diabetes.

Affordability is a factor challenging the participants from staying on a healthy diet. Participants who headed their household had to decide to prepare a special diabetic diet for themselves while the rest of the family remained on regular Tongan foods or to switch the entire family onto a healthy eating regimen. Many said they would prefer to try the latter option but were unable to afford it. The participants lamented the fact that as much as they would like to include more vegetables in their diet, they found these plant sources too expensive to afford routinely. For now, most of them remain on the predominantly starchy root tubers, which is detrimental to their attempts to achieve a healthy lifestyle. All the participants agreed that their most challenging obstacle to keeping a healthy diet is overcoming their excessive food intake both at home and at the Tongan social events.

Tongan Social Events

A significant component of the weight control challenges relates to the social dynamics in which Tongans find themselves. As mentioned in Chapter 4, Tongans engage in many social events, including funerals, weddings, and birthdays, potlucks at ethnic churches, and family gatherings and reunions, particularly on Sundays. Such festivities are frequent and diverse but all require plenty of eating. Compounding the difficulties that the group faces with overeating is the confusion between the Tongan mindset about food consumption and traditional weight loss programs in the United States.

The expectation placed on Tongans to eat an abundance of food provided by host families at social events has contributed to the outcomes of obesity and diabetes. But if an individual chooses to eat less or refrain from eating at such events his choice is considered offensive and disrespectful to the host family. Accordingly, the trend for Tongans is to eat as much as they can at such social events, a practice that leads to an increased distribution of weight and adiposity, both of which predispose one to insulin resistance and leads to diabetes and some serious diabetes-related complications (Langenberg & Lotta 2018).

At funerals, attendees demonstrate their respect for their ancestors and their families. The Tongan community feels it is an opportunity to show homage to members of the lineage and future generations. Tongans strongly believe funerals bind them together, and it is a way of acknowledging that they too are here on earth for only a short time. Funerals are highly respected by Tongans, who go out of their way not to miss them. The participants feel conflicted at such events because people expect them to eat a vast quantity of food, most of which are starches, while they are trying to lose weight to improve their glycemic index. In preparing for events families who can afford it make them very elaborate. For example, some families celebrate 1-year funeral anniversaries for their deceased loved ones with much ceremony. Many individuals attend an average of six to 10 such events every month. On each occasion, attendees are expected to eat a lot and are praised for doing so. The dilemma the participants find themselves in is overwhelming and could contribute to some of the guilty feeling and depression they reported to me.

The Tongan Dilemma

The Tongan group studied in this paper face a dilemma in dealing with their obesity. They feel that their community is caught between the American and Tongan cultures because of the different perspectives toward dietary practices and the different perceptions of body weight. The Tongan culture regards to weight gain as a sign of well-being, affluence, and favorable social status, but American culture promotes reduced bodyweight, because obesity is seen as a threat to healthy living and has negative social associations. Generally, Tongans believe thin people are carrying some burden or personal problems. Although the interviewees acknowledged that obesity was inhibiting their breathing, causing sleep apnea, constraining their movements, limiting their ability to get chores done, and negatively impacting their quality of life, they would not accept weight reduction as culturally tenable and believed that being thin is socially unacceptable in the Tongan culture. Nevertheless, they acknowledged that they felt healthier while losing weight.

The interviewees expressed dismay at the prospect of increased physical activity, which they found almost impossible due to their weight. Many of them spoke about the challenges they faced walking up and down the stairs of their homes and their inability to do any form of exercise as prescribed by their healthcare providers. Moreover, although participants were told increased water intake helped with weight control and hydration, they could not continue with this practice due to complications such as renal failure, which required dialysis and subsequent renal dietary restrictions. There was also widespread discouragement among the group who did not fully understand diabetes and

treating it required them to forsake their preferred dietary practices and walk away from some of their cultural and social norms.

The participants were frustrated that their efforts to achieve a healthy lifestyle conflicts with the dictates of their cultural patterns and social norms. They were conflicted because they understand the need to change their dietary patterns; however, they feel pressured to adhere cultural and social norms. The group shared with me that they were exercising, using ethnic medicines, drinking more water, and keeping a positive attitude. Many of the interviewees said they were trying to reduce their intake of sweets and pastries and adhere to a “disciplined lifestyle.” However, while some of the study participants have considered reducing their meal portions, many of them have refused to forsake their native Tongan starchy foods entirely.

Collectivistic Culture

Central to their problem of obesity and diabetes is the Tongan collectivistic culture and customs. The group feels obliged to conform to the norms and practices of their community. The obligation for Tongans to eat to please their community members reveals the collectivist nature of their culture, which Okely, Weiss, and Gale (2018) report as more important than being loyal to oneself. Moreover, Okely et al. assert that the extent to which individuals exhibit collectivistic behaviors may determine their health outcomes. Consequently, the participants indicated that some of the Tongan cultural practices worked against their efforts to lose weight, improve their glycemic index, and prevent diabetes complications. Unless some significant, persistent, and consistent

interventions are established, the prevalence of diabetes among Tongans will not only persist but also worsen.

Attitudes Toward Illness

The study group said they largely ignored their doctors' advice because they did not believe they were sick enough. One participant ignored her doctor's advice until she was partially blind in one eye. Others said they grew up learning that unless there is a real crisis or complication, it is not time to act. Their natural inclination is to wait until a serious health issue manifests before they seek professional help. Some participants acknowledged that they only went to see a doctor when their situation became dire and did not take their illness seriously in the absence of complications. Many of the participants considered these reactive interventions to their illness as a culture-related phenomenon. They decide when to take their medications and when to stop taking them; however, they said they did not tell their healthcare professionals about this. In spite of the dire consequences of obesity and diabetes, some of the interviewees seemed confused by their inability to take their illness seriously. Others wondered about the reasoning behind their community's lack of urgency in treating their illness, their indifference toward disease among their own people, and were trying to understand the unusual ambivalence they portray towards their diseases.

Consequently, the participants indicated that some of the Tongan cultural practices worked against their efforts to lose weight, improve their glycemic index, and prevent diabetes complications. Unless some significant, persistent, and consistent

interventions are established, the prevalence of diabetes among Tongans will not only persist but also worsen.

Challenges Associated with Healthcare

One of the most overwhelmingly stated perspectives of the interviewees was the disconnect they feel with their healthcare teams. There is mistrust of the healthcare practitioners leading to failure to adhere to healthcare prescriptions and recommendations. Generally, the participants in this study said they did not trust their healthcare providers, which had negatively impacted their relationship with the providers and made them reluctant to see a doctor or follow the doctor's instructions. Not one of the participants said they had a trusting relationship with their healthcare professionals. This distrust had also prevented them from being transparent in communicating their lifestyle and needs to their healthcare providers, thereby hampering the efforts of these providers to address the issues with overweight and diabetes of the group. The adverse sentiments the group had toward the healthcare system have become significant barriers to the group's access to healthcare.

Some participants have responded to their health issues with obesity and diabetes by staying home and using their native remedies and concoctions. Others go to the doctor's office for what they need but pay no attention to the instructions; others go to get documents completed for work and travel, and another group goes to see the doctor because of some crisis or catastrophic events. Most of the Tongan participants said they felt stigmatized and labeled because of their weight, and that healthcare practitioners had made inaccurate assumptions about them. The participants said they did not feel heard by

the healthcare teams, which made them skip follow-up appointments or made them stop going for treatment altogether. The Tongans also voiced their frustration with healthcare teams for not addressing their specific needs. This lack of working relationships between the Tongan group and their healthcare teams is problematic, especially in the face of the stated cultural challenges and the enormous educational needs they demonstrate.

The participants said they wanted their healthcare practitioners to talk to them more and to get to know them better to build trust that enhances the group's belief in the health teams and to enable them to heed the healthcare team's recommendations. Participants suggested that follow-up calls would go a long way in connecting them with their healthcare practitioners and improve health outcomes for the group. Research indicates that communication barriers could pose a significant challenge to trust between healthcare practitioners and patients (Balyan et al., 2019). According to Balyan et al. (2019), this is especially true for populations with health literacy challenges, where a lack of trust between patients and their care centers can undermine medication and other regimen adherence. The participants shared that Tongans by nature neither volunteer information nor take the lead in conversations. Therefore, it is imperative that probing questions become part of their clinic and hospital visits to obtain pertinent information regarding their diseases, such as compliance with medication regimens and the ethnic remedies they are using.

Some interview participants told me one of their challenges had been the language barrier, a hindrance that confronted them on two levels: English language proficiency challenges, and the use of medical terminologies they do not understand. The participants

expressed overall dissatisfaction with the lack of communication they experienced with their healthcare teams. While the group had hoped for healthcare teams who are interested in their situation, their differences, and culture, these healthcare teams have instead shown disinterest in engaging the group in deep conversations and have not attempted to understand them or provide individualized care that is meaningful in addressing their obesity and diabetes.

The group said there were communication barriers in their attempts to understand how the healthcare system works. The participants perceived that healthcare practitioners just wanted to get them in and out as quickly as possible, apportioning them little time to voice their concerns. They further asserted that healthcare practitioners had not taken enough time to get to know them well enough regarding their cultural practices relating to diet, obesity, and diabetes and that they had consequently not been able to make appropriate recommendations to them. As a result, the Tongan group did not believe they have completely adhered to their practitioners' regimens.

The interviews uncovered some ethnic treatments Tongans with obesity and diabetes turn to in attempts to heal their diseases. The mistrust they expressed in their healthcare teams could be a factor that contributes to their desire to seek ethnic remedies from Tonga such as *Noni* and *Mongalo*. Others said they resorted to ginger, turmeric, and island salt. According to the participants, many healers in Tonga sell a variety of ethnic preparations mostly from barks, leaves, and roots of different plants to heal diabetes and other conditions. Retailers transport these concoctions from Tonga to sell to the Tongan communities abroad. The participants had either used some form of cultural remedy or

knew someone who has. In addition, some of the participants have used a massage treatment called Phi To'o provided by some of the senior women in Tonga. This treatment is believed to help sick people relax and enhance the chances of recovery from many diseases, including diabetes. Nonetheless, participants were not sure if any of the ethnic remedies helped with their diabetes.

Limitations

A few potential limitations were anticipated in the data collection phase of this study, which, in effect, did not end up as limitations. First, participants' ability to recall was commendable rather than a limitation. The participants vividly recalled their lived experiences and provided lively and extensive personal stories that offered answers to the research question. The participants were still experiencing the challenges of diabetes and obesity as they struggled to achieve a healthy lifestyle, and were able to articulate details of their challenges in a clear and powerful way. Second, the participants were sufficiently knowledgeable about their obesity and diabetes situation to offer rich and useful data during the in-depth interviews.

Nonetheless, there are some areas that could be considered limitations of the study. First, because of our language differences, the Tongan group may have experienced some difficulty in expressing themselves fully, as English is not their first language. This challenge may have led to a slight difference in perspectives between me as an English speaker and that of the interview participants. This study was a qualitative one, and therefore, I was the primary instrument for the data collection, and I focused on

bracketing my biases, experience, and ideology. However, it is possible I may have unconsciously imposed my views of the world on the study and shaped its processes.

Findings of qualitative research such as this study cannot generally be extrapolated to a broader population except, according to Patton (2015), a population that shares specific attributes such as setting and cultural characteristics as the study population. In addition, all of the participants lived in the same area of the city, visited each other’s church for weddings and other functions, seemed to know each other, and appeared to belong to a tightly connected community. This type of social connectedness could mean some of their perspectives did not represent their authentic experience of the phenomenon but instead what they all shared within the community (Christine, 2019). According to Christine (2019), communication in such communities involves sharing ideas, values, perspectives, and how the members are feeling. To mitigate this limitation, I used open-ended questions to explore participants’ responses and sought clarification to solicit responses that reflected participants’ lived experiences. Moreover, as part of the introduction to the interview sessions, I asked participants to offer their personal experiences rather than those of other individuals they knew in their community or family members.

This research sought participants who could read and write English. As mentioned earlier, some potential participants who had diabetes and were 18 years or older were non-English speaking and could not be recruited. The research could have possibly benefitted from such individuals who could have had rich information to share but had to be excluded because of their lack of proficiency in English. As a result, visitors to the

church who were told about the study and were friends and acquaintances of the church members were recruited to expand the sample size.

Implications for Social Change

The high prevalence of obesity and diabetes among the Tongan community has serious health, financial, and social concerns. This study's findings have significant social change implications. First, the research has uncovered some of the distinct lived experiences of Tongans in the western metropolitan part of the United States for healthcare practitioners to gain a better understanding of the cultural perspectives about obesity and diabetes among the group. Accordingly, healthcare and public health practitioners, policymakers, diabetes, and nutrition educators may develop culturally relevant preventive programs, education initiatives, and policies to help the group decrease obesity, control diabetes, and ensure a better quality of life.

This study has added to the knowledge base in the field of nursing by highlighting culturally specific understanding regarding experiences of Tongans with obesity and diabetes. Healthcare of the selected group may improve with culturally relevant information that this study has provided. Additionally, the study has some policy, practice, and educational implications for the Tongan population in the area selected for this study.

Implications for Practice

The study participants attributed their obesity and diabetes to multiple factors including cultural influences, social dynamics, societal expectations, diet, genetic architecture, disconnection, and lack of communication with their care providers, and

their own attitude of denial towards illness. Accordingly, healthcare teams need to take a holistic approach in caring for the Tongan group to address various areas contributing to the unfavorable trajectory of obesity and diabetes.

The participants expressed the challenges they face with their attempts to lose weight, such as their engagement in multiple social activities that center extensively on food, the starchy content of their diet, and the negative stigma weight loss carries within Tongan society. However, all of the interviewees said their friends and families supported their initiatives to lose weight once they shared their intent to do so. This finding is significant because healthcare practitioners could include family members in the weight loss sessions. According to Stevens and Stern (2019), sustainable weight loss efforts had more chances of success if the family supported them.

It is crucial for healthcare practitioners to assess the group routinely for feelings of helplessness, hopelessness, depression, and possible self-destructive thoughts. Many of the interview participants expressed feeling helpless, hopeless, anxious, fear, and loss of control. Such feelings need to be validated and explored for the appropriate referrals to be made for the group. Moreover, the young participants with obesity felt isolated from participating in outdoor events because they were unable to find their favorite design of clothes in their sizes, and they choose to stay home instead, which may impact their self-esteem that needs to be addressed during follow-up visits. For instance, Zappas and Granger (2017) emphasized the importance of addressing issues of self-esteem when caring for younger Tongans youth with diabetes in order to avoid an identity crisis and possible depression. Additionally, education and care for the youth must address self-

esteem challenges they may face. Training that involves coping skills should be held in the form of group sessions with other younger Tongans about the same age with diabetes in similar situations.

Kalra et al. (2018) underscored the need for psychological and emotional assessment to be conducted early in the care of diabetes patients since complications are linked to psychological components of the disease. Therefore, guidelines for the care and treatment of the group should include an extensive psychological component, which is absent, as noted by the participants. Additionally, healthcare providers need to address the numerous issues ranging from labeling to stigmatization that the group brought up in this research. The study participants considered that their healthcare teams generalized care and did not address their issues. Participants also related that healthcare teams did not want to hear about their culture and their specific dietary practices to make the necessary modifications around what they were accustomed to eating. This lack of attention may be due to the limited time healthcare organizations expect healthcare practitioners to spend with each patient. The Tongan group said they wanted their healthcare practitioners to reflect on their daily struggles to achieve a healthy lifestyle.

The paradigm shift that might help mitigate the Tongans' undesirable lived experiences with their healthcare teams would be to move away from stigmatization and labeling to effective listening, understanding and individualized care on the part of the healthcare teams. It is vital for healthcare teams to ensure information is interpreted, repeated, and clarified before clients from groups such as the one in this study are sent home. Equally crucial are follow-up phone calls to the participants' homes by Tongan

healthcare team members who speak Tongan, a strategy which would go a long way in improving compliance with treatment regimens.

The group wanted the healthcare providers to have some competency training that would help them understand how to acquire relevant information from the participants because the latter would not voluntarily offer such information. According to Tongan culture, members are unwilling to share information they consider bad news. For example, Tongan males will not share sensitive information in front of their sisters. Similarly, Tongan men would not share information with a healthcare practitioner that would make them look weak. It is imperative for healthcare practitioners to find a way to create privacy for their Tongan men to discuss issues that seem sensitive to them. Above all, healthcare practitioners should seriously consider the study group's conversations around the findings, and develop culturally relevant programs that will facilitate a reduction in obesity and the prevalence of diabetes. Additionally, this study has uncovered some of the cultural issues confronting Tongans that can help tailor the narrative around their care by health and social care professionals to reduce obesity and control diabetes by channeling health campaigns through their community leaders and their clergy.

Implications for Education

The study participants provided a substantial amount of information to indicate a significant need for education. The participants who were born in the United States or brought into the country at a younger age said they were less dependent than their parents on the Tongan starchy diets. This result is consistent with Mora and Sherita's (2017)

findings that acculturation is an essential factor affecting dietary and other approaches to the management of diabetes. The researchers stressed the importance for healthcare and public health professionals, and policymakers to understand the effect of acculturation on diabetes to provide appropriate education if the high prevalence of diabetes in the selected group can be combated. Mora and Sherita also reported studies conducted among other ethnic groups that showed less starchy roots and more fruits and vegetables were consumed in acculturated groups than in less assimilated peers in the same ethnic group. These findings, which support responses this study's participants gave, should form the basis for educating the group. Less acculturated individuals should have education focused on the need to reduce starches and replace with plant-based alternatives.

Furthermore, education focused on diet and weight loss should be specifically goal oriented to provide the group with clear direction. For example, instead of instructing the group to lose weight, the instruction should specify how much weight should be dropped and how to achieve that. According to Stevens and Stern (2019), a weight loss program should be backed by strong motivational factors, such as improving quality of life, preventing diabetes, enhancing the ability to complete the activities of daily living, and performing desired daily activities. Additionally, dietary recommendations should specify that individuals should target losing 500-1,000 calories per day by reducing a good portion of their starchy meals. Equally important is for participants to be educated on how many pounds to lose every week, for example, 1-2 pounds (see Stevens & Stern, 2019). Such specific guidelines written in a notebook for

the group would be easier to follow. The younger participants who said they were not emotionally attached to taro, cassava, manioc, and tapioca, told me they were getting pizza or other food from fast-food outlets. This should be a critical component of the dietary education intervention for this younger group. They need to be encouraged to choose healthier alternatives to the fast foods they are consuming.

The need for education was voiced by an overwhelming majority of the participants who said they loved Tongan foods and were not planning to change anytime soon. Nonetheless, they were open to learning and would prefer to be educated on how to modify their ethnic dietary patterns than change their diet altogether. Accordingly, a nutritional consultant’s advice would be valuable in helping with the transition to a healthier dietary lifestyle that also reflect the indigenous staples the participants are struggling to give up.

Equally important is that educational offerings to the group need to emphasize explanations and rationale. All the participants acknowledged some health-related recommendations made by their healthcare teams to reduce their intake of sweets, eat more vegetables, lose weight, exercise, and cut down on starches. Some participants said their health practitioners had encouraged them to drink more water in place of soda and reduce the portions of their meals. Notwithstanding, the participants were mostly not adherent because they were not told why these interventions were necessary, what the implications are, and the reasoning behind them.

Furthermore, the Tongan group minimized their risk of illness until an apparent catastrophe and demonstrated a denial of the seriousness of diabetes, which could be due

to a lack of education. As most of the participants shared, group members sought help when there was a severe turn in their health. This practice is a critical area healthcare practitioners need to explore in their conversations and education sessions with the group's members, who may feel hesitant to discuss their issues related to obesity and diabetes. Explaining the risks involved in such a careless attitude might help the group understand the full impact of the consequences and bring about a change in their attitude of complacency.

Policy Implications

The Tongan culture has been established as an important factor contributing to the incidence of obesity and diabetes in the group. Despite this, the group's culture can be a useful tool in combating the high prevalence of diabetes. Tongans value how their communities view them, and they tend to abide by cultural norms and perceptions. The collectivistic attitude that the values of the community are more important than the need for individuals to lose weight can be changed if policymakers and other health officials channel efforts through the leaders of the community. Significant value is placed on the ideas, recommendations, and dictates of leaders such as church elders, clergy, and the heads of families. As one participant recounted, the Tongan community is embracing an initiative on the Tongan radio in the area for this research, encouraging Tongans to adhere to a healthy diet, stop drinking alcohol, quit smoking, and get health checkups. This campaign, initiated by community leaders, has been well received and is being announced in churches and at other events.

It would be beneficial for healthcare stakeholders and policymakers to engage with community leaders to distribute flyers routinely containing information about obesity and diabetes in the Tongan language at the social events that they all attend so frequently. At the state and national levels, policymakers can set goals for weight loss programs, which are tied to financial support for patients and reimbursement amount for institutions. In addition, policymakers should improve the infrastructure of the Tongan and other minority ethnic groups so that healthcare, nutrition care, and public health centers are within reach of the groups.

Implications for Further Research

The results of this study clearly emphasize the need for future research. First, the determinants of the group's attitude towards illness must be explored further. This study's participants were confused about their inability to seek healthcare until their illness became severe, and they were experiencing distressing consequences. There is ample opportunity for researchers to further explore such denial towards their disease and ambivalence toward medical care so solutions may be found. Future research should examine more deeply the phenomenon concerning gender and generational differences regarding the lived experiences of Tongans with obesity and diabetes. Also, further studies should be conducted among the Tongan community to explore the influence of acculturation and generational components on health outcomes such as the effect of acculturation on obesity and diabetes.

Equally significant is the need for researchers to explore healthcare practitioners' perspectives regarding their experiences and challenges in caring for the selected group

with obesity and diabetes. Such a study would create a comprehensive knowledge that compares healthcare providers' perspectives and experiences with those of the Tongan group explored by this study. It might be helpful for such future research to include qualitative inquiries that seek first-hand views of the healthcare teams who have cared for Tongan clients with obesity and diabetes.

Conclusions

This study used a naturalistic approach to investigate the reasons why Pacific Islanders in general and Tongans in particular have the highest rate of obesity and diabetes among all population groups in the world. For this investigation I canvassed a study group of Tongans from a western metropolitan part of the United States to understand their lived experiences in dealing with obesity and diabetes, how they interpreted the causes of these conditions, and what action they were taking, if any, to deal with their problems.

Researchers have identified the need for studies that reflect cultural perspectives and attitudes in approaching the problems of obesity and diabetes among Tongans and Pacific Islanders. For example, several studies have focused on elements such as demographics, age, socioeconomic status, colonization, dietary practices, physical activity, prenatal and early life factors, policy-level variables, rural versus urban factors, education level, and locations and neighborhoods, in attempts to address these problems. Equally important is that for over 30 years of public education on health and nutrition, and findings that link diet to diabetes and cardiovascular disease, the Pacific Islanders' attitudes to food, obesity, diabetes, exercise, and lifestyle have not changed because

public health nutrition interventions focus more on the health domain, rather than social and cultural components.

By exposing some crucial cultural perspectives, this study contributes new knowledge to the literature and helps provide culturally significant information regarding Tongans' attitudes towards obesity and diabetes. Culture is important in determining how people value and process information, perceive their health, and respond to treatment programs. Research studies that evaluate ethnic cultures, yet fail to address their cultural perspectives, can be problematic. The group that participated in this study has one of the highest incidences of obesity and diabetes in the world, a fact attributed mainly to their strong affinity for indigenous, starchy root-based diet, and the cultural insistence on abundant eating at their frequent social events. Additionally, the group believes the abundant consumption of an obesogenic diet portrays a form of connectedness and a sense of belonging, while abstaining from such indulgence epitomizes social deprivation. Hence, the findings of this study provide significant implications for practice, policy, and education.

The study unveils many modifiable elements healthcare practitioners, researchers, policy makers, and educators could use to help the selected population decrease the incidence of obesity and diabetes and improve survival. This study fulfills the call researchers have made for further research that reflects cultural perspectives and attitudes in approaching the problems of obesity and diabetes among Tongans and Pacific Islanders. The study also concludes that research that evaluates obesity and diabetes in ethnic cultures and includes the cultural perspectives of those populations is likely to

reach the target groups because their cultural views are considered. Accordingly, this study focuses on culturally relevant content that considers the traditions and culturally acceptable options for Tongan participants.

Tongans live in communities in which most of the activities revolve around food, and obesity is an acceptable norm. The mindset that abundant eating is culture related and somehow cannot be stopped has permeated Tongan culture for a long time, and changing these notions is critical to their health and future lives. Until active preventative initiatives are taken to mitigate the advancement of obesity and diabetes among this population group, it is likely these conditions will remain an intractable and regular part of life, as indicated by one participant who said, “I saw myself walking into diabetes, but did not see myself walking out of it.”

The results of this research show that the Tongan culture revolves around events and food, obedience to leadership, and the obligation to please society, even if it is detrimental to health. To address this problem, healthcare providers must improve communication, strengthen trust, and increase the affected parties’ confidence in the healthcare systems. Dietary changes ought to include ethnic foods with which the group is familiar to reduce their anxiety about withdrawing from their cultural norms. Conversations should center on how to manage abundant eating at the frequent and elaborate social events and how to develop strategies for reducing meal portions. Equally important is a focus on the emotional component of their challenges with obesity and diabetes.

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Appendix A: Sample of Initial Interview Guide

Date of Interview:

Location of Interview:

Start Time: **End Time:**

Code of Interviewee:

Name of Interviewer:

Recording Mechanism:

Introduction to Interview Session:

Hello, Mr. or Ms. (Participant's Name), thank you for taking your time to meet with me today. As I have already shared with you, this interview will contribute to the information gathering for a research intended to learn more about the experiences and perspectives of Tongans dealing with diabetes and facing challenges with weight control.

You have been asked to participate because you have some experience with diabetes and weight control challenges and you are willing to share that experience with me. The questions I will ask you and the answers you give me will be about you and your particular and unique situation. You may be familiar with conditions of some friends and family members. However, this is about your own experience and perspective. There are no right or wrong answers. All answers are welcomed and helpful. Please feel free to provide as much detail as possible that you are willing to share.

You have already signed a consent, but I just want to mention again that the interview

will be tape-recorded. This will allow me to have an accurate record of what you shared with me and not rely on my memory. It will also help me listen attentively to you without needing to write everything down, even though I will be jotting a few things down as well.

Interview Questions

Interview question	Prompt questions
Interview question 1: Diabetes Please tell me about your experience with diabetes (Odgers-Jewell, Isenring, Rae & Reidlinger, 2017).	Prompt questions about diabetes: Please explain to me what your doctor has told you about your diabetes What does having diabetes mean to you? (Yang, 2017). Kindly describe to me how you felt when you received a diagnosis of diabetes. What are the strategies that you are using to deal with diabetes?
Interview question 2: Obesity How does obesity affect your daily life?	Prompt questions about obesity: 1. Please tell me how you feel about being overweight 2. Please explain to me the instructions you have received from your doctor about controlling your weight. 3. How do you think weight has contributed to your diabetes? (Odgers-Jewell et al., 2017). 4. What is your idea of how much you should weigh? 5. Would you change anything about your weight? (Yang, 2017).
Interview question 3: Diet Tell me how you choose the foods you eat.	Prompt questions about diet: 1. How do those choices compare with what the doctor told you to eat? 2. Describe to me what you have heard about foods that make people put on weight? 3. How do you think your diet and your obesity are related?

	4. What factors influence your dietary choices?
Interview question 4: Healthcare Tell me about experiences you have had with healthcare providers about your weight diabetes.	Prompt questions about Healthcare programs: 1. What would you like nurses and doctors to know about how to care for you about your diabetes? (Farrar, et al., 2018). 2. Describe what makes you seek a health provider's care (Farrar, Kulig & Sullivan-Wilson, 2018). 3. What are the challenges you experience accessing healthcare? (Farrar, et al., 2018). 4. Do you manage your diabetes with prescription medication?
Interview question 5: Culture How does your culture make it difficult for you to deal with diabetes and weight control?	Prompt questions about Culture 1. Are there cultural factors that make you see diabetes different from how Americans see it? 2. Are you using any cultural remedies for diabetes besides going to the doctor? 3. Can you please share with me if there are any cultural factors that prevents you from following the doctor's recommendations? 4. What advice would you give to doctors and nurses who care for Tongans with diabetes? (Farrar, et al., 2018). 5. How does your culture help you to deal with being overweight? 6. How does your culture help you to deal with being overweight?
Sum-up Questions	1. What do you think can be done to help reduce your challenges with obesity and diabetes? 2. Do you have anything more that you would like to describe? (Hanpatchaiyakul et al., 2017).

	3. How do you feel after you shared your experience with me? (Hanpatchaiyakul et al., 2017).

Closing Statement

I want to thank you very much for taking the time to share your story with me today. I very much appreciate your contribution to this study. If you think you need to reach out to me with further information, questions, concerns or if you would like to receive a record of the information you shared with me, please do not hesitate to call or email me. Here is my contact information Gladys Adjei-Poku, email address [redacted] Phone [redacted]

Appendix B: Sample of Updated Interview Guide

Interview Protocol

Date of Interview:

Location of Interview:

Start Time: **End Time:**

Code of Interviewee:

Name of Interviewer:

Recording Mechanism:

Introduction to Interview Session:

Hello, Mr. or Ms. (Participant's Name), thank you for taking your time to meet with me today. As I have already shared with you, this interview will contribute to the information gathering for a research intended to learn more about the experiences and perspectives of Tongans dealing with diabetes and facing challenges with weight control. You have been asked to participate because you have some experience with diabetes and weight control challenges and you are willing to share that experience with me. The questions I will ask you and the answers you give me will be about you and your particular and unique situation. You may be familiar with conditions of some friends and family members. However, this is about your own experience and perspective. There are no right or wrong answers. All answers are welcomed and helpful. Please feel free to provide as much detail as possible that you are willing to share.

You have already signed a consent, but I just want to mention again that the interview will be tape-recorded. This will allow me to have an accurate record of what you shared

with me and not rely on my memory. It will also help me listen attentively to you without needing to write everything down, even though I will be jotting a few things down as well.

Interview Questions

Interview question 1: Diabetes Please tell me about your experience with diabetes (Odgers-Jewell, Isenring, Rae & Reidlinger, 2017).	Prompt questions about diabetes: 1. Please explain to me what your doctor has told you about your diabetes 2. What does having diabetes mean to you? (Yang, 2017). 3. Kindly describe to me how you felt when you received a diagnosis of diabetes. 4. What are the strategies that you are using to deal with diabetes? 1. What are the results of these coping strategies?
Interview question 2: Obesity How does obesity affect your daily life?	Prompt questions about obesity: 1. Please tell me how you feel about being overweight 2. Please explain to me the instructions you have received from your doctor about controlling your weight. 3. How do you think weight has contributed to your diabetes? (Odgers-Jewell et al., 2017). 4. What is your idea of how much you should weigh? 5. Please describe how you deal with obesity. 6. In what ways do you believe weight plays a role in how your family's sees you? 7. Would you change anything about your weight? (Yang, 2017).
Interview question 3: Diet	Prompt questions about diet:

Tell me how you choose the foods you eat.	1. What is your most vivid memory of how you started selecting the foods you eat? (Patton, 2015). 2. How do those choices compare with what the doctor told you to eat? 3. Describe to me what you have heard about foods that make people put on weight? 4. How do you think your diet and your obesity are related? 5. What factors influence your dietary choices?
Interview question 4: Healthcare Tell me about experiences you have had with healthcare providers about your weight diabetes.	Prompt questions about Healthcare programs: 1. What would you like nurses and doctors to know about how to care for you about your diabetes? (Farrar, et al., 2018). 2. Describe what makes you seek a health provider's care (Farrar, Kulig & Sullivan-Wilson, 2018). 3. What are the challenges you experience accessing healthcare? (Farrar, et al., 2018). 4. Do you manage your diabetes with prescription medication?
Interview question 5: Culture How does your culture make it difficult for you to deal with diabetes and weight control?	Prompt questions about Culture 1. Are there cultural factors that make you see diabetes different from how Americans see it? 2. Are you using any cultural remedies for diabetes besides going to the doctor? 3. Can you please share with me if there are any cultural factors that prevents you from following the doctor's recommendations? 4. What advice would you give to doctors and nurses who care for

	Tongans with diabetes? (Farrar, et al., 2018). 5. How does your culture help you to deal with being overweight? 6. How does your culture help you to deal with being overweight? 7. Do you believe American medical care meets your needs with your diabetes?
Sum-up Questions	1. What do you think can be done to help reduce your challenges with obesity and diabetes? 2. Do you have anything more that you would like to describe? (Hanpatchaiyakul et al., 2017). 3. How do you feel after you shared your experience with me? (Hanpatchaiyakul et al., 2017).

Closing Statement

I want to thank you very much for taking the time to share your story with me today. I very much appreciate your contribution to this study. If you think you need to reach out to me with further information, questions, concerns or if you would like to receive a record of the information you shared with me, please do not hesitate to call or email me. Here is my contact information: Gladys Adjei-Poku, email address [redacted] Phone [redacted].

Appendix C: Screening Questionnaire

Date____________ Participant Identification # _____________

Hello, my name is Gladys Adjei-Poku a doctoral student at Walden University and I am very happy that you have indicated an interest in participating in my research about Tongans with diabetes and facing challenges with weight control. The study will help me gain understanding of what challenges Tongans with Obesity and diabetes experience. To be sure you qualify to participate I would like to ask you a few questions.

Are you Tongan?	Yes	No
Are you a member, or visitor of the Tala Ki Mamani Church	Yes	No
Do you speak English?	Yes	No
Can you read English?	Yes	No
Are you 18 years or older?	Yes	No
Are you pregnant?	Yes	No
Do you have diabetes?	Yes	No
Do you have weight control challenges	Yes	No
Did a doctor diagnose your diabetes condition?	Yes	No
Will you be willing to answer questions about Obesity and Diabetes?	Yes	No
Will you be willing to be tape-recorded during the interview?	Yes	No