

2017

Effects of Lifestyle Changes on the Health of African Americans With Type 2 Diabetes

Charles Duro
Walden University

Follow this and additional works at: <https://scholarworks.waldenu.edu/dissertations>

 Part of the [Health and Medical Administration Commons](#)

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact ScholarWorks@waldenu.edu.

Walden University

College of Health Sciences

This is to certify that the doctoral dissertation by

Charles Osei-Duro

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee

Dr. Robert Hoye, Committee Chairperson, Health Services Faculty

Dr. Suzanne Richins, Committee Member, Health Services Faculty

Dr. Frazier Beatty, University Reviewer, Health Services Faculty

Chief Academic Officer

Eric Riedel, Ph.D.

Walden University

2017

Abstract

Effects of Lifestyle Changes on the Health of African Americans With Type 2 Diabetes

by

Charles Osei-Duro

MS, Houston Baptist University, 2005

BS, University of Science and Technology, 1990

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Health Services

Walden University

November 2017

Abstract

African Americans are adversely affected by Type 2 diabetes at a greater rate than their European American counterparts; however, research on the effects of Type 2 diabetes on African Americans is limited. Lifestyle modifications that include the incorporation of physical activity and dietary changes can help patients with Type 2 diabetes better manage their disease and improve their overall quality of health. The purpose of this phenomenological study was to explore the experiences of African Americans with Type 2 diabetes who incorporated these self-management behaviors, discerning if they had improved health and quality of life. The self-efficacy framework was applied to understand the research problem and interpret study results. An in-depth interview protocol was used to explore participants' perspectives and lived experiences in disease management. Interview transcripts and participant data were analyzed using a thematic-content-analysis approach. According to study findings, participants experienced physical activity and dietary changes, and their self-efficacy directly correlated with their experience of positive changes in their health status. Providing programs that support the adoption of healthy lifestyles for this population will help mitigate the later effects of diabetic complications. Implications for social change include the provision of strategies that will help in formulating programs and policies that will reduce diabetic complications and deaths due to complications.

Effects of Lifestyle Changes on the Health of African Americans With Type 2 Diabetes

by

Charles Osei-Duro

MS, Houston Baptist University, 2005

BS, University of Science and Technology, 1990

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Health Services

Walden University

November 2017

Dedication

First and foremost, I dedicate this research study to Almighty God for giving me the wisdom and grace to complete this research study. I also have several people to whom I want to dedicate this study. First, I dedicate this study to my father who passed away in 2012. It was unfortunate that he did not live to see me start and finish this academic journey. My mom is still living, and this study is also dedicated to her for being the pillar of academic excellence for me and my siblings when we were growing up.

I also dedicate this work to my wife, Genevieve, for her understanding, love, encouragement, and care during this long process, and my sister Rita, for reminding me years ago that I was not finished with my education and urged me to get back in the game, as well as for her encouragement during this long dissertation process. My son, CJ, was an inspiration to me for all the understanding, support, and encouragement he gave me. Part of my goal in doing this program was for him to see that it was never too late to get quality education, and that if I could do it, so could he.

Acknowledgments

There were many caring, compassionate, and exceptional individuals who contributed in diverse ways to making this study a reality for me. I would like to acknowledge and thank Dr. Robert Hoye for all the help and assistance he gave on this journey with his service as both my committee chair as well as my mentor. Dr. Hoye has been consistent in his guidance, and the high standards he set for his students has helped me evolve as a researcher, scholar practitioner, and Walden social-change agent.

I would also like to acknowledge Dr. Suzanne Richins, my committee member, and Dr. Frazier Beatty, my Walden University Research Reviewer, for their guidance, support, and for the quick turnaround time with my dissertation reviews. I also want to thank 3 of my best friends from college who were my inspiration for starting and completing this doctoral journey because their own successes as PhD graduates. My sincerest thanks go to these good friends: Dr. Yaw Adu-Gyamfi, Dr. Daniel Dadson, and Dr. Charles Owubah, whose doctoral successes inspired me to also embark on this academic journey.

Table of Contents

List of Tables	iv
Chapter 1: Introduction to the Study.....	1
Background of the Problem	4
Problem Statement	6
Purpose of the Study	7
Theoretical Framework.....	9
Nature of the Study	11
Definition of Terms.....	13
Assumptions, Limitations, Scope, and Delimitations.....	14
Assumptions.....	15
Limitations	15
Scope and Delimitations	16
Significance of the Study	16
Summary of Chapter 1	17
Chapter 2: Literature Review.....	19
Literature-Search Strategy	21
Theoretical Foundation	22
Primary Theory: Self-Efficacy.....	22
Secondary Theory: Theory of Planned Behavior.....	23
Review of Literature	25
Type 2 Diabetes as a National Epidemic	25
History of Diabetes in the African American Population.....	27

Intervention Efforts to Control the Type 2 Diabetes Epidemic	28
Phenomenon of Physical Activity and Dietary Changes	29
Physical Activity Among African Americans Compared to Caucasian Americans	30
Self-Management Efforts to Control Type 2 Diabetes	35
Self-Management Efforts Using Physical Activity and Dietary Changes	36
Importance of Self-Efficacy Models in Self-Management Behaviors.....	37
Summary and Conclusion	39
Chapter 3: Research Method.....	42
Research Design and Rationale	42
Role of the Researcher	45
Methodology	47
Data-Collection Procedures	50
Data Analysis	52
Issues of Trustworthiness.....	53
Ethical Procedures	56
Summary	58
Chapter 4: Results.....	60
Sampling Strategy.....	61
Data Collection	61
Demographic Profiles	63
Research Questions.....	63
Evidence of Trustworthiness.....	65

Data Analysis	66
Presentation of Themes	68
Themes Associated with Research Question 1	68
Themes Associated With Research Question 2	103
Themes Associated With Research Question 3	129
Summary	153
Chapter 5: Discussion, Conclusions, and Recommendations	156
Interpretation of Findings	157
Answers to Research Question 1	157
Answers to Research Question 2	160
Answers to Research Question 3	163
Conceptual Framework and Implications	166
Limitations of the Study.....	167
Recommendations.....	169
Implications for Social Change.....	173
Conclusion	174
References.....	176
Appendix A: Interview Protocol Form	202
Appendix B: Letter of Cooperation, ALFA Medical Clinic.....	204
Appendix C: Letter of Cooperation, Crown Clinic.....	205

List of Tables

Table 1. Demographic Information on Selected Participants (N = 15): Age Range: 42
to 65 Years64

Chapter 1: Introduction to the Study

Type 2 diabetes has been on the increase nationally and worldwide, and is more common among the African American population than other minority groups (Centers for Disease Control and Prevention [CDC], 2011a). African Americans continue to experience higher prevalence and complication rates from Type 2 diabetes than the rest of the population (Sanders-Thompson, Johnson-Jennings, Baumann, & Proctor, 2015; Seeleang, 2010). The U.S. Department of Health and Human Services (HHS, 2016) also reported that African Americans are two times as likely as European Americans to be diagnosed with the Type 2-diabetes disease, and are more prone to suffer from Type 2 diabetic complications such as lower extremity amputations, end-stage renal disease, and blindness.

Research on effective self-management strategies to help this ethnic group successfully manage and improve their health while reducing the onset of Type 2 diabetes complications is timely. Scholars have shown the benefits of the adoption of lifestyle-modification changes and effective self-management strategies to the health of Type 2 diabetes patients, as well as those who are at risk for Type 2 diabetes. Hansen, Landstad, Hellzen, and Svebak (2011) identified factors that motivate patients with impaired glucose intolerance to make lifestyle-modification changes necessary to prevent Type 2 diabetes and found participants were motivated to prevent the development of the disease, or successfully manage it, by making daily improvements in reducing sickness risk, as well as increasing their physical-activity levels. Furthermore, Korhonen et al. (2011) found that participants experienced few barriers to physical activity while being motivated to engage more in physical activity.

However, researchers have not explored the effects of lifestyle modification, self-efficacy behaviors, and physical activity and dietary changes to improve or enhance the health of African American patients with Type 2 diabetes. A need exists to study Type 2 diabetes self-management behaviors in African Americans to gain the perceptions of African Americans living with Type 2 diabetes and to be able to craft a more person-centered Type 2 diabetes care for this population (Engstrom, Leksell, Johansson, & Gudbjornsdottir, 2016).

The American Diabetes Association (2014b) stated that 13.2% of all African Americans, aged 20 years and older, have diabetes, and this population is 1.7% more prone to acquiring Type 2 diabetes than other ethnic groups, including non-Hispanic Caucasians. Factors that have contributed to the increasing prevalence and high incidence of Type 2 diabetes in African American people include a family history of Type 2 diabetes, sedentary behavior, obesity, ethnicity, exposure to diabetes in the uterus, and the consumption of high-density and low-nutrient food and drink (CDC, 2011b). The CDC (2015) identified diabetes as the seventh leading cause of death in the United States; within the past 15 years, the number of diagnosed patients has more than doubled. The Mayo Clinic (2015) pointed out that Type 2 diabetes can affect many of the major organs, such as the heart, nerves, blood vessels, kidneys, and eyes. If uncontrolled, diabetic complications including macrovascular disease; diabetic foot problems; nephropathy; retinopathy, leading to blindness; limb amputations; heart attacks; and stroke (Wijesuriya, De-Abrew, Weerathunga, Perera, & Vasantharajah, 2012).

According to the American Diabetes Association (2015), in the Charlotte area, Type 2 diabetes diagnosis affects 117,000 people and the number is rising. Nationally,

29.1 million people in the United States currently have diabetes (Pillay et al., 2015). This incidence of the disease results in healthcare costs of \$245 billion annually, which represents 11% of the total expenditure for the nation's healthcare (CDC, 2014). For millions of people with Type 2 diabetes, control of the patients' glycemic markers can reduce the microcardiovascular risks and complications often seen in Type 2 diabetes mellitus (T2DM; Hemmingsen et al., 2013). In addition, the behavioral self-management that results in reduced body weight, healthy cholesterol levels, and blood pressure are necessary to reduce mortality risk factors and complications from macrocardiovascular disease (Funnell, 2013). Physical activity and proper diet improve blood-glucose control and can prevent, delay, or control Type 2 diabetes while positively affecting blood lipids, blood pressure, cardiovascular events, mortality, and quality of life (Colberg et al., 2010).

In prior research on African Americans with Type 2 diabetes, scholars pointed out that they continue to experience higher prevalence and complication rates than the rest of the population (Sanders-Thompson et al., 2015; Seeleang, 2010). Type 2 diabetes adversely affects African Americans at a disproportional rate to their European American counterparts. Despite the availability of studies on strategies for the prevention or maintenance of Type 2 diabetes, African Americans, as well as other minority groups, continue to suffer from the burden of the complications, morbidity, and mortality related to Type 2 diabetes (Chin, Polonsky, Thomas, & Nerney 2000; Konen, Summerson, Bell, & Curtis, 1999).

This study has implications for social change because I addressed the experiences of African Americans on issues they face when they self-manage their diseases. These descriptions of their lived experiences may help other people with Type 2 diabetes gain

insights as to how to better manage their disease and provide information that healthcare providers can use to provide better care. In Chapter 1, I discuss the background of the research study, the problem statement, the purpose of the study, the research questions, theoretical foundation upon which the study was based on, the nature of the study, the definition of terms used in the study, and the assumptions, limitations, scope, and delimitations.

Background of the Problem

In 2010, the population of African Americans was 27.9 million or 12.2% of the U.S. population, whereas the population of non-Hispanic Caucasians was 196.8 million people, or 73.7% of the total population (U.S. Census Bureau, 2011). Even though non-Hispanic Caucasians comprise a larger population than African Americans, African Americans are still more adversely affected by Type 2 diabetes than non-Hispanic Caucasians (Seeleang, 2010). As an ethnic group, African Americans are almost two times more likely to be diagnosed with diabetes than non-Hispanic Caucasians. The HHS (2016) stated that African Americans have 80% more likelihood to be diagnosed with diabetes by a physician than their non-Hispanic Caucasian counterparts. Another source indicated African Americans are 60% more likely to have a diagnosis of Type 2 diabetes than European Americans (Harris et al., 1998), and the increasing prevalence of Type 2 diabetes among African Americans extends to children and adolescents (Paris, Bedno, Krauss, Keep, & Rubertone, 2001). The American Diabetes Association has identified African Americans as having a high prevalence of being diagnosed with Type 2 diabetes (as cited in Marshall, 2005).

Concern abounds regarding the rising incidence and frequency, as well as complications from Type 2 diabetes in the African American population (Tull & Roseman, 1995). The consequences of this increased prevalence of Type 2 diabetes in African Americans is the disproportionate burden of the associated mortality and morbidity factors of having Type 2 diabetes (Lauritzen et al., 2000). Due to a higher incidence of Type 2 diabetes complications, African Americans have higher rates of microralbuminuria, retinopathy, lower extremity amputations, and end-stage renal disease than European Americans (Arfken, Reno, Santiago, & Klein, 1998; Chin, Zhang, & Merrell, 1998; Gu, Cowie, & Harris, 1998).

According to the HHS (2016), African Americans were 4.2 times more likely than their European Americans to be diagnosed with end-stage renal disease, 3.5 times more likely than European Americans to suffer from lower limb amputations, and twice as likely to die from diabetes than European Americans. Over the long term, self-management strategies that include medication compliance, blood-glucose monitoring, and the incorporation of diet and exercise has proven effective in helping people with Type 2 diabetes properly manage their diabetes (Rahim-Williams, 2011). This study's findings add to existing knowledge in the field of healthcare and public health by expanding on knowledge about the self-management of Type 2 diabetes from the experiences of African Americans who are living with the disease. From the findings of the study, I highlighted the strategies these participants felt would help them better manage their disease.

Problem Statement

Researchers and practitioners have conducted few studies and programs on the impact and effectiveness of physical activity and dietary-change strategies tailored to African Americans living with Type 2 diabetes. Also, little is known about how to incorporate physical activity and dietary changes into the lifestyles of African Americans with diabetes to help them self-manage their Type 2 diabetes. Scholars have explored the clinical outcomes of lifestyle modification behaviors, such as rural low-income African American patients with diabetes to determine the effectiveness of a redesigned primary-care model in improving glycemic control and other health markers (Bray et al., 2013). Bray et al. (2013) showed that hemoglobin A1c (A1c) levels in participants were significantly reduced in the short term as well as over time. Williams, Lynch, Knapp, and Egede (2014) used the telephone to deliver diabetes education, as well as other skills and strategies to improve metabolic control for patient participants with Type 2 diabetes. Fewer scholars sought to describe and explore the experiences of African Americans with Type 2 diabetes in dietary change and physical activity. Research that includes the input of African Americans regarding how the disease affects them, how adding self-management behaviors such as exercise and nutritious diet impacted their health, and to what extent this impact affected their overall perception of health has also been limited.

The incidence of Type 2 diabetes has been growing steadily in the United States. Although 29.1 million people are living with this disease and 21.0 million have been formally diagnosed, 8.1 million people remain undiagnosed (American Diabetes Association, 2016d). The continual increase in Type 2 diabetes incidence has become a public health threat because diabetes is the seventh leading cause of death in the United

States, and as of 2010, 69,071 deaths listed diabetes as the underlying cause, whereas 234,051 death certificates listed the disease as the contributing or underlying cause of these deaths (American Diabetes Association, 2016f).

African Americans represent only 12.2% of the U.S. population (U.S. Census Bureau, 2011), but account for 13.9% of all cases of diagnosed Type 2 diabetes in the United States (American Diabetes Association, 2016e). African Americans are also disproportionately affected by Type 2 diabetes and the complications of diabetes. The incorporation of lifestyle-modification behaviors (i.e., physical activity and dietary changes) can reduce the likelihood of cardiovascular events while improving the overall health of people with diabetes (Colberg et al., 2010; Funnell, 2013). The American Diabetes Association (2016a) stated that eating nutritious and well-balanced foods, as well as engaging in physical activity on a regular basis, are some of the essential self-management strategies that patients with Type 2 diabetes can use to care for themselves while managing their Type 2 diabetes. Avery, Flynn, Wersch, Sniehotta, and Trenell (2012) found that behavioral interventions with physical activity and exercise did produce a significant improvement in participants' long-term glycemic and glucose control.

Purpose of the Study

The purpose of this qualitative, phenomenological study was to explore and describe the lived experiences of African American participants with Type 2 diabetes who have experience with lifestyle changes through physical activity and dietary changes. I explored participants' experience of increasing or maintaining daily physical activity and dietary changes and how these behavior changes may have impacted their overall

health. The study results provide in-depth understanding of how physical activity and dietary changes affected the lives and health of African Americans living with Type 2 diabetes.

Research Questions

RQ1: What are the lived experiences of African American patients with Type 2 diabetes who are familiar with lifestyle modifications as they relate to physical activity and dietary changes?

RQ2: Has self-efficacy, defined as physical activity and dietary changes, affected self-management and overall health of African American individuals with Type 2 diabetes?

RQ3: What has the experience of self-management of African Americans with Type 2 diabetes changed in their overall health?

The interview questions used to narrow the focus of the study follow:

1. What is your lived experience of changing your lifestyle in response to the diagnosis of Type 2 diabetes?
2. What changes, if any, have you experienced with the addition of physical activity to your lifestyle?
3. What changes, if any, have you experienced with the addition of dietary changes to your lifestyle?
4. What are some of the challenges encountered in making these lifestyle-modification behavioral changes?

Theoretical Framework

The theory used to frame and interpret the results of this qualitative phenomenological study was Bandura's (1997) self-efficacy theory, developed and expanded from social-cognitive theory. The basic tenets of self-efficacy, according to Bandura (1995), are the beliefs a person holds regarding the capacity to plan and carry out an action or series of actions to manage a situation. Snyder and Lopez (2007) posited that self-efficacy is a person's belief in his or her ability to accomplish certain activities or situations using innate skills and abilities in certain circumstances. Aspects of self-efficacy beliefs are human motivation and behavior, which also influence the actions that affect the lives and self-management of people with Type 2 diabetes. According to Bandura (1977), the theory of self-efficacy refers to a person's beliefs in his or her capabilities in organizing and executing the courses of action required to manage situations that affect him or her.

The importance of self-management in diabetes cannot be overstated. Self-management includes a variety of behaviors that are affected by many factors (Strychar, Elisha, & Schmitz, 2012). The integration of the concept of self-efficacy, as well as other social-cognitive-theory constructs, were responsible for improvements in behaviors related to self-efficacy, body-mass index, and glycated hemoglobin A1c (Strychar et al., 2012). A factor relevant to the understanding of the complex system involved in the self-management of Type 2 diabetes is self-efficacy and the theory that informs it. Self-efficacy, according to the social-cognitive theory, is individuals' confidence in their ability to carry out a behavior (Faghri & Buden, 2015; Strychar et al., 2012). Self-efficacy theory relates to the framework on which the problem statement for this study

was framed, and on which the research questions of this diabetes study were answered. Self-efficacy theory was used as the basis for this study.

The validity of the theory of self-efficacy has been tested in several healthcare and public health studies to frame and interpret results. Hoffman (2013) sought to enhance self-efficacy concerning patient outcomes with the theory of symptom self-management and found that patients' self-management of their disease symptoms was enhanced with self-efficacy-theory variables to improve the health status and quality of life of study participants. Other behavioral theories such as the theory of reasoned action (TRA) and its related theory, the theory of planned behavior (TPB), formulated by Fishbein and Ajzen (1975), were also evaluated and considered as possible theories to frame the study's research questions.

Fishbein and Ajzen developed the TRA to explain the relationship between behaviors and attitudes in encouraging human beings to act on a desired behavior (as cited in Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). Researchers use this theory to predict the behavior of individuals, based on their attitudes and behaviors (Doswell, Braxter, Cha, & Kim, 2011). An individual should have a behavioral intention that is determined by attitudes and subjective norms, which leads to stronger intentions that, in turn, lead to the effort to perform the behavior (Ajzen & Fishbein, 1980). African American patients with Type 2 diabetes and their attitudes toward how they perceive physical activity and dietary changes determines how they will behave toward this phenomenon. Thus, the TRA had direct implications for helping answer the study's research questions.

The TPB, developed by Ajzen in 1985, is an extension of the TRA. According to the TPB, the more opportunities and resources individuals believe they have, the greater their perceived control over their behavior (Madden, Ellen, & Ajzen, 1992). Researchers have applied the theory to a range of psychosocial behaviors and in the fields of environmental psychology, nutrition intervention, and various health-related fields concerning health behaviors such as exercise (Nguyen, Potvin, & Otis, 1997), diet (Conner, Kirk, Cade, & Barrett, 2003), and leisure (Ajzen & Driver, 1992). The TPB has relevance also to this Type 2 diabetes study because the phenomenon of diet and exercise, and the benefits of carrying out these behaviors, will likely be strengthened if participants feel they have the resources and opportunities to consistently engage in these activities and behaviors. A detailed evaluation of the primary and supporting secondary theoretical frameworks will be further discussed at length in Chapter 2.

Nature of the Study

Few researchers attempted to use qualitative approaches to analyze self-management behaviors and lifestyle-change effects on the health of African American patients with Type 2 diabetes. As a result, I used a qualitative phenomenological research methodology to better understand the essence and meaning of the lived experiences of African American patients with Type 2 diabetes to better understand their thoughts and feelings regarding the effectiveness of the self-efficacy behaviors of incorporating physical activity and dietary changes to their everyday routines, and how these behaviors have helped these African American participants better manage their disease symptoms and improve their health (Patton, 2002).

Phenomenology has its roots in German philosophy, advanced as a movement by Husserl (1970) to explain a research methodology that includes the use of subjective thinking in describing phenomena. A phenomenological study describes the experiences of people, as well as why they experience what they experience (Patton, 2002). Experience forms the basis on which to extract the comprehensive descriptions needed to conduct a phenomenological study (Moustakas, 1994). Researchers obtain comprehensive descriptions by asking open-ended interview questions. Then, researchers describe the structure of participants' experiences using reflection and interpretation of participants' accounts to form a structural analysis of the research topic (Moustakas, 1994). I chose the qualitative phenomenological methodology to focus on the wholeness of the experience of African Americans with Type 2 diabetes and to emphasize a search for the essence and meanings of the experiences, rather than explanations or measurements (Moustakas, 1994). The phenomenological research approach was the most appropriate methodology to answer the research questions. I interviewed African American patients diagnosed with Type 2 diabetes from two internal-medicine practice groups in Charlotte, North Carolina, for this research study.

In-depth interviewing techniques using an open-ended interview protocol yielded responses that were transcribed; then, I analyzed the narrative data using thematic-content analysis to examine the views of African American patients with Type 2 diabetes concerning the phenomenon of physical activity and dietary changes in the management of their disease. The overall study approach was guided by the theoretical perspectives of interpretivism as it relates to phenomenology, the TRA, the TPB (Fishbein & Ajzen 1975), and the theory of self-efficacy (Bandura, 2005).

The study's content analysis involved identifying, coding, categorizing, classifying, and labeling the primary patterns or themes that emerged from the data (Patton, 2002). The type of analysis involved the explication of the data collected. Hycner (1985) suggested researchers investigate the various components of the phenomenon, while keeping the context intact. I used NVivo software as part of the explication process to help organize, analyze, and share interview data (QSR International, 2014). The explication process included Hycner's (1985) five-step process: "bracketing and phenomenological reduction" (p. 280); delineating units of meaning; clustering units of meaning to form themes; summarizing each interview, validating and modifying it where necessary; and extracting general and unique themes from all the interviews, and making a composite summary.

Definition of Terms

For this research study, I used the following definitions:

Diet: Diet is the food and drink that provides the nutrients as well as the energy needed by people to improve their health, reduce the risk of disease, or manage disease (The National Institute of Diabetes and Digestive and Kidney Diseases, 2016a; Nordqvist, 2015). Diet also refers to the food and drink consumed by a person daily, as well as the physical and mental factors that relate to eating (Leonard, 2013).

Dietary changes: The activity of changing a person's eating habits from eating foods that are unhealthy to eating healthier foods. An example of making dietary changes include adding more fruits, vegetables, nuts, oils, and whole grains to an individual's diet (Preedy, Hunter, & Patel, 2013). Making dietary changes means changing eating habits to

consume the right quantities of the right kinds of food from all the food groups in order to lead a life of health (Nordqvist, 2015).

Physical activity: Any movement by the body that works a person's muscles while requiring more energy than just resting (National Institutes of Health, 2016).

Self-efficacy: Self-efficacy is a person's belief in his or her ability to be successful in a specified situation or in the accomplishment of a task (Bandura, 1995). A person's sense of self-efficacy can help play a role in his or her approach toward tasks, goals, and challenges.

Self-management: Diabetes self-management involves the ongoing process of facilitating the knowledge, skill, and ability necessary for diabetes self-care (Haas et al., 2012).

Type 2 diabetes: Type 2 diabetes is a health condition in which the patient's pancreas does not make enough insulin, the insulin made by the body does not work as well as it should, or the liver makes too much sugar (American Diabetes Association, 2016f).

Assumptions, Limitations, Scope, and Delimitations

When conducting a research study, it is important for the researcher to acknowledge the restrictions and deficiencies that will be inherent in the study and include them in the research. These restrictions and deficiencies include issues with availability of resources, researcher shortcomings, issues that are out of the researcher's control, and human failings that the researcher acknowledges and accounts for (Simon, 2011).

Assumptions

Assumptions, in this research study, are the factors that, even though somewhat out of the researcher's control, must be acknowledged in the study (Simon, 2011). I assumed that all selected participants were African Americans who were diagnosed with Type 2 diabetes. I also assumed that all participants had some knowledge and experience with the phenomenon of physical activity and dietary changes. Knowledge of diabetes self-management has the potential to assist Type 2 diabetes patients in mitigating their disease symptoms. Knowledge of diabetes self-management helps patients with Type 2 diabetes continue self-efficacy behaviors related to physical activity, healthy eating, and maintenance of a healthy lifestyle. I assumed that people could change their behaviors through the acquisition of self-management and self-efficacy knowledge.

I assumed that the selected participants would answer interview questions as honestly as they could. To make participants feel comfortable and at ease, I used ethical means to ensure I preserved participants' confidentiality and anonymity. I also emphasized the voluntary nature of the study to the participants, emphasizing that they could withdraw from the research study at any time without ramifications. I also assumed that every participant with Type 2 diabetes recruited for the study would be compliant with their prescribed medication. Also, I assumed that every participant would have had an experience with the phenomenon in question.

Limitations

Limitations refer to the study's potential weaknesses and the factors that are out of the control of the researcher. This study was limited in scope to African Americans with Type 2 diabetes between the ages of 18 and 65 who had no reported diabetic

complications. Because this was a qualitative study, I limited the sample to a size of between 10 and 20 participants, male and female, interviewed during a 4-week period. This study was also limited to communities in south Charlotte, North Carolina. Because the sample for this study was drawn from one geographical location, the study was limited only to African Americans in this area and could not be generalized to other groups outside of the study area. However, study results could apply to other communities and populations of African Americans outside the study's geographical area.

Scope and Delimitations

Delimitations represent those characteristics that limit the scope of the study (Simon, 2011). A qualitative study on African Americans with Type 2 diabetes was chosen because even though this population is adversely affected by this disease more than other ethnic groups, research on their experiences was limited. Only participants from the African American population were included in the study, and all other ethnic groups were excluded. Also, due to the phenomenological approach used in the study, I employed the use of only in-depth interviewing of participants and did not use observation or any other methodology.

Significance of the Study

This research study contributes to positive social change by extending the knowledge that currently exists regarding effective self-management strategies that target, promote, and enrich the health and lives of African Americans with Type 2 diabetes. I suggested better strategies for developing effective behaviors that African Americans with Type 2 diabetes can use to incorporate physical activity and dietary changes into their lifestyles. I also shed light on the self-management issues faced by African

Americans with Type 2 diabetes and what their experiences have been in coping with these behavioral issues. Study findings and recommendations may help change self-efficacy behaviors not only for study participants, but for all African Americans with Type 2 diabetes, other minority patients with Type 2 diabetes, the families and communities who support these patients, and the health providers who care for them. When the health needs of African American participants with Type 2 diabetes are better understood, their health can be promoted through effective self-management strategies that enhance their disease markers and their overall health.

This study will also be instrumental in garnering interest in the development of larger multicenter studies aimed at obtaining a thorough understanding of the coping mechanisms of African American patients with Type 2 diabetes. The CDC (2014) stated that the challenge of research on Type 2 diabetes prevention and management is to reduce the financial and human costs of diabetes through prevention of new cases and the effective management of existing cases, all of which lead to effecting positive social change.

Summary of Chapter 1

Type 2 diabetes is a chronic disease that is on the rise nationally, classified as an epidemic due to the high prevalence of the disease (Cheng, 2005). African Americans, as a minority ethnic group, comprise only 12.2% of the population; however, they have been identified as being more adversely affected by Type 2 diabetes than their European American counterparts (Seeleang, 2010). The epidemic nature of Type 2 diabetes has created the need for researchers to develop solutions for the prevention and management of this disease. Self-management strategies that include the incorporation of physical

activity and dietary changes have shown positive results in improving the health markers of those with Type 2 diabetes.

In Chapter 1, I introduced the background of the study , the problem statement of the study, the purpose of the study, and the research question for this phenomenological study. I also described the theoretical frameworks used to formulate and interpret the research, the nature of the study, key terms used in the research, and the significance of the study. Chapter 2 includes a review of the current literature.

Chapter 2: Literature Review

Few studies described the impact and effectiveness of physical activity and dietary-change strategies tailored to African Americans living with Type 2 diabetes. The purpose of this phenomenological research study was to explore and describe the lived experiences of African American participants with Type 2 diabetes who had experience with the phenomenon of lifestyle changes with physical activity and dietary changes. Participants had experience increasing or maintaining daily physical activity and dietary changes; I explored how these behavior changes may have impacted their overall health.

The incidence of Type 2 diabetes is increasing, and public health authorities have stated that this disease is approaching epidemic proportions. Diabetes is the seventh leading cause of death in the United States, and as a chronic disease, causes blindness, leg and limb amputations, heart disease, stroke, and other cardiovascular events (CDC, 2014). African Americans have been identified as being more adversely affected by Type 2 diabetes at a disproportionate rate to their European American counterparts.

Several researchers have focused on prevention strategies as well as maintenance strategies to help prevent or mitigate the effects of this disease. Scholars have also pointed out that, in addition to drug and medication therapy, the incorporation of physical activity and dietary changes has improved the overall health and longevity of patients with Type 2 diabetes who develop the habit of following these self-management protocols. Some researchers, however, have claimed that self-management and lifestyle modification protocols do not work in the long term due to a lack of self-efficacy habits toward these self-management behaviors.

Powers et al. (2015) found that even though participants with Type 2 diabetes reported they wanted to be actively engaged in their own self-management, they cited constraints and barriers, such as lack of sustained engagement by their healthcare providers and that self-management education and psychologically support self-management behaviors were not readily available. Furthermore, Gunggu, Thon, and Lian (2016) assessed diabetes self-management behaviors such as diet-control practices, engagement in moderate physical activity, medication adherence, and the practice of foot care; they found that self-management can only be enhanced and extended if healthcare personnel are actively involved in reminding participants with Type 2 diabetes of the importance of adhering to treatment while enhancing their self-efficacy. Even though African American patients with Type 2 diabetes are adversely affected by this disease, research regarding their personal experiences with the effectiveness of diet and exercise has been limited.

The purpose of this qualitative study was to explore and describe the essence of the lived experiences of African American patients with Type 2 diabetes to get their input on physical activity and dietary changes, and their impact, if any, on their ability to better manage their disease condition. This study will contribute to positive social change by adding to the existing body of knowledge of which issues to address that will produce better self-management programs to reduce Type 2 diabetes mortality in African Americans.

Chapter 2 includes a review of the strategies used to search the literature for scholarly articles that will help contribute to this research. I also review the theories that frame the study to provide a better understanding of the role self-management and self-

efficacy in maintaining the health of people with Type 2 diabetes. The main contents of the literature review include the Type 2 diabetes epidemic and the health consequences it carries. I also highlight how African Americans are adversely affected by this disease, and how researchers have found that patients can effectively manage Type 2 diabetes if they adopt self-management behaviors of incorporating physical activity and dietary changes into their lifestyles. Finally, I review the research on self-efficacy relating to the lived experiences of African Americans with Type 2 diabetes.

Literature-Search Strategy

To search for relevant literature, I used several sources to help locate resources. Databases used included those in the health sciences as well as the multidisciplinary databases such as CINAHL and MEDLINE Simultaneous Search, PsycINFO, ProQuest Nursing & Allied Health Sources, ProQuest Health & Medical Complete, and ScienceDirect. I also searched Google Scholar periodically for peer-reviewed articles on Type 2 diabetes, self-management strategies for Type 2 diabetes, and African Americans with Type 2 diabetes. Batches of keywords used as the main terms for all inquiries included the following: *diabetes, Type 2, Type 2 diabetes, African American, Black, lifestyle, self-management, self-care, management, diet, exercise, food, behavioral intervention, exercise/physical activity, and social change*. To be able to further identify articles, I reviewed references sections of articles on Type 2 diabetes to locate more resources that the primary searches failed to uncover. The Walden Library served as a resource for several of the articles used for the literature review. Articles written from 2011 to 2016 were included in the search.

Theoretical Foundation

Researchers suggested several theoretical frameworks and models to help explain self-management behaviors of Type 2 diabetes patients. Social-cognitive frameworks relating to health behavior such as the TRA (Fishbein & Ajzen, 1980), the TPB (Ajzen, 1985), and the self-efficacy theory (Bandura, 1977) have variables that are relevant as determinants of behavioral self-management of Type 2 diabetes (Clark, Hampson, Avery, & Simpson, 2004). For this study, self-efficacy theory was the primary theory to explain the essences of the lived experience of participants with Type 2 diabetes. Secondary theories that helped explain the effectiveness or otherwise of experiences with the phenomenon were the TRA and the TPB.

Primary Theory: Self-Efficacy

The primary or main theory used to inform the design of this qualitative study was self-efficacy theory (Bandura, 1997). This theory was the most appropriate theory to inform the topic, as well as the methodology to answer the study's research problem statement and research questions. Self-efficacy theory was developed as a concept of social-cognitive theory by Bandura. Bandura (1997) developed the theory to help explain human motivation, behavior, and influences that enable the actions taken to improve or positively affect a person's life. Self-efficacy relates to the belief that an African American patient with Type 2 diabetes can successfully manage their Type 2 diabetes condition by incorporating physical activity and dietary changes into their everyday lives.

Van der Bijl and Shortridge-Baggett (2002) posited that, according to self-efficacy theory, human beings are more likely to engage in tasks or activities in which they can exhibit a higher level of self-efficacy, while being less likely to do tasks or

activities for which they have less self-efficacy. In this context, whether African Americans with Type 2 diabetes can successfully self-manage their disease symptoms with diet and exercise depends on whether they have a high or low level of self-efficacy. The levels of self-efficacy determine how people function in their behavioral choices, expenditure of effort, and persistence (Van der Bijl & Shortridge-Baggett, 2002). For African American people with Type 2 diabetes in this study, I determined how well the phenomenon of physical activity and dietary changes positively affected the lives of participants by one or more of these factors.

Theories such as self-efficacy theory that embody social-cognitive theory have been used in research on self-management interventions. Researchers assessed self-efficacy behavioral variables such as personal beliefs about models of diabetes (Hampson, Glasgow, & Toobert, 1990), perceived vulnerability and severity as they relate to disease complications (Weinstein, 1993), readiness to embrace lifestyle-modification change (Ruggiero et al., 1997), self-efficacy (R. M. Anderson et al., 1995; Strecher, DeVellis, Becker, & Rosenstock, 1986), and perceived barriers hindering diabetes self-management (Glasgow, 1994; Glasgow, Hampson, Strycker, & Ruggiero, 1997).

Self-efficacy theory was chosen for this research because I intended to explore and describe the input of African American participants with diabetes regarding the ways the inclusion of the phenomenon of physical activity and dietary changes has impacted the management of their diabetes and their health.

Secondary Theory: Theory of Planned Behavior

The secondary theory deemed most appropriate for this research is the TPB. Health professionals and researchers have identified Type 2 diabetes as a chronic disease

that can be prevented, delayed, or managed by the incorporation of physical activity and dietary changes, both of which require a change in behavior on the part of the patient (Blue, 2007). Blue (2007) described a need to explore the beliefs of participants with Type 2 diabetes about dietary changes and physical activity to create interventions and programs that will be beneficial to the health of participants.

Ajzen (2011) proposed the TPB as an improvement on the TRA by helping to link beliefs with behavior. The TPB model explains human behavior by emphasizing the subjective norms, attitudes, behaviors, intentions, and perceived behavioral control of people (Ajzen, 1991). Researchers have applied the TPB to research on the relationships among variables such as attitudes, beliefs, and behavioral intentions in various disciplines including public relations, advertising campaigns, public health, and healthcare. According to Ajzen (2002), this theory has become one of the most popular and influential theories used in the study of human behavior and action. According to the TPB, three types of factors guide the behavior of human beings: what humans believe about the behavioral consequences and behavioral attributes (beliefs about behavior), beliefs attributed to other people's norms and expectations (normative behavior), and beliefs about considerations that may hinder or improve behavioral performance (beliefs about control; Ajzen, 2001).

Several researchers provided support for the effectiveness of the TPB in explaining dietary-change behaviors (Conner, Norman, & Bell, 2002; Sjoberg, Kim, & Reicks, 2004) and physical activity behaviors (Downs & Hausenblas, 2005; Hausenblas, Carron, & Mack, 1997). For this study, the perception of risk for Type 2 diabetes was considered part of TPB because people who are aware of their risk for Type 2 diabetes

may become more active physically, as well as adopt better eating habits. Blue (2007) concluded that attitude toward dietary changes, a focus on the control of perceived behavior, and societal influence are promoters of healthy diet and physical activity in participants who had Type 2 diabetes. The use of the TPB framework was useful in understanding the beliefs that relate to the behaviors and intentions of dietary changes and physical activity in participants who are at risk or have Type 2 diabetes (Blue, 2007).

Review of Literature

A literature review is important in helping to situate the study in the larger picture or context. The literature review clarifies the choice of the research questions. Further, the literature review provides clarity about the current body of information in a meaningful way (Bitting, 2012).

Type 2 Diabetes as a National Epidemic

Type 2 diabetes is on the rise and has been classified as an epidemic. Diabetes as a chronic disease condition is a disorder that interferes with the body's ability to use insulin properly in its cells (CDC, 2011a). T2DM as a disorder occurs when the body resists insulin at the cellular level, resulting in a relative deficiency in insulin levels (Byers, Garth, Manley, & Chlebowsky, 2016). Some of the main risk factors for T2DM include having the diabetes gene, due to family history; being overweight or obese; being over the age of 45; having a body-mass index between 25 and 29.9; and being physically inactive (American Diabetes Association, 2015).

According to the CDC (2014), diabetes as a chronic disease has grown, and within the past 32 years from 1980 to 2012, the number of adults diagnosed with diabetes in the United States has nearly quadrupled, having steadily increased from 5.5 million

diagnosed cases to 21.3 million people. This trend represents the diagnosis of roughly 1.7 million new diabetes cases each year, a trend that will result in as many as one of every three adults being diagnosed as diabetic by the year 2050 (Barker, Kirtland, Gregg, & Thompson, 2011). Currently, it is estimated that 9.3% of the U.S. population, representing more than 29 million people, have diagnosed or undiagnosed diabetes; for the people who already have the disease, it is estimated that 86 million adults, representing one in three adults, have prediabetes (CDC, 2014). Diabetes is responsible for more than 800,000 deaths that occur each year in the United States among diabetes patients and has been classified as the seventh leading cause of death behind heart disease, cancer, chronic respiratory disease, stroke, accidents, and Alzheimer's disease (American Diabetes Association, 2016f; CDC, 2014).

In addition to the rise in the incidence of diabetes in the United States and globally, the costs associated with the care of diabetes patients is also of concern and has been rising every year. The American Diabetes Association (2016d) estimated that the cost of diabetes nationally is about \$245 billion, of which \$176 billion that has been incurred in direct medical costs from medical services and medical goods, and \$69 billion comes from indirect costs such as restrictions in job activity, days lost from being absent from work, disability, and early death. Type 2 diabetes impacts the U.S. economy, as well as the lives of African Americans living with Type 2 diabetes. One aim of the current study was to effect positive social change by making recommendations that will create more effective self-management behaviors that can be adopted locally, regionally, or nationally to help prevent Type 2 diabetes disease complications and extend life and health for African Americans living with Type 2 diabetes.

History of Diabetes in the African American Population

Type 2 diabetes continues to increase in the African American population, whereas the incidence of the complications related to diabetes continues to disproportionately affect this population at a higher rate than other ethnic populations. Diabetes-related complications include cardiovascular disease, kidney disease, blindness, and leg and limb amputations (American Diabetes Association, 2014a). Diabetes and many of its complications can be prevented with the adoption of appropriate and effective self-management strategies. Effective self-management and lifestyle-modification behaviors can prevent or slow diabetes-related complications while reducing levels of glycosylated hemoglobin in people with T2DM (Byers et al., 2013).

In addition, 2.2 million African Americans are affected by Type 2 diabetes: 1.5 million people were diagnosed and 730,000 people were classified as prediabetic (Diabetes Life, 2013). Today, four times as many African American patients have diabetes than in 1968, and for every six European Americans who are diagnosed with diabetes, 10 African Americans have been diagnosed with the disease (American Diabetes Association, 2016d). In the 20 years and older category of people, 8.2% of African Americans, compared to 4.8% non-Hispanic Caucasians, have the disease. Although Type 1 diabetes is only responsible for 5 to 10% of reported diabetes diagnoses among African Americans, Type 2 diabetes is responsible for 90 to 95% of all diabetes diagnoses, with the prevalence in all reported diabetes cases being higher in African American women than in African American men (HHS, 2016). The HHS (2016) found out that 11.8% of African American women and 8.5% of African American men over the

age of 20 have diabetes, whereas in the 65 to 74 age bracket, nearly one of every three African American women has been diagnosed with diabetes.

The incidence of Type 2 diabetes is particularly prevalent in African American adults who are middle aged or older, with prevalence rates having risen from less than 1% for African Americans younger than 20 years of age to rates as high as 32% for those between the ages of 65 and 74 years of age (HHS, 2016). For older African American adults over the age of 45 years, diabetes serves as the fifth leading cause of death, whereas death rates among African Americans with Type 2 diabetes are also 27% higher than death rates for non-Hispanic Caucasians with Type 2 diabetes (HHS, 2016).

Intervention Efforts to Control the Type 2 Diabetes Epidemic

Type 2 diabetes-intervention efforts have been numerous as well as varied, with research ranging from clinical-intervention strategies to psychosocial interventions and programs on the local and community levels to state and federal levels. Lifestyle-intervention strategies for patients with Type 2 diabetes incorporate dietary changes, physical activity, and stress-relieving activities, each enhancing diabetes self-management and mitigating the development of Type 2 diabetes complications. Dietary changes and the incorporation of physical activity, such as walking, cycling, and running are major variables in the management of Type 2 diabetes (Boule, Haddad, Kenny, Wells, & Sigal, 2001). Researchers have also recommended that making these lifestyle changes are necessary factors for the prevention and management of Type 2 diabetes (American Diabetes Association, 2013). These strategies had significant benefits in the reduction of Type 2 diabetes risk factors associated with the development of cardiovascular disease in patients with Type 2 diabetes (Chen et al., 2014). Physical activity and a sedentary

lifestyle affect diabetes and its management (Joseph et al., 2016). Radhakrishnan (2011) evaluated whether tailored interventions were more effective than standard interventions and found that both were effective with little difference between the two. By improving their self-management behaviors, people with chronic conditions such as Type 2 diabetes can build essential coping skills that work to delay disease complications and progression (Radhakrishnan, 2011) .

Researchers have posited that the incorporation of self-management strategies and techniques by patients with Type 2 diabetes into their daily routines and lifestyles can help achieve consistent blood sugar/glucose control, which may, in turn, prevent diabetic complications. The American Association of Diabetes Educators, in 2007, recommended seven diabetes self-care behaviors to ensure effective glycemic control for diabetics. Some of these were eating healthy foods, adding physical activity to one's daily routine, being compliant in taking diabetes medications, frequently monitoring blood sugar, controlling weight and blood pressure, knowing what to do when blood-sugar levels are high or low, and practicing healthy coping (American Association of Diabetes Educators, 2007).

Phenomenon of Physical Activity and Dietary Changes

The importance of lifestyle change and self-management in the treatment of Type 2 diabetes cannot be overemphasized. As part of an effective Type 2 diabetes-management program, primary healthcare providers have long emphasized diet and exercise, in addition to medication compliance, in the treatment and maintenance of Type 2 diabetes, because diabetes has been classified as having no cure. The Diabetes Prevention Program trial reported that dietary changes and physical activity alone caused

a decrease in the rate of diabetes mellitus onset after 3 years by 58% (Knowler et al., 2002) while reducing fasting blood sugar and A1c levels for those with Type 2 diabetes (Fowler, 2007).

Presently, the societal norm, the present U.S. culture, and scientific advancement align in increasing awareness of the overall importance of physical activity and dietary changes to the enhancement of quality of life as it relates to weight reduction, overall health, and well-being. Physical activity levels as a phenomenon in general has an essential and increasingly important role to play in the scientific arena as a way of living a quality life in contemporary society (Sekot, 2010). Physical activity serves a crucial role in the process of maintaining a high-quality of life, reaching a healthy and active lifestyle, and overall health in general for people who seek to be healthy (Sekot, 2010). Physical activity is a very important component in the diabetes-management plan because exercise helps muscles to efficiently use sugar (glucose) as an energy source, whereas the habit of regular physical activity helps in the efficient uptake of insulin by the body, all of which work in concert to help lower the blood-sugar levels of a person with Type 2 diabetes (Mayo Clinic, 2014). Researchers also suggested that the harder and more strenuous the physical activity, the longer the effects and health benefits last. However even less strenuous activity such as gardening, staying on one's feet for extended periods, or doing housework have the potential to reduce a person's blood-sugar levels (Mayo Clinic, 2014).

Physical Activity Among African Americans Compared to Caucasian Americans

Physical activity, obesity, sedentary lifestyles, and health relate to inequities in a range of factors that contribute to overall health and physical activity when comparing

African Americans and their Caucasian counterparts. Factors such as income, access to quality education, socioeconomic status, and access to stable and affordable housing contribute to the health and quality of life of people living in the United States. A report on the state of obesity in the United States that considered racial and ethnic disparities between the two ethnic groups regarding obesity, stated that inequities such as access to safe places to engage in physical activity, as well as the disproportionate access to healthy and affordable food, contribute to the high rates of obesity, Type 2 diabetes, and other related diseases in Black communities (stateofobesity.org, 2014).

The problem of obesity directly relates to sedentary lifestyles or lack of physical activity in African American communities in comparison to Caucasian communities. African Americans are 1.5 times more likely to be obese than their Caucasian adult counterparts, and approximately 47.8% of African Americans (37.1% men and 56.6% women) are obese compared with Caucasians, with 32.6% (32.4% men and 32.8% women; stateofobesity.org, 2014). Addressing these disparities will require African Americans to commit to making healthier food choices, only accomplished if obstacles that make accessibility to healthy and affordable foods are removed while ensuring that access to safe and convenient places are available for people to be physically active.

Part of the goal of achieving health and preventing the onset of the complications that affect those with Type 2 diabetes requires that people with Type 2 diabetes engage in regular physical activity (National Recreation and Park Association, 2014). A report by the stateofobesity.org (2014) stated that, as at 2010, African Americans were 70% less likely to be actively involved in physical activity than their Caucasian counterparts (HHS, 2014). Furthermore, another 2013 report posited that the percentage of Black youths who

did not participate in at least 1 hour of physical activity per day was 21.5% compared to sedentary White youths, with 12.7% (Kann et al., 2013). Furthermore, nationwide research studies have shown that children who grow up in neighborhoods that have no playgrounds, parks, or other recreational centers grow up with a 25% to 45% risk of being overweight (Armah, 2014). Other studies showed that communities or neighborhoods that are occupied by African Americans have a much lower chance of including access to amenities such as public pools, public parks, and other green spaces (National Recreation and Park Association, 2014).

High sodium and carbohydrate intake among African Americans compared to Caucasian Americans. Foods consumed by various ethnic groups and populations in the United States have a direct correlation with the health of these groups. Foods eaten by members of these ethnic groups are driven by historical and cultural differences between them, although they live in the same country. African Americans as an ethnic group are prone to diseases such as obesity, high blood pressure, and diabetes because of their diets, which are high in sodium and carbohydrates and low in healthy fats, grains, fruits, and vegetables. The NHANES study from 2009 to 2010 found that African Americans, on average, ate less fruits, whole grains, and vegetable servings (0.8, 1.2, and 1.3 serving per day, respectively, compared to Caucasians with 1.1, 1.6, and 2.1 servings per day), whereas African Americans consumed higher amounts of high-sugar-content beverages than their Caucasian counterparts (11.2 servings per day for Blacks compared to 8.3 servings per day for Whites; Go et al., 2014; Collins & Winkleby, 2002).

African American men ate foods with higher average dietary cholesterol (311 mg/day) than Caucasian men (263 mg/day), whereas the average consumption of dietary

fiber was lower, on average, for African Americans (13.6 g/day) than for Caucasians (16.3 g/day; Chan, Stamler, & Elliott, 2015; Ervin & Ogden, 2013). Data in the Chan et al. study indicated that African Americans consume significantly less vegetables, fruits, healthy fats, and whole grains, and had lower intake of nutrients such as minerals including vitamin K, calcium, magnesium, phosphorus, and vitamin D. However, dietary differences between African Americans and Caucasians alone does not explain the higher prevalence of diseases such as high blood pressure and Type 2 diabetes among African Americans. Other factors, such as income and cultural influences in food preparation, preferences, and perceptions are at the root of why changing diets to healthier alternatives can prove to be a challenge.

Historical context of the African American diet. The diet that has historically been classified as the Black diet or Black ethnic foods have their origins in the culture and history of African Americans originating from the preslavery period in Africa. Foods that have become common in the African American diet, such as peanuts, yams, okra, rice, grits, and sorghum, have been found to have their origins in Africa, especially West Africa (Holloway, 2005). Foods consumed by African Americans over the years have emerged from the creative necessity and response to poverty, as well as racial and economic oppression, citing that during the era of slavery, African American slaves were prevented from eating choice and better parts of meats. Even after slavery was abolished and they were emancipated, most African Americans were too poor to be able to afford to eat well (Holloway, 2005).

The term “soul food” has emerged as a name given to a hearty cuisine, popular in the African American community, comprising creatively prepared ingredients that are

inexpensively obtained from farms, subsistence fishing, and hunting. However, traditionally prepared African American foods such as soul food often contain high amounts of sodium, fat, and starch. This type of food was supposed to be highly suited to the demands of slavery, as well as the physical demands of African Americans who worked as laborers and farmhands, generally living in rural areas. However, the consumption of these foods is currently contributing to diseases such as heart disease, obesity, and diabetes in urban African American populations that live increasingly sedentary lives.

The challenge is for African Americans to change their diets from the ones that historically and culturally have become accepted as the normal Black American cuisine developed over the years, and adopt healthier alternatives to the foods they are used to by changing their choice of trans fats in favor of natural oils, as well as substituting products such as fatback and cured pork products for alternatives such as smoked turkey or chicken. Intake of refined sugar should also be limited, whereas the consumption of more fruits and vegetables should be emphasized over animal protein. These changes, however, will not be easy to implement because they require changes in behavior. These changes will be met with some resistance because dietary changes call for African Americans to deviate from a culinary tradition that has been with them for centuries (Jonsson, 2006).

Dietary changes. The food and nutrition people put in their bodies determines how healthy they are or become. The choices made by individuals regarding the food they eat is a very important factor in their health. Because of the importance of food choices to the overall health of individuals, the American Cancer Society developed guidelines regarding the food choices and healthy eating habits Americans need to make

to ensure good health: choosing the appropriate amount of food and drink to help achieve and maintain a healthy weight level, limiting processed red meat and other meats in their diet, consuming at least 2.5 cups of fruits and vegetables a day, and eating whole grains rather than processed and refined grains (as cited in Kushi et al., 2012). The cornerstone of healthy living is to eat in a healthy way by considering not only what type of food people eat, but also how much people eat, as well as what combination of foods are eaten, and whether one has diabetes and other chronic diseases (Mayo Clinic, 2014).

Self-Management Efforts to Control Type 2 Diabetes

Self-management as a health behavior concept can be evaluated in lines with three main tasks: role management, medical management, and emotional management. Included in this concept of self-management are the requisite skills needed to carry out effective self-management: decision making, problem solving, resource use, action planning, a provider–patient partnership, and self-assessment (Lorig & Holman, 2003). General self-management efforts to control Type 2 diabetes have included clinical as well as nonclinical efforts. Medication adherence and compliance include daily intake of the medication prescribed by the patient’s healthcare provider, daily blood-sugar monitoring, as well as checking A1c levels every 3 months, as part of the clinical efforts required by patients with Type 2 diabetes. Other self-management efforts that form the basis of this study include the incorporation of physical activity and dietary changes in the daily lifestyle of people diagnosed with Type 2 diabetes. To reduce disease complications of Type 2 diabetes and the cost of its treatment, the maintenance of good glycemic control is very important, be accurately measured by an HbA1c test (Gunggu et al., 2016).

A1c is a very important blood test conducted every 3 months to test the average amount of sugar in a diabetic's blood, and shows how well a person's diabetes is being controlled (Dansinger, 2015). Evidence from previous research studies showed that self-management efforts specifically geared toward Type 2 diabetics include physical activity and dietary changes shown to be effective in improving short-term glycemic control (Norris, Lau, Smith, Schmid, & Engelgau, 2002). Other Type 2 diabetes studies found that engaging in self-management behaviors and activities was essential to the overall management of Type 2 diabetes, while effective self-management was responsible for the achievement of short-term as well as long-term health of the patient (Tang, Funnell, & Oh, 2012).

Self-Management Efforts Using Physical Activity and Dietary Changes

Type 2 diabetes is a chronic disease, classified as an incurable disease. Thus, the only way to keep the disease and its complications in check is to take diabetes medications for life. In addition to taking doctor-prescribed medication daily, medical practitioners also recommend that the patient with Type 2 diabetes also engage in self-management efforts that, in addition to daily medication compliance, include behaviors such as daily blood-sugar checks to monitor their blood sugars, A1c tests every 3 months, yearly eye examinations, and periodic foot examinations. Self-management has become a popular term in research to describe forms of behavioral programs or interventions and behaviors that lead to the management of health for patients with chronic disease (Lorig & Holman, 2003). Another major self-management effort recommended by physicians is the addition of physical activity and dietary changes in to the daily activity of patients with Type 2 diabetes. Patient self-management of their own disease conditions has been

identified as one of the 20 most critical and urgent issues concerning how quality healthcare can be provided in the U.S. healthcare system (Adams & Corrigan, 2003). The present African American Type 2 diabetes study focused only on the self-management efforts of African American participants with Type 2 diabetes using physical activity and dietary changes.

The Type 2 diabetes disease progresses, over time, in deterioration of the diabetes patient's health-related quality of life (American Diabetes Association, 2014b; Schram, Baan, & Pouwer, 2009; Zhang, Norris, Chowdhury, Gregg, & Zhang, 2007). Self-management behaviors that concentrate on physical activity, dietary changes, and adherence to medication are essential to effective Type 2 diabetes treatment that helps in the achievement of good glycemic control (Holmen et al., 2016).

Importance of Self-Efficacy Models in Self-Management Behaviors

In the United States today, 90 million people live with one or more chronic health condition such as diabetes or cancer, among a host of other chronic diseases, pointing to the need for greater patient self-empowerment to self-manage their disease conditions (Hoffman, 2013). The adoption of healthy behaviors that result in effective disease self-management actions by patients can prevent or reduce deteriorating health and suffering that comes from complications associated with these chronic diseases. However, despite an increasing recognition in the healthcare industry that the management of chronic disease has emerged as one of the most important healthcare issues in the past century, successful management efforts to mitigate chronic-disease symptoms and complications has been limited (Wagner, Austin, & Von Korff, 1996).

Although healthcare, public health, and the medical industry are supposed to provide patients with chronic diseases the education, knowledge, and skills they need to better manage their diseases, many patients, even with the knowledge that making lifestyle changes are necessary to improve their own lives, fail to engage in these self-management behaviors (Farrell, Wicks, & Martin, 2004). Helping patients increase perceived self-efficacy in addition to patient education on self-management and adequate medical care are tools that can empower patients to take control of their chronic disease self-management (Lorig, Sobel, Ritter, Laurent, & Hobbs, 2001). The concept of disease self-management of Type 2 diabetes conveys a scenario in which the patient with Type 2 diabetes exhibits control, confidence, and empowerment in the management of their chronic diseases (Hibbard, Mahoney, Stock, & Tusler, 2007).

As stated in the theoretical framework section of this research study, self-efficacy theory was deemed the most appropriate theory to answer the study's problem statement and the research questions. Bandura's self-efficacy theory has helped make a significant impact in the self-management field to develop and suggest effective ways for people with chronic diseases such as Type 2 diabetes to find ways to better manage their symptoms (as cited in Hoffman, 2013). The theory of self-efficacy relates to behaviors and actions involved in physical activity and dietary changes; Bandura (1977) developed the theory to help articulate the specific strategies and processes that influences the beliefs of patients with Type 2 diabetes in their ability to go through the actions that promote effective health behavior. Based on norms, attitudes, and behaviors, self-efficacy relates to the willingness and ability of patients with Type 2 diabetes to engage in daily and long-term self-management activities that ultimately enhance their health and

improve their disease markers. The concept of self-efficacy in the self-management of Type 2 diabetes and other chronic diseases is that, for those suffering from these diseases, only the affected patient can be responsible for the day-to-day self-management of their disease (Lorig & Holman, 2003). Also of importance is that these patients need to remember that the discipline required for these self-management habits should be considered a behavior or task that needs to be carried out over a lifetime (Peyrot & Rubin, 2007). The concept of self-efficacy as it relates to self-management of Type 2 diabetes by African Americans must be simplified into actionable and doable behavioral steps that patients can learn and incorporate over the course of a lifetime.

Summary and Conclusion

The incidence of Type 2 diabetes is growing, and has been classified as an epidemic. This Type 2-diabetes threat has been shown to disproportionately affect African Americans as an ethnic group more than their Caucasian counterparts. Several researchers have found effective ways to manage this chronic disease, and several effective self-management strategies have been offered that include daily medication adherence, quarterly A1c checks, yearly eye and foot examinations, and the incorporation of physical activity and dietary changes to the lifestyle of patients with Type 2 diabetes. However, studies that help in understanding how African Americans experience lifestyle-modification behaviors when incorporating physical activity and dietary changes to their self-management efforts have been limited.

Long-term adherence to these self-management efforts have improved the health markers of people diagnosed with Type 2 diabetes, and delayed or prevented the onset of complications due to the diabetes disease. Not known is how these self-management

efforts have helped African Americans specifically to effectively manage their disease, as well as understanding the lived experiences of these African American patients with Type 2 diabetes regarding the phenomenon of physical activity and dietary changes, which is the focus of this qualitative research study. This research study will help fill gaps in the literature concerning the limited research on African Americans with Type 2 diabetes and how well they are responding to their own self-management by incorporating physical activity and dietary changes to their lifestyles. This study extends knowledge in the healthcare discipline by helping to understand the difficulty of these self-management efforts from patients' own experiences. The current study employed purposive sampling to select participants and use in-depth interviewing techniques to obtain thick and rich descriptions, analyzed to understand the experiences of African American participants with Type 2 diabetes with the phenomenon in question.

Healthcare providers and other experts have stated that because Type 2 diabetes affects people differently, its management can be complex. Even with pharmaceutical medications, doctors must keep changing and adjusting medications until they find what works for each patient. Likewise, the experiences of the phenomenon of physical activity and dietary changes, as experienced and described by African Americans with Type 2 diabetes, will be invaluable not only to other African Americans, but to other minority groups who are also adversely affected by this disease. This research study may help stimulate some public health policies that result in more efficient and effective ways to provide self-management strategies to patients with Type 2 diabetes and chronic disease, thereby helping effect positive social change.

In Chapter 3, I review and evaluate the research methodology and methods used to inform the study topic. The review will include the research design and rationale for choosing this design, the role the researcher plays in this research, and the methodology used to answer the study's research questions. The chapter also provides the plan for data collection and analysis.

Chapter 3: Research Method

The purpose of this qualitative, phenomenological study was to explore and describe the lived experiences of African American participants with Type 2 diabetes who had experience with the phenomenon of lifestyle changes with physical activity and dietary changes, and how these behavior changes may have impacted their overall health. The purpose of this chapter is to present and justify the methodology that was used to answer this study's research questions. Type 2 diabetes adversely affects African Americans more than European Americans, and an exploration into their experiences with self-management behaviors was both timely and relevant for research. Even though researchers conducted studies on the health benefits of the incorporation of diet and exercise to the overall health of patients with Type 2 diabetes, additional research was needed on the behavioral self-management component of the experiences of incorporating physical activity and dietary changes into the lifestyles of African Americans with Type 2 diabetes.

The major sections of this chapter include the research design and rationale for the study; the role of the researcher in this study; the methodology, which includes the data-collection instruments and procedures for recruitment, participation, and data collection; the data-analysis plan; issues of trustworthiness including credibility, transferability, dependability, confirmability, and reliability of the study; and the ethical procedures employed in the study.

Research Design and Rationale

The purpose of this qualitative phenomenological study was to explore and describe the lived experiences of African American participants with Type 2 diabetes

who had experience with the phenomenon of lifestyle changes with physical activity and dietary changes, increasing/maintaining daily physical activity and dietary changes, and how these behavior changes may have impacted their overall health. The phenomenon central to the research study were physical activity and dietary changes and their incorporation into the lifestyle of African Americans with Type 2 diabetes. The phenomenon of physical activity was defined as moderate exercise, running or walking for an average of 30 minutes, carried out three times weekly or more; the second phenomenon was dietary changes, defined as changing eating habits by including three to five servings of fruits and vegetables in the diet of participants. The research questions that were used in this phenomenological study follow:

RQ1: What are the lived experiences of African American patients with Type 2 diabetes who are familiar with lifestyle modifications as they relate to physical activity and dietary changes?

RQ2: Has self-efficacy, defined as physical activity and dietary changes, affected self-management and overall health of African American individuals with Type 2 diabetes?

RQ3: What has the experience of self-management of African Americans with Type 2 diabetes changed in their overall health?

The research design deemed most appropriate was the qualitative, phenomenological approach. Cohen, Manion, and Morrison (2000) described phenomenology as a theoretical point of view that advocates the study of the experiences of individuals because the phenomena of human experience determines human behavior, rather than the reality of the objective and physical reality that describes situations

external to the individual. Creswell (2012) described phenomenology as a methodological approach used to explore and describe the common meaning of experiences. Researchers have used two types of phenomenology in their studies: descriptive phenomenology, also known as transcendental phenomenology, advanced by Husserl; and interpretive phenomenology, also referenced as hermeneutic phenomenology, developed by Heidegger (Connelly, 2010). van Manen (2007) further developed hermeneutic phenomenology and defined phenomenology as a way to clarify phenomena by formatively informing, transforming, reforming, performing, and pre-forming the relationship being and practice.

Phenomenological studies (a) query individuals or groups that have all had experience with the same phenomenon, (b) discern how individuals or groups subjectively interpret the phenomenon, and (c) require the researcher to not interfere or interpret the group's experience; rather researchers "bracket" themselves in the process of interviewing participants (Creswell, 2012). The goal of this research study was to obtain an in-depth description and understanding of how the incorporation of physical activity and dietary changes in the lives of African American patients with Type 2 diabetes have impacted their health.

In trying to understand how study participants constructed meaning, the transcendental phenomenology used in this study involved the use of the four methodological steps of bracketing, intuiting, analyzing, and describing (van Manen, 1990). The concept of bracketing is the process whereby the researcher identifies and holds in check any opinions or preconceived ideas concerning the phenomenon being researched to be able to confront the data in its purest form. Researchers consciously

opens themselves to the meaning given to the phenomenon under study by the participants who experienced it. Analyzing is the process whereby the researcher subjects the data that have been collected to categorization, coding, and content and thematic analysis to make sense of the essences and meanings given to the phenomenon. The process of describing involves the understanding the researcher gained in defining the phenomenon so as to communicate participants' distinct and critical descriptions of the phenomena in a written or verbal form (van Manen, 1990).

Several researchers have studied Type 2-diabetes prevention or maintenance using quantitative research. Quantitative researchers quantify the study's research problem through the generation of numerical data. I used a qualitative paradigm to explore and describe the lived experiences of African American patients with Type 2 diabetes who had experience with the phenomenon.

Role of the Researcher

The researcher has an important role in qualitative research. The qualitative researcher is the main instrument of the study; thus, it is important for researchers to identify themselves as such (Patton, 2002). Because researchers are considered data collection instruments, to ethically fulfill this role, researchers must come to terms with their own attitudes, feelings, and biases, as well as understanding the phenomena before the research can be undertaken (Denzin & Lincoln, 2003). To fulfill the role of an instrument, researchers have the moral obligation to tell participants about any relevant aspects of themselves that they needed to know, including any assumptions and biases, as well as any expectations and experiences that ensure credibility in their ability to conduct the research (Greenbank, 2003). Qualitative researchers acknowledge that a human being

(the researcher), as an instrument, is sufficiently capable of comprehending and learning about human existence (Lave & Kvale, 1995).

In conducting this research study, my interest in Type 2 diabetes in African Americans had a personal component. Type 2 diabetes runs in my mother's part of the family and has been responsible for the deaths of several family members. My mother currently has Type 2 diabetes, and so do I. At my current healthcare organization, I have also witnessed the increasing numbers of people who have received the diagnosis of Type 2 diabetes and the anguish it has caused these people and their families. When setting out to conduct this research, however, my role was to suspend personal feelings or understanding of Type 2 diabetes and the phenomenon, to be able to properly conduct the study, collect data, and impartially analyze the data. My role as the researcher did not have any adverse impact on the participants in the study.

The participant pool consisted of patients who were recruited from my current healthcare organization, as well as from another internal-medicine practice in the same location. These patients do not directly interact with me in a professional capacity, or come to the office to see me when they come for their office visits because I do not work on the clinical team that directly cares for patients; rather, I work in administration and do not have direct contact with patients. The consent forms given to the study participants outlined their rights concerning the study; I informed them that they could terminate their role in the study at any time during the interviewing process.

My role in this study was to ensure that study participants experienced no adverse impacts. I conducted interviews so as to prevent any harm to participants. I observed ethical considerations, giving letters of consent to participants to sign that explained the

aim and purpose of the research (see Appendix A). I also communicated their rights before and during the research. The signature of participants on the consent form was designed to help ensure agreement with the dictates of the interview process; however, I told participants that they were welcome to decline to continue with the interviews at any time. I also took care to ensure I did not solicit clinical employees or physicians to assist in the recruitment process in any way, to remove any threat of potential bias or perceptions of coercion in the participant-selection process. Even though these small medical facilities do not have an established and dedicated institutional review board (IRB) department, I took steps to obtain consent and cooperation from the group of physicians who own these healthcare organizations (see Appendices C and D), as well as ensuring the study met with Walden University's IRB approval before beginning data collection.

Methodology

According to Denzin and Lincoln (2000) and Creswell (2012), the methodology used in this study consists of a strategy of inquiry that guides the procedures employed in this research. The phenomenological approach to research focuses on the understanding of the essences of the lived experiences of the selected participants through the exploration of the meaning of the phenomenon (Petty, Thomson, & Stew, 2012). The two main types of phenomenology are hermeneutical phenomenology (van Manen, 1990) and transcendental phenomenology (Moustakas, 1994). Transcendental phenomenology, as proposed by Moustakas (1994), was the methodology used in this study. The population under consideration for the study was African Americans, aged 18–65, who had Type 2 diabetes without any reported diabetic complications. I purposively selected participants

for the research study from a sample of African American patients with Type 2 diabetes who self-reported for medical care at two internal-medicine clinics in south Charlotte.

I chose these two medical facilities because of their relatively high Type 2-diabetes patient list, as well as access to these patients. I selected participants based on certain preestablished criteria, the most important of which was being a person with a Type 2 diabetes diagnosis in relatively good health, experience with the phenomenon of physical activity and dietary changes, as well as willingness to participate in the study. I selected study participants through purposive sampling from two internal-medicine clinics in south Charlotte, North Carolina. Participants who self-reported for medical care at these two medical facilities and met the criteria stated above were considered for selection in the study.

Flyers stating the purpose of the study with full disclosure and information on the population needed for the study were mailed to prospective participants; some flyers were posted in the lobby of the two clinics. Patients interested in the study were encouraged to participate. In the interview, I sought descriptive and in-depth data from a small sample (10 to 15) of participants using a semistructured interview protocol (see Appendix B). In qualitative research, small samples of participants are deemed appropriate because the interviewer has prolonged engagement to obtain the necessary data to conduct a successful study.

The aim of this qualitative study was to conduct in-depth interviews with the goal of extracting rich, thick data describing the lived experiences of participants. Thus, a small sample size was recommended for this to be accomplished (Creswell, 2013). Procedures to identify, contact, and recruit participants included the use of flyers in the

two internal-medicine offices, explaining the study and asking for interested participants to fill out a consent form. I conducted interviews with the goal of reaching saturation to enhance the content validity of the research. Data saturation was achieved when I attained enough information and further new information did not produce any new knowledge (Fusch & Ness, 2015). In a phenomenological study, the use of probing, in-depth interviews, and the creation of a state of *epoch* in the design are all qualitative strategies that assist in reaching data saturation (Amerson, 2011; Bucic, Robinson, & Ramburuth, 2010).

I was the instrument of data collection. In qualitative studies, the researcher is responsible for developing the instruments used in the study. The interview protocol I used included consent forms that detailed the purpose of the research, as well as details of what the study was about and any other disclosures. Part of the interview protocol also comprised the actual interview questionnaire I developed, based on the study's problem and research questions. An audio tape recorder was used with the permission of study participants to record the interviews. These recordings were later transcribed and used for analysis of the data. The interview questions asked enabled me to probe and ask follow-up questions in an effort to obtain rich and thick descriptions of the phenomenon. In the event that I did not attain sufficient data collection, I would have conducted follow-up interviews using additional probing questions in 15-minute interviews to obtain more information to completely answer the research questions.

Content validity and reliability are established standards for judging the quality of qualitative research, and the quality criteria used falls under four areas: credibility, transferability, confirmability, and dependability of the study (Golafshani; 2003; Trochim,

2006). Research is conducted to discover the truth about a situation or problem (Mischler, 2000). The trustworthiness of a study can be advanced by identifying the type of issues that are quantitatively discussed regarding validity and reliability of a study (Lincoln & Guba, 1985). Although quantitative researchers seek to discover the truth through measures of validity and reliability (Mischler, 2000), in qualitative research, the term trustworthiness is used instead as a defensible measure (Johnson, 1997, p. 282), which establishes confidence in the findings of the qualitative research (Lincoln & Guba, 1985).

In developing the research questions, I was careful to consider all the cultural, religious, and social contexts of the African American experience. My goal was to pose questions in a way that met all of the ethical standards of minimizing any harm to the study participants. I crafted the research from what had previously been described in the literature, in addition to basing questions on the problem statement and the research methodology.

Data-Collection Procedures

The main goal of conducting a phenomenological study was to elicit from the participants rich, thick, detailed, and personal accounts of the participant experiences of the phenomenon being studied (Pietkiewicz & Smith, 2014). The process of collecting data for this study included the use of one-on-one semi structured interviews conducted in an in-depth manner that made it possible for me to engage in real-time dialogue with participants (as suggested by Pietkiewicz & Smith, 2014). The use of semi structured interview questions (see Appendix A for Interview [Protocol Form]) also allowed me ample flexibility, space, and time to address unexpected issues that may have arisen, while they enabled me the opportunity to investigate or address the issues in more detail

by asking additional questions. In addition to engaging participants in expansive and open questions that made it possible for participants to talk at length about the phenomenon, I also provided prompts that helped participants stay focused on the questions.

The population selected for this research study was African American adults between the ages of 18 and 65 who had been previously diagnosed with Type 2 diabetes. These people with Type 2 diabetes had to have had experience with the phenomenon of physical activity and dietary changes to be included in the study. These African American patients with Type 2 diabetes had to have engaged in physical activity at least three times a week for a minimum of 30 minutes, while also consuming three to five servings of fruits and vegetables daily. Only participants who met these criteria were included in the research study. I collected data at the site of two private healthcare organizations in Charlotte, North Carolina.

I collected the data in 30-minute to 1-hour interview sessions per participant. If follow-up interviews were warranted, I met participants in any environment that was deemed convenient for the participant and conducive to one-on-one interviews. The data were then recorded with a tape recorder after obtaining permission to do so from participants. During the initial interview, I obtained permission to conduct follow-up interviews if necessary. However, had the recruitment resulted in too few participants, I would have resumed participant recruitment efforts to obtain the needed number of participants to ensure a successful research study.

After interviewing study participants, and before dismissing participants, I conducted a debriefing session that took a few minutes in which I explained any follow-

up procedures and asked permission to return for follow-up interviews. I also explained how the findings of the study would be disseminated, and how study participants could get an abbreviated copy of these findings.

Data Analysis

Nigatu (2009) stated that qualitative data analysis is a process in which the researcher goes from collecting qualitative data to data interpretation, to distill the essences of the participant experiences through the explanation, understanding, or interpretation of the situations, as well as the phenomenon being investigated. The data analysis for the current research study was based on the research design selected for the study and the research questions. The data obtained were organized such that all responses from participants to a specific interview question were placed under that specific question. All the interview data were also organized in this way to make it easy to categorize them into themes later in the data-analysis stage.

Researchers can accomplish qualitative data analysis by managing the process of analysis so data can be transformed into information that can then be transformed into knowledge, and then into wisdom (Davenport & Prusak, 1998). Qualitative data analysis, therefore, is a product of combining scientific rigor and artistic flair to be able to produce a creative and systematic research study (Chenail, 2012). The process of data analysis started directly after all relevant data had been collected through an open-ended interview protocol. Data collected was in the form of transcriptions of the interviews and field notes. The research data were prepared for analysis when the interview data were transcribed verbatim from the tape recorder into a Microsoft Word format. After transcription, I read through the entire transcripts to get a general sense of the material. The material or data

were then connected to the research questions by categorizing the responses from all the participants under the various appropriate research questions.

The use of qualitative content analysis also served as the primary qualitative analytical method used because this method ensured that the analysis was transparent, traceable, and auditable (Pare, 2016). The analysis included a preliminary stage which involved precoding of the data. Precoding was the process in which I employed highlighting, bolding, and the underlining of words or phrases, using colors to bring attention to certain quotations or passages relevant to the interview questions and deemed important (aligned with Layder, 1998). The actual analysis of the qualitative data included the use of several steps designed to help in the organization of the data (transcribing, translating, cleaning, and labeling the data), identification of the framework (close reading of the transcribed data, useful in identifying whether the theoretical framework is exploratory or explanatory), sorting the data into the framework identified by coding the data with the use of the NVivo computer software, and finally using the framework for the descriptive analysis of the research (identifying themes and the arrangement of participant responses into categories; as suggested by Miles, Huberman, & Saldana, 2014). Discrepant cases that emerged in the current research were carefully evaluated and analyzed for inclusion in the study's data analysis. Maxwell (2012) posited that the identification and analysis of discrepant cases constitutes a very important part of testing for validity in research studies of a qualitative nature.

Issues of Trustworthiness

Qualitative research must be conducted to allow the study to meet all integrity standards by addressing issues of trustworthiness through credibility, transferability,

dependability, and confirmability (Lincoln & Guba, 1985). It was therefore essential that the quality of the qualitative research study be carefully evaluated to ensure the findings met the standards of rigor required for contribution to the current research. Also, through trustworthiness, this study contributes to positive social-change efforts in the field (Noble & Smith, 2015).

The goal of the current research was to design a research study that incorporated methodological strategies that ensured the credibility of study findings, including ensuring my personal biases did not influence the findings of the study (aligned with Morse, Barrett, Mayan, Olson, & Spiers, 2002). Another goal was to ensure data triangulation by employing various methods such as the use of participant transcripts, researcher field notes, and observation notes to produce findings that were comprehensive (as suggested by Long & Johnson, 2000). I also ensured credibility through prolonged contact with participants to ensure that the goal of obtaining rich, thick, and in-depth descriptions was reached, carrying out member checks or informant feedback by sharing, to verify the authenticity of the data (in line with Goldblatt, Karnieli-Miller, & Neumann, 2011). Peer review or debriefing involve an impartial peer or researcher examining the study transcripts, general methodology, and final report to check for researcher issues, biases, and assumptions, enhancing the study's credibility (Morse et al., 2002).

Transferability is the degree to which the findings of the research study on African Americans with Type 2 diabetes can be transferred or generalized to other geographical or ethnic settings. I achieved transferability by obtaining enough thick and rich descriptions of the phenomena being studied to make it possible for readers to gain

an in-depth understanding so they can relate the phenomenon being explained to their own experiences (aligned with Shenton, 2004). The goal of the current research study was for the findings to be applicable to not only African Americans with Type 2 diabetes in Charlotte or North Carolina, but also to be relevant to African Americans and other ethnic groups nationally and globally. Readers reading the research study will be in the best position to use and judge whether the study is transferable by being able to connect their own experiences to those described in the study.

The issue of dependability in qualitative research was addressed in this study by employing strategies that showed that if the same research work was repeated using the same methods, participants, and in a similar context, the results would be similar (aligned with Shenton, 2004). Dependability in the current research was assured using audio recordings that were tested for quality whereas digital recordings were transcribed verbatim and reviewed repeatedly for accuracy. As previously noted, I also had a peer review the transcripts to assess accuracy of the data. I used the strategy of data triangulation with the use of transcripts, field notes, and observation techniques to improve the study's dependability. Part of assuring dependability through triangulation included the use of NVivo software to assist in the management and organization of the data, while using manual coding methods for the study.

The concept of confirmability relates to my concern for objectivity in the study. I used the concept of bracketing (Tufford & Newman, 2010) to ensure my opinions and biases were kept out of the data. My goal was to ensure the research findings only reflected the experiences and descriptions of the participants. Reflexivity assures a researchers maintains a position of neutrality throughout the research by remaining

conscious of personal opinions, biases, and experiences brought to the study (Creswell, 2012). Researcher reflexivity began prior to the study, and throughout the study through a continuous process of reflection on past experiences with the phenomenon of the incorporation of physical activity and dietary changes by African Americans and people with Type 2 diabetes in general. As an African American who also has Type 2 diabetes, I was very careful not to let my personal experiences and perceptions influence the research in any way.

Ethical Procedures

Maintaining a strict code of ethics is paramount to the success of any research study; however, Sanjari, Bahramnezhad, Fomani, Shoghi, and Cheraghi (2014) posited that the nature of qualitative research, which necessitates the interaction between participants and researchers, can pose ethical challenges. Researchers who are personally involved in various stages of the research study, from design to reporting, must resolve issues of ethics. Thus, I was careful to maintain a strict code of ethics throughout the various stages of developing the study.

It was important to use ethical means to gain access to participants needed for the study. In qualitative research, because it is not necessary to sample a large group of people, getting the 15 participants needed for the study was not difficult. I gained participants through purposive sampling for inclusion in the study. I fully informed potential participants of the nature of the study, and obtained informed consent in writing before initiating data collection. Part of the process included informing participants in writing that they could withdraw from the study at any time during the interviewing process without any recourse whatsoever. Even though the study was conducted in my

work environment, participants were in no way made to feel coerced, as I had no prior interaction with patients who self-report for medical services in the medical practice where I work.

I was careful to ensure the welfare of the human participants involved in the study by protecting and fairly treating participants. Before data collection began, I sought and obtained IRB approval. Without IRB approval, no researcher can begin data-collection efforts by interviewing participants. IRB approval meant that the ethical procedures involved with human participation in this research had met all ethical standards required to ensure human subjects were fully protected.

Ethical concerns relating to recruitment materials and processes were appropriately addressed in this research study. The study's data collection was conducted using high-quality digital audio recorders, and care was taken to ensure anonymity by not using the names of participants on the recording as well as in the verbatim transcripts. Also, I stored collected data in a secure location away from the data-collection site and securely stored multiple copies in a password-protected safe. Also, the data stored in this secure location and will be kept for a period of 5 years, in accordance with the standards set by Walden University, before the data can be destroyed. Participants' anonymity in the study was also assured because no names, e-mail addresses, or telephone numbers were recorded and stored; instead, unique identifiers such as chronological numbers were given to each participant to safeguard their identity.

Ethical concerns relating to data collection in the current study were also addressed by ensuring that I obtained full written consent prior to starting data collection, and a contingency plan was in place for participants who either refused to participate

before the study, or who chose to withdraw during the data-collection process. In preparation for such an eventuality, an additional five to 10 participants who had been purposively sampled during the participant-recruitment stage or process and who had agreed to participate, would have substituted for participants who had withdrawn from the study.

Summary

A qualitative methodology builds on how the subjective world of human beings is experienced, while taking account of these experiences and describing them in-depth (Patton, 2002). Phenomenology, which is a qualitative philosophy, approach, and methodology, was the most appropriate approach to describe the essences of the lived experiences of the phenomenon of physical activity and dietary changes and their impact on the self-management and health of African Americans with Type 2 diabetes. Changing self-management behaviors by incorporating physical activity and dietary changes into the lifestyles of African American patients with chronic Type 2 diabetes is a complex issue because it is primarily a human behavioral issue, accomplished differently from participant to participant.

The problem was that studies that described the experiences of African American patients with Type 2 diabetes with the phenomenon of physical activity and dietary changes were limited. Even though prior research has proven the beneficial effects of the incorporation of lifestyle-modification behaviors on the overall health of patients with Type 2 diabetes and other chronic diseases, a gap existed in the literature regarding the personal experiences of these patients. The steps and processes outlined in this research methods section assisted the current study and its data analysis and findings to add to the

current research in the field, as well as make recommendations and suggestions that will contribute to positive social change. Chapter 4 includes the actual selection of participants, data collection, data analysis, and the results of the research study.

Chapter 4: Results

The purpose of this qualitative phenomenological study was to explore, describe, and analyze the lived experiences of the phenomenon of physical activity and dietary changes and how these lifestyle behaviors have affected the lives and health of a sample of African Americans between the ages of 18 and 65 who were living with Type 2 diabetes. Three research questions were expanded to seven open-ended interview questions, crafted to explore the lived experiences of African American patients with Type 2 diabetes and how lifestyle changes such as dietary changes and physical activity helped in the self-management of their Type 2 diabetes. The research questions were designed as open-ended questions to elicit rich, thick, detailed, and in-depth responses regarding the lived experiences of these adults with Type 2 diabetes.

Study participants were obtained from two internal medicine practices in south Charlotte: Crown and ALFA Medical Clinics. Although these clinics did not require IRB permission, I obtained letters of cooperation from these two clinics before participant recruitment and interviews began (see Appendix B and C). Also, I obtained Walden University IRB approval (number 03-06-17-0481286) before data collection could begin. No conflict of interest issues emerged in recruiting methods and study participants understood that participation in the study was voluntary.

Chapter 4 covers the data analysis. This chapter includes the introduction, the sampling strategy used, the data-collection process, demographic profiles of the study participants, research questions, and evidence of trustworthiness in the study. In addition, Chapter 4 includes the data analysis, presentation of themes, and a summary.

Sampling Strategy

Participants were 15 African American patients with Type 2 diabetes between the ages of 18 and 65, purposively selected for this research study. Participants had to have no significant diabetes complications, and also had to have had experience with the phenomenon of physical activity and dietary changes. Several patients who signed up for the study had to be excluded from the study due to not meeting the inclusion criteria for this research study.

Once selected, participants had the choice to pick their own interview site; however, all agreed it was best to conduct the interviews on the premises of the internal-medicine practices where they received medical care. After the interview site had been agreed upon with participants, I worked with them on their choice of day and time to conduct the interviews. To ensure the privacy of the interview participants, I assigned codes rather than names, in the order of interviews, ranging from Participant 001 to Participant 015. Study participants completed an informed-consent form, and received signed copies of this form. As explained in Chapter 3, I conducted interviews according to the methodology selected, and all ethical concerns and issues were discussed and resolved prior to beginning the interviews. Participants understood that they could discontinue the interviews at any time.

Data Collection

After sending 150 flyers to identified African Americans who had Type 2 diabetes between the ages of 18 and 65, I selected 15 people for participation in the research and interviews, based on meeting the inclusion criteria. After agreeing to be interviewed at the offices of the internal-medicine practice where they received their medical care,

interviews were scheduled based on participants' preference regarding availability, date, and time. I formulated interview questions to elicit in-depth and detailed descriptions, following Moustakas's (1994) recommendations that included the exploration of two elements: the experience of participants as they remembered it and a description of exactly how these participants experienced it. Employing the qualitative tradition and methodology, I collected data by employing face-to-face interviews that included in-depth open-ended questions.

Generally, researchers conduct interviews because the researcher/interviewer has interest in the descriptions of the essences of people's experiences and perspectives. Patton (2002) posited that the quality of the data obtained from the interviews depends on the knowledge, preparation, and the listening and communication skills of the researcher conducting the interviews. The interview questions study participants answered were the same questions that had received prior approval through the Walden University IRB approval process. Participant interviews were conducted, on average, between 18 and 30 minutes, and interview data were captured on a digital tape recorder. Audio interviews were transcribed into text data, and the digital recordings of interviews were saved in various formats such as on the digital recorder, external hard drive, and various jump drives; all data were secured under lock and key for safe keeping until they can be disposed of in accordance with Walden University's policies for destruction of interview materials, in 5 years. The process of data collection was carried out as planned and as outlined in Chapter 3 without any deviations from the original plan.

Demographic Profiles

The participants interviewed for this research study included 15 African American patients with Type 2 diabetes, selected from ALFA Medical Clinic and Crown Clinic in south Charlotte, North Carolina. Participants were 13 women and 2 men, ranging in age from 42 to 65 years of age. These participants had been reporting for medical care at the two clinics for a period of between 2 and 10 years, and reported having Type 2 diabetes for a period of 6 months to 13 years. I completed participant interviews over 5 weeks; interviews lasted between 30 and 60 minutes per participant. All reported changing their diets and adding physical activity to their lifestyle as a self-management and behavior-change strategy right after being diagnosed. I modeled the interview questions on self-management and self-efficacy characteristics. Data accrued on a digital recorder, later transcribed into text. No variations arose in data collected from the methodology outlined in Chapter 3, nor were any unusual issues encountered in the data-collection process. The key demographic variables are summarized in Table 1.

Research Questions

The purpose of this qualitative, phenomenological study was to seek and explore the in-depth meaning of the lived experiences of African Americans with Type 2 diabetes regarding the effects of their self-management using dietary changes and physical activity. The aim of the phenomenological approach was to explore and determine the meaning of the lived experiences of the people involved, and how well they remembered their experiences with the phenomenon of dietary changes and physical activity in the self-maintenance of their Type 2 diabetes (aligned with Moustakas, 1994). The research questions were structured to directly address the experiences, beliefs, and feelings of

participants, as well as their convictions concerning the phenomenon being discussed (Welman & Kruger, 1999). The following research questions focused on gaining understanding of the lived experiences of the phenomenon being discussed (Creswell, 2012):

Table 1

Demographic Information on Selected Participants (N = 15): Age Range: 42 to 65 Years

Variables	Frequency
Years living with Type 2 diabetes	
1–5	4
5–10	7
10–15	4
Gender of participants	
Male	2
Female	13
Marital status	
Single	2
Married	12
Widowed	1
Level of education	
College degree	4
High school diploma	7
Did not disclose education	4
Profession/Occupation	
Employed	10
Self-employed	2
Retired	1
Undisclosed	2

RQ1: What are the lived experiences of African American patients with Type 2 diabetes who are familiar with lifestyle modifications as they relate to physical activity and dietary changes?

RQ2: Has self-efficacy, defined as physical activity and dietary changes, affected self-management and overall health of African American individuals with Type 2 diabetes?

RQ3: What has the experience of self-management of African Americans with Type 2 diabetes changed in their overall health?

Evidence of Trustworthiness

Trustworthiness in qualitative research is ensured when the researcher addresses issues of rigor in the research while ensuring that issues relating to the study's credibility, confirmability, transferability, and dependability are addressed (Morrow, 2005; Statistics Solutions, 2017). Some aspects of this study ensured trustworthiness through the process of triangulation and the use of a diverse range of participants, verifying individual participant's experiences and viewpoints (Shenton, 2004). Other ways I ensured trustworthiness included obtaining rich, thick descriptions from participants to support the findings of the study in other situations, circumstances, or contexts. The study's findings were based on participant responses, and I kept bias or personal motives out of the research study as much as possible, and ensured study's findings were consistent and could be repeated or replicated by other researchers with similar results through member checks.

Data Analysis

I began the data-analysis process by reading and rereading through the interview transcripts to get a general sense of what participants were saying, while ensuring I was immersed in the essence of the interview data. Using aspects of the procedure for phenomenological data analysis outlined by Hycner (1999), I went through the guidelines with the understanding that this research had elements that could respond well to the study's phenomenon being analyzed. I chose the steps used by Hycner over those of other qualitative researchers such as Colaizzi (1973), Giorgi (1975), or Keen (1975) because they were better suited to beginning qualitative researchers who do not have a philosophical psychology background but need to be able to follow steps to conduct a successful phenomenological data analysis. An outline of some of the steps used by Hycner follow:

1. Transcription: I went through the process of having the data on the digital audio tapes transcribed into verbatim text data to be able to begin the data-analysis process.
2. Bracketing thoughts, interpretations, meanings, and feelings, and performing phenomenological reduction: Here I immersed myself in the data by listening to interview recordings and reading through the interview transcripts, taking care to be open to the meanings that emerged from the data.
3. Listening to the interview transcripts to discern what was being said: This process involved listening to entire audio recordings several times as well reading through the transcripts several times. It was through these processes

that I gained a sense of units of meaning and themes on which to focus during the data-analysis process.

4. Delineating units of general and relevant meaning that have relevance to the research questions: In this process, I stayed as close to the literal data as possible while using participants' words, phrases, sentences, paragraphs, and other nonverbal cues to arrive at the essence of the meanings participants expressed. I also checked the research questions against the units of general meaning to see if what participants said responded to and helped illuminate answers to the research questions (Hycner, 1999).
5. Reduce and eliminate data redundancies: In this process, I looked over the list of all units of relevant meaning and eliminated all redundant information from the list.

After having gone through the abovementioned data-analysis processes of manual coding following the recommended steps by Hycner (1985), I used computer-assisted qualitative-data-analysis software called NVivo 11 to continue to code participant data and compiled units of meaning into themes. NVivo is a qualitative software tool used to organize and manage transcribed participant data. Strategies used to help code and organize the answers to each interview question for all interview participants' data in NVivo included the use of the autocoding feature. After autocoding the data, themes that emerged from the relevant units of meaning were coded into nodes with their titles and descriptions of their general meaning and relevance of the theme. I used another feature in NVivo 11, called the "word frequency query," to get a sense of the most frequently used words and phrases by participants in response to the interview questions. This

feature of NVivo was also helpful in developing relevant themes from participant responses to the interview questions.

Presentation of Themes

The themes that emerged as having significant relevance for this African American Type 2 diabetes study were identified when transcribed participant interview data were imported into NVivo 11. The data imported into NVivo were then categorized and developed into nodes, based on the interview questions. The categorization of participant information into the various nodes was also accomplished by identifying similarities and inconsistencies in participant responses to the interview questions. The themes identified as having relevance to the essence of the lived experiences of the participants with the phenomenon were then coded to nodes, and given titles and descriptions, taking care to ensure that were in line with the research questions. I read through the data from the 15 participants interviewed and identified relevant themes until I reached the point where no new themes emerged and data saturation was reached; that is, conducting new interviews would not have yielded any new information.

Themes Associated with Research Question 1

In the first research question for this study, I sought to ascertain that study participants had lived experiences with the phenomenon of dietary changes and physical activity. The research question was, What are the lived experiences of African American patients with Type 2 diabetes who are familiar with lifestyle modifications as they relate to physical activity and dietary changes? I asked several questions in different ways in an effort to address this research question and elicit responses from study participants regarding their lived experiences with the phenomenon.

Theme 1: Initial emotional response to Type 2 diabetes diagnosis. To a large extent, study participants received the diagnosis of Type 2 diabetes with shock and disbelief. Even though some participants admitted that Type 2 diabetes ran in their families, none of them thought they could fall victim to the disease. Of the 15 interview participants, 11 reported they had an emotional response to the disease diagnosis. Even though not everyone in the interview had an emotional response, the majority of participants detailed their experiences about their reactions, which ranged from not really shocked, to shock and dismay when they got the news about the Type 2 diabetes diagnosis.

The number of those in the United States with Type 2 diabetes has been reported to be on the rise (Paddock, 2014), and healthcare authorities have classified this disease as having reached epidemic proportions (Gross, Li, Ford, & Liu, 2004). Most study participants had family and other relatives and friends who had the disease. Most participants expressed they did not think they should have gotten the disease. These participants expressed their initial responses to hearing about their Type 2 diabetes diagnosis was based on hearsay and other stories about diabetes being incurable and knowing someone who had lost a limb, gone blind, or suffered some form of diabetes complications from the disease.

Participant 10 reported much emotion and shock when she was diagnosed with Type 2 diabetes. Her initial reaction to the diagnosis follows:

I think I was diagnosed back in 2011. I started having some symptoms of drinking a lot of water, and I was not having the symptom of the frequent urination in the

afternoon. It was in the night. So I was not that sure that I had diabetes till when I came to see my doctor and he did the test, that he told me that I have Type 2 diabetes. That is when he started giving me medication and put me on a restricted diet. I was very upset because I thought I was doing good in eating. I was not frying my food a lot, and I was not eating a lot of junk food.

In addition to the shock of the diabetes diagnosis, lack of knowledge and education about Type 2 diabetes as a disease contributed to the panic and despair some participants experienced, based on several answers participants gave when they discussed their initial reaction to the disease. Participant 14 also reported having much emotion, ranging from shock to disbelief, mostly due to lack of knowledge about the disease.

I did not really know what Type 2 diabetes was. Diabetes does not run in our family. As a result, I had lots of emotions when I found out I was diabetic. I went for a general check up at the hospital, and the lady said, “let’s do a blood test.” I had no idea that I had cholesterol or diabetes or anything. Any way they did the tests, and afterwards she said, “are you aware that you have very high cholesterol thing, and you are diabetic.” I thought it was a death sentence. I did not understand it because it was not something genetic.

Similarly, Participant 15 did not believe she could get the disease, and questioned the source of the diagnosis.

And so, when I was told that I had diabetes, I was like, “How? Where did it come from?” So of course, I had to make phone calls and find out about who are with

my family and I found it. They said hereditary, and I did not want to believe that because if you do the right thing, you can avoid it. You can avoid it.

Type 2 diabetes does not have a cure, but can be effectively managed with a combination of medication and the adoption of lifestyle changes with diet and exercise. However, ignorance of a clear understanding of Type 2 diabetes made some participants afraid of the disease, seeing it as a death sentence. Participant 07 echoed this sentiment:

I thought of death. I was scared. What was going through my mind was that back in the day when you think of someone who has diabetes, you think that the person is going to die. So that's what comes to your mind first.

Some participants expressed the feeling of being upset not because they were diagnosed with the Type 2 diabetes disease necessarily, but because they knew they did not do enough to maintain a healthier lifestyle by watching what they ate and doing enough physical activity to prevent the disease. Participant 09 expressed this sentiment this way:

I was upset at myself because my family on both sides are obese and you know looking at them coming up as a kid I know that it was a lack of exercise and a lack of eating the proper stuff. So it's like I already seen it before hand and I felt like I didn't do enough to avoid it so I was upset with myself.

When Participant 11 heard the news that she was diabetic from her primary care doctor, she expressed her emotions by going to her car and crying until she could not cry anymore. She explained that she went to see her doctor because

I started seeing these floaters, I started seeing little things that was just different. So I called the doctor and I said well, something is not right. I'm taking this medicine and all the sudden I am seeing things like little bugs. So they brought me in and they checked and they said well you are borderline diabetes.

For some of the participants, getting the Type 2 diagnosis was surprising to them. They were not necessarily shocked, upset, or afraid, but surprised that they got the disease. Participant 13 put it this way:

I was surprised with the diagnosis. I cannot remember exactly what year it was that I got diagnosed with Type 2 diabetes. I think it was in 1992 or 1993. I had gotten to the point where I was really thirsty and was drinking a whole lot, and then urinating it right back out. I went to see a doctor, and so that is when they diagnosed me the Type 2 diabetes disease.

Some participants, in contrast, such as Participant 12, did not express much emotional response to the initial diagnosis. She expressed her experience this way:

It didn't hit me much. I didn't know that I had type II diabetes because I was mostly there with my mother going back and forth to doctors and things like that

because always kept feeling tired and thirsty and I never knew why because back then they didn't advertise it much until I think before 2000.

Other participants gave varied responses about their initial reaction to the Type 2 diabetes diagnosis. Participant 05 expressed his feeling about getting Type 2 diabetes in a matter of fact way, saying,

Well I think it came about because I guess I eat a lot of sweets, and I guess my weight kind of went up, and I had high blood pressure. So I think that is one of the reasons why I came down with the Type 2 diabetes disease.

Participant 04 was not surprised that she got Type 2 diabetes. She said, "The very first time that I was told something about diabetes by my doctor was when I had gestational diabetes when I was pregnant with my younger son." Participant 06 did not express much of any emotional response to the Type 2 diabetes diagnosis. She claimed the hospital did not even tell her she had Type 2 diabetes. They just told her that her blood sugar was high. She expressed her experience this way:

I didn't really find out till they took me off out of the nursing home and took me to the Carolina Medical that's when I found out that my blood sugar was high. Well the hospital they just gave me a bunch of sweet stuff but they sent me back to the nursing home so it is at the nursing home that they started evaluating paperwork and that's when they found out that I had diabetes.

Theme 2: Decision about making lifestyle change. The second theme was connected to knowledge and direct experience with the phenomenon of dietary changes and physical activity. I chose participants for this research study because of their experience with the phenomenon, so this theme developed from the data to support the research questions that related to ensuring participants were familiar with the phenomenon under study. All participants expressed familiarity with the phenomenon, and all were in different stages of forming lasting habit patterns with the phenomenon of adding physical activity and dietary changes to their everyday lifestyles. Participant 14 discussed their familiarity and experience with diet and exercise:

First of all I had to keep away from foods that was not healthy. As a matter of fact I went to see a dietitian, and then she (the dietitian) drew up a nutritional plan for me which I followed. Occasionally, I veered a bit from the diet plan, but generally, I followed the plan. And if I am not able to go out and walk, I bought an exercise machine and installed it in the house. Otherwise, with my Fit bit activity tracker, I try to do 10,000 steps every day, even if I am within the house. First of all I was advised that it would help, that it is absolutely necessary not to be sedentary, to eat and just sit. With Type 2 diabetes, I need to add exercise, and I try as much as possible to stick to that. First I learned this from my doctor, and then I went online and I did a lot of research to find out what to do, and do people do in this situation. So the exercise is a major, major part of the regimen.

The lived experience of adding physical activity and dietary changes as a self-management strategy was echoed throughout by participants, and although they

expressed various degrees of difficulty in developing self-efficacious behaviors related to self-managing this disease, each participant, in their own way, was trying to make this lifestyle change. For some participants, making these healthy changes a habit came naturally. Participant 08 described her experience this way: “I enjoy working out, I want to lose weight, I want to be healthy. So, that’s why. Doing more exercise. doing a lot of more cardio and I also started doing Tai Chi and yoga as well,” whereas Participant 06 expressed her experience this way:

Because I want to feel better about myself I just did it on my own. Because they really don’t want you to do too much because you can pass out so I only do so much make sure my blood sugar is right before I go for my walk because I don’t want to be laying in no street.

Several participants explained that their decision to add physical activity and dietary changes to their everyday lifestyles was mostly prompted by their Type 2 diabetes diagnosis. Participant 07 did not use to exercise before his Type 2 diagnosis, and explained his experience saying,

It is because of the Type 2 diabetes that made me decide to change my lifestyle. Because even though I know that exercise is good for everyone, it was when I got the disease that I became serious about exercising. Now I make sure that I eat right, and that I exercise. I am doing all these things because I want to control this disease. I do not want this disease to control me. The doctor told me that right now you’ve gotten Type 2 diabetes, so you need to change the way you eat, and

also do your exercises and make sure you drink more water. I have tried to change my diet and exercise ever since the doctor advised me after he told me that I had Type 2 diabetes. So I eat well and also I have been drinking more water.

Participant 13 also decided to incorporate diet and exercise to her daily routine because of the Type 2 diabetes diagnosis. This is how she describes her experience:

I decided to add physical activity and proper diet to my lifestyle because of the disease. I did get some education about the disease and how to self-manage it, but it has been a while, but I have been through that.

Having a good support system to help one make these lifestyle changes is also very important, and Participant 09 credited her doctor and her fiancé for being her support system. She described her experience with making lifestyle change a habit:

My primary care doctor is the reason why I made those changes. My fiancé would always say, “you need to stop, don’t eat that, don’t do this, you need to get out and walk” and I not listen to him, but my doctor is special so therefore he says something like making these lifestyle changes, and I am like, okay I’ll listen now because he’s already said it too so yeah, both. Having somebody, having a good support system is always good too. I knew I had to do something about this lifestyle change, so one of the things I did was I only ate fish and vegetables and within two months I had lost like 35, 36 lbs. And I mean when I said only ate fish and veggies that’s all I ate, I didn’t eat anything else.

According to the accounts of some participants, making dietary changes and adding physical activity as a habit was harder to do, and required daily resolve to make it work for them. Participant 04 could handle the dietary changes, but was having problems with the physical activity in making a lifestyle change. She put her experience this way:

I felt like if I want to also live long, I can check the way I eat, and I can do all these things just so that I can be around longer to help my kids grow. But my medical team felt like if I can step up on the exercise, and if I can do more on the diet side, which I already did, and so diet was not the problem. The problem was the exercise, so every time I went to my doctor's appointment they tried to reinforce or reassure me that exercise is going to be a big factor in living with the Type 2 diabetes.

Participant 12 initially did not take the advice of her doctors to make these self-management changes until she felt her body growing weak. Then, she started taking action to incorporate diet and exercise into her life. This is what she had to say about her experience:

Not at first, I have really never thought about exercising. I think that was in either 2014 or 2015 because I felt my body getting weaker and I said I have to come up with something or I have to figure something out. Now I can get up and walk a little but I just can't move like I used to. So I said I have to work on something about my diet and exercise. I would just go outside to get a little bit of fresh air or walk a little bit more but I can't walk like I used to. I can go maybe 30 minutes.

Participant 01 believed the lack of effort on the part of those with Type 2 diabetes to take physical activity and dietary changes as part of their self-management seriously is because of a lack of education and understanding regarding the lifetime benefits of making these self-efficacy changes. She described her experience as follows:

Yes, it has been lack of education. You don't know what to do with this kind of disease, but after you hear about education when you meet people and they are talking about this and that and even in some books, you know that you have to do something about it. So with that, you have to go gradually with the diet and exercise as often as you can daily. My Primary Care doctor told me about this kind of disease. Anytime I visit, he tells me and asks me how are you feeling, and have you been exercising? And how are you eating? What is your diet or how have you changed your diet and all that, so as I tell him, he is able to add to it or to take some from it and advise me on how to live properly with this kind of disease.

Participant 03 described the diabetes diagnosis as an admonition:

Well the diagnosis is a wakeup call. You know sometimes you think you are healthy until you go to the doctor, and then you are told that you know, you are getting the diabetes diagnosis, that gives you a greater motivation to exercise and to change your diet. So when you exercise, your weight is checked, and then also you increase your metabolism, and also with the diet you are able to control the Type 2 diabetes.

Participant 10, in contrast, saw Type 2 diabetes self-management as a life or death situation:

I decided to do these things because I thought that they would help me in order to keep the diabetes down or in order not to. ... Because I know that if you don't take care of yourself, or do all those lifestyle modification things such as diet and exercise, you can die. It can kill you, so I try to do it in order to stay alive or live long.

Participant 05 believed that Type 2 diabetes can be reversed if one is diligent enough by eating a clean diet and exercising daily. He described his experience as follows:

Well as you get older, and you start gaining the weight and stuff like that, you tend to for health reasons, you come to the realization that if you change your lifestyle as far as your eating habits and stuff like that, it would be a whole lot better for you. And there is a chance that a lot of people can reverse their Type 2 diabetes by going the right things; by eating right and exercising.

The motivation for Participant 11 was to live longer for her children, and to be able to see her grandchildren. She described her experience of why she thinks lifestyle change is important to her:

I did a lifestyle change, which was not really a good lifestyle change, but I guess having kids came with a little bit more of a change because I want to see my

grandkids. So just putting things in perspective that not only do you need to do better for yourself but you need to do better for these kids because nobody's going to do anything like you do as a mom for them. So it pushed me to say that you really need to try harder.

Even though she is working to make lifestyle change a habit for the sake of her children, she was quick to say that making these changes has not been easy. She described the experience of the difficulty of lifestyle change, saying,

No, these changes have not been easy. It is still about the same, it is still hard. Even with the family dynamic it is still very hard. Because my kids now know, but they will come up and say "mom you can't eat that, you can't eat that." And now that they know that mommy battles with diabetes, "mom put that down." So the aspect of them helping, my husband would say that, "no, come on [name]," so it is not easy.

Participant 02 cited weight loss and Type 2 diabetes management as her motivation for making the lifestyle change of adding physical activity and dietary changes to her lifestyle. She described her experience saying,

My motivation for lifestyle change was losing the weight, and trying to control the diabetes. I mean, I notice that when I was walking, my sugars were very controlled, so that was one motivation to try to do the exercise, or try to do some type of exercise on a daily basis. I have tried to change, as far as the cooking at home, I do watch the intake.

Type 2 diabetes is a lifelong disease and its self-management should not be taken lightly. The disease's progression may include complications that can result in death. Participant 15 described her experience by discussing her brother who died from Type 2 diabetes:

I am working to change my health because number one, you will feel better if you do. Number two, the reason why I decided to do that life change, try to eat right is because my mom got it. My brother died at the age of 64 from diabetes. And I just decided that, hey, with this lifestyle change, it is also going to help me to lose a bit weight. It has also helped me not to be so tired. It just makes me feel whole lot better.

Theme 3: Experience with dietary change alone. The third theme connects to the making of lifestyle modification changes as they relate to what effects dietary change alone has had on participants' lifestyle and health. The questions that led to the development of this theme were also directly related and aligned with the study's research questions. Participant experiences in making lifestyle changes with diet alone also highlighted the self-efficacy challenges expressed in making dietary changes a lifelong habit. All participants described their efforts to incorporate better eating habits into their lives. Participant 08 described making changes by eating more vegetables, but also talked about her occasional habit of eating something sweet once in a while. She described the experience of making dietary changes this way:

Like I said, I'm eating more green vegetables. But that's basically it right there. Well, I did, I cut out the carbs. Not completely but the bread I completely have cut out the bread. And of course I like a lot of sweet foods, but I don't eat those as much either. Every blue moon I might get something sweet. But yeah, but I have totally limited that now, because you know, it used to be that I would eat chips and a cake and that could be my dinner.

Participant 15 described her dietary change by explaining what she used to eat before the diabetes diagnosis, and what she has changed her eating habits to eating now. She described her experience in the following way:

I used to eat a lot of fried food, now it's strictly baked or grilled. And I noticed when I was doing fried food, I noticed that I was sluggish. And when I started incorporating the baked and steamed vegetables and the brown rice, I'm like "How can people eat brown rice?" I have noticed a change in my eating habits. So now, I eat a lot of vegetables, and I must admit, they're pretty good. That's the only thing I really changed. And I don't eat—I used to eating a lot of fruit. Now, I'm mindful of the fruit. Because I realized it got natural sugar in it. And I took out bananas. I used to eat bananas a lot. But I don't eat a lot of bananas anymore. I guess because there's sugar and potassium, but I use the potassium tablets. That way, I stay up with the potassium. I like to do that.

Participant 02 expressed that she did not make any dramatic dietary changes. She simply cut back on simple carbohydrates and the food she ate. She described her experience as follows:

So that's one of the changes that I have seen when you do the diet and exercise. With the diet, I mean, the goal is portion control and watching what you eat, or the intake of what your food is, and cutting out all the simple carbohydrates, and watching what you eat.

Participant 09 also reiterated cutting back on the food she ate. She simply stated,

Like I don't eat much, I do portion control, like I'm real serious on portion control now more than ever. I don't eat a bunch of pork, I don't eat a bunch of beef, and sugar is completely out. I use either Splenda, or I use Stevia or I will use nothing at all when I drink coffee now. I don't even put sugar in it, I might put a thing of creamer in it and no sugar at all. So no sugars, breads, even with meats I have changed that.

Participant 10, in contrast, viewed dietary changes from the standpoint of what eating right is doing for her body and health. She described her experience this way:

But now, with the dietary changes I have made, whenever I eat right, after the eating, I do not feel anything like I am getting sick. I think I have energy, my body is responding well to the food and I don't get any weird symptoms at all, like I am sick or something.

Participant 12 also echoed the feeling of getting healthier when she ate the right foods:

Lettuce I can have, I can have cabbage, and I can have more greens (vegetables). But the one food I can't have is a dark meat. And I found out that there are changes in the dark meat. I have pains in my arm and found out that it is because of the dark meat. If you eat dark meat it does something to the blood and something to the body, it makes you get to sick. But if you cut it out and only eat the breast, a lot of people don't like the breast, you only eat the breast, you feel much more healthier and it makes you much more alert.

For some of the participants, merely cutting down on simple carbohydrates was a good start toward creating a healthy self-management habit. Participant 05, for instance, described her dietary change experience this way:

Well, I have also cut down on a lot of the bread, and other carbohydrates such a potatoes, rice and other white starchy foods, and don't eat a lot of sweet stuff at one time, you can keep the Type 2 diabetes in check. I have started eating mainly fish and the other good foods recommended for diabetics. I try to eat the right things like for instance for breakfast I will eat oatmeal without all the apple sauce, and don't eat a whole lot of the foods I used to eat such as the potatoes and the grits and stuff like that.

Participant 01 expressed much discomfort with starchy foods, especially when eaten in the evenings. She expressed her experience with dietary change this way:

I have cut out some of the starch. I like eating starchy foods, and especially in the evenings if I go in for the carbohydrates, I experience a lot of discomfort. And when I realized that and I started cutting back on these simple carbohydrate foods, I have experienced and I have seen some good changes in my health.

Participant 07 also stressed cutting down on carbohydrates and other starchy foods, but went further to emphasize portion control and the addition of vegetables in his diet. He described his experience:

I have cut out starchy foods. I used to eat mostly starchy foods before I was diagnosed with Type 2 diabetes, but since then I have cut out most of the starchy foods. I have also cut out any food with sugar in it. I have also cut down on the portions I eat since most foods have sugar in them. I eat certain foods only once a week and even when I eat them, I make sure I practice portion control. I have also added vegetables. Now I eat a lot of vegetables. I used to not eat vegetables that much, but when I found out I needed to eat vegetables. I don't eat vegetables all the time, but I eat enough vegetables.

For some participants, the theme of their experiences with dietary changes did not always center on what changes they have made in their eating habits, but emphasized what will have happened if they had not made these dietary changes. Participant 04 attributed her changed diet for making her feel good. She described the feeling this way:

I will say I probably would have gotten bigger and obese or something, but I am able to maintain a certain weight because of the way I eat, I am able to maintain

that weight also because of exercise, I am able to not crave for stuff that is not healthy for the body. And I have been able to pretty much maintain the size that I am, and it makes me feel good health-wise versus when I didn't have ... when I was not doing anything with my diet because when I wasn't trying to check or be mindful of what I ate and stuff like that, some of the food I ate will make me sicker, and I did not know why. Well, as long as I eat like I am supposed to, and exercise, my A1c comes down.

Some participants emphasized that they needed help with what to eat, and adopted certain diets that were supposed to be helpful in better managing their Type 2 diabetes. Participant 12 described her experience with dietary change:

The recipes teach something similar to the various diets, I found out it is in the stomach, it is how much you eat of it. I know I can't drink too much soda and juices. I have to lower down my drinking level. And from there I found out that these diets don't clash each other. I just have to modify the food I eat and that is how it came down. I lost so much weight since I modified what I can't have to what I can have.

Participant 03 had a very long discussion about her experiences with dietary change. Her description of her experiences with the phenomenon of dietary change touched on challenges she is having, as well as her knowledge of Type 2 diabetes. She recognized the seriousness of the disease if it can be well controlled by doing the right things, such as eating the right kinds of food.

So I like bread, a lot of bread, rice which you know is my main source of carbohydrates, looking at where I originally come from. Rice, and a lot of corn products is what we eat, but the rice is what is more dangerous because it has less fiber, it doesn't have a lot of fiber, and it easily raises the blood sugar and all that, so I think I have cut down on eating rice. If I have to eat rice, I try to eat the brown rice, although sometimes I am not compliant with it. It's hard because if you are used to eating a certain way all your life, and suddenly you have to change, it's not easy, but you want the best and you want to be able to live longer, and also be able to overcome the Type 2 diabetes. You know there are so many complications having diabetes can lead to. You know heart attack and all that, so you want to make sure that your blood sugar stays within normal limits. So I believe that cutting down on rice especially, and also bread, white bread is very important. Also not drinking sodas. I don't drink soda like I used to. It is not something that I drink, but once in a while, just take a glass or so, but I think not even trying it at all is better. It only makes the situation worse, and then you know staying away from simple carbs. It's basically carbohydrates, trying to cut down on the carbohydrates. I have shifted to eating more vegetables and proteins in order to be able to sustain the blood sugar.

Theme 4: Experience with physical activity alone. Physical activity is a very important self-management component of self-efficacy and behavior change for Type 2 diabetes participants, and most participants had a good deal to say about this theme. Participant discussions were solicited in response to questions that reflected the research

questions for the study. Most participants discussed the adoption of physical activity as a necessary and important component of their self-management of Type 2 diabetes.

Discussions also highlighted difficulties in acquiring this behavior as well as the various forms of physical activity each participant felt they were comfortable doing.

Participant 10 described feeling weak and going from weakness to having energy when she engages in physical activity. She also sought the help of a personal trainer when initiating exercises. She described her experience with physical activity:

When I did not know that I had the diabetes, I was experiencing weakness, but when I started exercising, I had this energy. You know, sometimes you feel kind of weak, especially when you finish eating and kind of sit down not doing anything. So, when I started doing the exercise, I saw that I was having this energy which was helping me. I registered with a gym and I had a trainer, so she was helping me to learn how to use the machines, like I was getting on the treadmill, and some other stuff, I don't know their names, but I will use my legs and hands to exercise in order to burn some fat. I also walked. Yea anytime I finished eating I try to walk for about maybe 20 or 30 minutes around the neighborhood where I live, so I can burn some of the fat. I also have a stable bike at home that I use from time to time. I sit on it and just paddle, and I am able to burn some calories.

Physical activity did not come naturally to some participants and even with Type 2 diagnosis, they struggled to incorporate this activity into their lifestyles. Participant 12 explained her struggles with physical activity this way:

Doing exercises helps a lot. Because back then I really didn't think about exercising. I kept saying in my mind that I have to do it I have to do it but I keep putting it off because I have other things that get in the way. But when I started getting sick and getting weaker, I said something is wrong and I have to find out what it is. I kept searching in my mind to find out what was making me weak, I pulled here and pulled there until I found out that I have to move, I have to get out. When I was up north I would be walking everywhere. I would be going downtown, uptown even over to another part of town. I just started to walk. But now I have gotten really, really sick, I didn't know it was my kidneys, I can't do it anymore. I tried to walk one time, and I wanted to move and I couldn't get from my dialysis to another place, I couldn't even do it. I couldn't walk anymore. I said no this is too bad. If you can't make it from here to another place about four blocks, I can't do it.

Participant 01 expressed that because the addition of physical activity to her daily routine makes her feel light, she has tried to either walk or exercise around the house as often as she can, except when she is feeling sick. She described her dedication to physical activity:

Yes it makes me feel light when I add physical activity to my lifestyle, if I am not feeling sick. Yea, and I am okay with going out to walk, and also to have some exercises around the house. I feel light so that, and I notice that my sugar levels too are a bit stabilized. You see, at first my sugar was going up and shooting up and down and I don't know what to do, but if I concentrate on what to do like

exercising and having a good diet, I know that the blood sugar will stabilize a bit for me. So I have seen positive changes. Yea, anytime I become sluggish and I become lazy and leave out the exercise and eat what I have to eat, which is anything that I get hold off I eat, I see the difference. So I know that I should continue with my diet and the exercise.

Participant 03 raised many issues when discussing how physical activity has affected her. She was very knowledgeable and articulate when she discussed the benefits of physical activity in her life, such as having more energy, weight loss, and achieving blood-sugar control, all from exercising. She detailed her experiences with the addition of physical activity to her lifestyle:

With the incorporation of physical activity, you don't get tired easily, you have more energy, it's also good for your joints. Like I said, you know, the more weight you gain the more your joints or your knees are affected. So having or incorporating physical activity into your life helps in that regard. There is proven evidence that when you exercise and eat well, your blood sugar is well controlled. The physical activity I engage in is walk. I go for walks, I have a group that I exercise with. It's called a boot camp which I go to. I don't go as much as I used to but at least if I am not able to go, I do walk in my neighborhood and, at least daily I try to do 30-minute walk. Exercising affects your weight, and you see it on the scale when you weigh yourself.

Participant 05 opined that leading an already active lifestyle has helped him develop the habit of being physically active after his Type 2 diabetes diagnosis. He also described his knowledge of the link between exercise, weight loss, and blood-sugar (A1c) reduction. He noted that:

I am kind of active anyway, so like I said I am active in the yard. If I am not hurting in my feet, then I am out walking, so as to keep my weight down. So I do see some changes to my health when I am doing more exercises, and drinking more water and stuff like that. That kind of helped a lot with the management of the Type 2 diabetes disease. The changes I see is that the A1c has come down a little bit.

Participant 11 described her experience with physical activity as giving her more endurance and the ability to want to do more physical activity. She explained,

Physical activity, it just makes your endurance better. It makes you want to strive, want to get up and be with your family, instead of other times when I would just want to go and chill out; now you can go ahead. But when I'm out there kicking a ball or throwing a ball, it gives you more of an increased stability to go out and want to do.

Participant 02 also agrees that physical activity helped with her blood-sugar control:

“ Well, as long as I eat like I am supposed to, and exercise, my A1c comes down. So that's one of the changes that I have seen when you do the diet and exercise.” Participant

04 also confessed to not doing much by way of physical activity when she describes this experience:

Well I am not doing much, because like I said earlier I am not doing much of the exercise like I should, but even then I am not gaining weight, so you know I am not overweight which is a good thing, and I don't have any body aches because I am moving my muscles maybe, I don't know. It might be a factor, and my blood glucose has been a little better than it was before.

Although the majority of the study's participants expressed increasing self-efficacy levels as a result of developing the habit of incorporating physical activity into their daily lifestyles, not all participants have seen positive changes with the little effort they have been making. For Participant 13, having recent surgery has complicated the process for her. She is, however, trying to walk as much as she can. She described her experience as follows:

I have not really seen much changes. The addition of physical activity has not really changed anything much. This is because I have not been able to walk too far or for a long period of time due to the fact that I just had surgery. So I am trying to walk a little bit more to help with my heart as well. I get out and walk around for at least 15 minutes once every day. I think the walking helps with my heart and also with the diabetes.

Participant 09 credited the work she does at a large hotel where she is required to walk everywhere for giving her all the exercise she needs in every day. She says all the

walking she does at work is more than enough physical activity to meet her needs every day. She stated,

I do a lot of stretches, I do my squat and that's pretty much it. I do walk at work because I work at a big hotel so I take the steps instead of taking the elevator and then once I get tired of sitting because my job now is always at the desk, I get up and walk through the hotel. So that's what I do all day, so I don't even after work. When I come home there's really nothing for me to do because I walk the hotel and like I said it's a big hotel, so I just go up a flight of steps, come back down. I go outside, come back down steps so that's what I do.

Some participants expressed feeling good after adding physical activity to their daily routines, while also being specific when they described the addition of physical activity as a lifestyle change as a difficult habit to form. Participant 09 put his experience with feeling good simply:

When I eat right and exercise through my daily walks, I feel very good. I always feel good. So I have maintained the habit of walking daily, and I also walk when I run errands to Wal-Mart and other places.

Participant 06 described the addition of physical activity to her lifestyle as her weak spot. However, she explained that she feels normal and good when she does engage in physical activity. She described the experience this way:

I feel like I'm getting better with the physical activity, but I know it's a weak spot so don't take it for granted. However, I feel normal. That's a good thing because you can tell when you don't feel normal. Your brain isn't right, and you just aren't right. But like I said after adding physical activity, I'm feeling really good.

Some participants expressed their experiences with physical activity by describing what they actually do. Some descriptions detailed working out at a gym or riding their bikes or using their Fit Bit activity trackers to help them walk between 5,000 and 10,000 steps a day. Participant 14 simply said,

Concerning the experience of the impact of physical activity to my lifestyle, I think after I do my 10,000 steps, at my age, I feel tired but I feel in my body that I am fine. With physical activity, I feel that if I don't do it, if I don't walk at least 5,000 steps, I feel out of sorts so I think it's important.

Participant 08 said that in addition to working out at the gym, she also does yoga and Tai Chi. She described her physical activity routine:

I ride my bike from my house all the way to Planet Fitness. Go work out, go lift weights, and then ride my bike back home. I am bike riding, which I wasn't doing that at first, different machines that I'm using now at the gym, that I wasn't using at first. And like I said, and doing my tai chi and yoga, at least 5 times a week.

Participant 15 observed several benefits with the addition of physical activity in her lifestyle. She described the experience as helping her lose weight, maintain appetite, drink more water, and give her more energy. She described the experience this way:

I think being active with physical activity has helped me. It helped me lose weight. It helped me maintain my appetite and it also helped me to be able to recognize that I need water. Cause at first I used to exercise and not drink a lot of water. So once I started drinking a lot of water, I noticed a lot of energy. I try to walk ten thousand steps a day. Because I have one of those things you put on your arm and I constantly walk. And so, when I get up in the morning, before I go to work, I have to get to work at 8 o'clock. I get up at 5 o'clock in the morning, and I go walk around my block, three times. So it is just like a mile and a half. Come home, take a shower, go to work, and I walk all day at work, and then it is evening at about 5:30, I'm going to get up and go walk again. Because of all the energy, I am able to do things. I am able to do things I haven't done in a long time. I just joined a softball team. So that's something I haven't done in years. So now, I'm able to get that energy and say "Okay, I can go ahead and do this." I might not be young as I used to be, but it's okay to go out and move because I feel as long as I'm moving, I'm alive. And the only way I'm going home is when God call me. But if I could prevent me going soon because I have diabetes, then that's what I am going to do.

Theme 5: Seriousness of the diabetes disease. Knowledge about the seriousness of Type 2 diabetes as a disease, and the need to be effective in its self-management to

prevent or delay the disease's progression and possible complications, is a concept all patients with Type 2 diabetes know. Patients with Type 2 diabetes are constantly reminded of the seriousness of this disease and the importance of self-management by their healthcare teams, every time they report for their blood work and quarterly check-ups. Participants who took part in this research study expressed their knowledge that Type 2 diabetes is a chronic disease with no cure yet, and the progression of the disease can result in diabetes complications such as blindness, heart attacks and strokes, or limb amputations. Responses to the research question that developed this theme reflected participants' varied views and experiences that highlighted their perceptions of the seriousness of the Type 2 diabetes disease.

Participant 01 described the seriousness of Type 2 diabetes differently from most of the other participants. Although the others concentrated their discussions on the threat and fear of getting diabetes complications, she describes the day-to-day problems of living with Type 2 diabetes. She asserted that Type 2 diabetes is not an easy disease to have, and described the symptoms and pain of having hypoglycemia (low blood sugar) sometimes, and hyperglycemia (high blood sugar) at other times.

Yea, anytime I become sluggish and I become lazy and leave out the exercise and eat what I have to eat, which is anything that I get hold off I eat, I see the difference. So I know that I should continue with my diet and the exercise. If I don't take the pill, I don't think it will be good for me. I don't think, I know for one, everything I do apart from the exercises and the diet, I have to take my pill every day. That helps to boost the sugar levels to stabilize. So that is the change

that I've seen. I don't want my blood sugar to be spiking up and down like that, going up and up. You feel very bad. If you don't have the experience, I am telling you that I have experienced such feelings. At first I was having hypoglycemia and I didn't know that you will be sweating and all that, you feel weak and all that. It isn't an easy disease or condition to be in at all.

Most participants shared their concerns for family members who could have it, because diabetes is in their genes, whereas others were specific about what it did to other family members they knew. Participant 07 thought Type 2 diabetes is a dangerous disease and can kill a person if they do not take it seriously. Type 2 diabetes runs in his family, and all five of his siblings have the disease. Diabetes is also responsible for the death of his father 17 years ago. He described the seriousness of this disease this way:

It is a dangerous disease because if you don't take control of it, it can kill you. But we the family thought he had diabetes before he passed away. Our father died 17 years ago from Type 2 diabetes. If all 5 of his kids got Type 2 diabetes, then we know that it came from our daddy's side of the family. Yes because my brother got it, then my sisters all got it before I got it, so it gave us that idea that we got the Type 2 diabetes from our father's genes.

Participant 09 stated that:

I have a friend that has Type 2 Diabetes and he's lost limbs. As a matter of fact he just had another surgery about two or three weeks ago and they had to amputate another toe. I have a cousin, he's more like a second dad to me and diabetes has

taken over his body to the point where he has sores at the bottom of his feet that takes months to heal and just to see that stuff is scary. To witness what is going on with both of them, and to know that if I didn't start caring a lot more and pushing myself to do the stuff that I need to do, then I can see myself being in the same situation and mentally I don't think I can deal with that. So I'm not saying that I am a case of suicide, but I would not be mentally able to deal with that, so that to me would be depression. I probably would stop caring and completely go downhill.

Participant 06 also believed she did not want anyone else in her family to get the disease, and described her concerns:

I wouldn't want nobody else to have it. It hit me I don't know why it hit me but it hit me, so I try to take precautions with medications, diet and exercise. I was out walking one day, and the next thing I knew, I had collapsed because my body just shut down. I don't want to have the experience of falling down somewhere, my body shutting down, or blacking out by the side of the road somewhere. It's partly working with what I'm trying to do, and trying to figure out for myself what had happened to me. It's a disease and I don't trust it.

Participant 12 was very worried that her family members would follow in her footsteps because even though she keeps warning them, they have ignored her advice and warnings so far. She described her frustration in the following manner:

I have two nieces and a nephew, and the diabetes is hereditary, and my brother and his wife, they are family, and I see them constantly eat sweets. They can't go without sweets. And they have little kids who are also following their parents. I said boy it is no joke. Because they all do not want to listen to me. My nieces and nephew don't want to hear the advice I am giving them concerning the dangers of Type 2 diabetes and the sugar and sweets they are constantly consuming. Diabetes runs in this family and it is no joke. you don't want to lose your eyes, you definitely don't want to lose your legs because I see that happen where people with diabetes had to go to the foot doctor and I see them lose a leg.

Participant 13 was devastated when she got the Type 2 diabetes disease. She did not want to get Type 2 diabetes because she knew what the disease could do to people. Her father had the disease, so she is quite aware of the seriousness of Type 2 diabetes. She described her feelings this way:

I went crazy when I found out. I did not want the Type 2 diabetes diagnosis because my dad had already had it and he had a lot of problems as a result, so it was a lot to take. It was too much to handle at the time, and it's still too much to handle now. Even after all that I am doing with self-management, I still have problems with my A1c, and my blood sugars are still running a little high, so I really don't know.

Participant 15 shared her personal experiences of seeing Type 2 diabetes take her brother, who died from the disease at the age of 64. She shared that she is going to do everything she can to avoid getting diabetes complications.

My brother died at the age of 64 from Type 2 diabetes. Knowing that he died from this disease has done something for me to be able to begin to move and let me recognize that with the disease I have, in order for me to be able to move around and do the things I need to get done or keep me from, such as going into the hospital, or having my leg amputated. I need to do the right thing and manage this disease well. Be mindful, just be mindful of this disease and don't be afraid to talk about it.

Participant 02 also remembered the toll and devastation of Type 2 diabetes on her family. She has seen the complications one can get from Type 2 in her family members and does not want to ever experience those. She described her experience when she said,

Type 2 diabetes can be very negative. Knowing this keeps me very motivated because my family has diabetes and I have seen several Aunts die with just a torso where you know they did not control their sugars and when they passed away, they only had a torso. They had no legs, no arms, and couldn't see, so that is one of the motivations that keep me going, so that I don't get diabetes complications.

Type 2 diabetes is a very serious disease, and should be treated as such. People should not wait to see complications before realizing it is a serious disease. Participant 04

said that people need to treat Type 2 diabetes as the serious disease it is. She described her experience by saying,

You have to treat diabetes as a serious disease. It is important to incorporate all the self-management. I mean the medicine alone will not eliminate anything, just as the exercises and diet alone will not eliminate everything at one time. You have to do it religiously so to speak. Take your medications as well as add dietary changes and physical activity to your daily routine religiously, and you have to follow through on what your doctor says. That is what I am trying to do because I want to live to be older to see my grand kids, just like my parents did.

To reiterate the point of taking Type 2 diabetes seriously, Participant 14 discussed her awareness of the real possibility of diabetic complications, and the importance of self-management. She put her experiences regarding the seriousness of Type 2 diabetes:

So I need to take better care of myself. As far as shortage of lifespan by diabetes complications, we are all going to die, so I don't like to talk about death although it is inevitable. But as for the complications, I am very much aware of them, and I don't want to be bed-ridden and be a burden to myself, and to my family. So that is one guiding principle that I must at least manage and manage well, so that I can carry on living a good life.

Participant 11, who is also very much aware of how serious a disease Type 2 diabetes can be, offered some advice:

The disease is a serious disease, but my advice is. Know your worth because once you know your worth then you can see that these self-management habits are the things that I need to do. And learn from your body. It is very easy to sit down and eat bags of potato chips. It is very easy to do all of these things. Take the extra time to get to know yourself and prepare things for yourself because you are worth it.

Participant 05 took the importance of those with Type 2 diabetes taking care of themselves a step further when he discussed the possibility of the reversal of Type 2 diabetes:

Diabetes can be dangerous, but there is a chance that a lot of people can reverse their Type 2 diabetes by doing the right things; by eating right and exercising, taking your medications and checking your blood sugar on a regular basis.

Participant 10 explained how she felt about the seriousness of Type 2 diabetes:

I decided to do these things because I thought that they would help me in order to keep the diabetes down or in order not to. ... Because I know that if I didn't take care of myself, or do all those things relating to self-management with diet and exercise, I can die. It can kill you, so I try to do it in order to stay alive or live long.

The fear expressed by Participant 08 related to the notion that she did not want to get to the stage in which, due to disease progression, she is forced to take insulin injections or be classified as a Type 1 diabetic. She described her feelings this way:

Not taking care of this disease could lead to getting Type 1 diabetes also known as insulin dependent diabetes, and hopefully I don't get any complications, you know, it could possibly you know, could be amputations. And yeah, it's very depressing. When I got it, I got very depressed, because nobody wants to be diagnosed with diabetes, with any kind of disease. But diabetes, you know it's like ouch. I still have not told my family that I have been diagnosed with it yet. Yeah, so I don't get any complications, so I pay a lot of attention to the physical activity, and if I see anything you know, it just you know it just alarms me. That's basically it.

Themes Associated With Research Question 2

The second research question for this qualitative study sought to elicit the description of the lived experiences of self-efficacy regarding behavior change with dietary changes and physical activity. The specific research question was, Has self-efficacy, defined as physical activity and dietary changes, affected self-management and overall health of African American individuals with Type 2 diabetes? To be able to elicit the required descriptions of participants' lived experiences, I asked several probing follow-up questions. The concept of self-efficacy was advanced by Bandura (1997) and references a person's ability or capacity to execute behavioral actions needed to produce the needed results. Self-efficacy has been used in several research studies to assess how

confident individuals are in their ability to motivate themselves to develop the behaviors necessary to achieve certain tasks (Carey & Forsyth, 2017).

The ability of study participants to become successful in developing the self-management skills of adding physical activity and dietary changes to their lifestyles and making these changes a habit depends on their self-efficacy behaviors. The degree to which they have developed these behaviors well or are still struggling also impacted these participants. The interview responses from participants revealed that 13 participants showed they are all in various stages of developing these self-efficacy behaviors, and it is still a process for them.

Theme 1: Making lifestyle behavior change. Most study participants realized the need and importance of developing these self-management habits of physical activity and dietary change, and expressed what they are doing every day to make this change happen for them. Participant 10 expressed this experience this way:

Yes, I mean I am trying to make this change, and it was helping. Adding the diet and exercise to my routine is helping. I think most of our diet is starchy foods, so I have tried to cut down on consumption of starchy foods and eat a lot of vegetables. And I already told you about my walking after eating, so it kind of helped.

Participant 01 discussed the importance of developing these habits. She described her commitment to develop these habits:

Changing my lifestyle so that I can be healthy knowing the very fact that this disease if you don't do anything about it, it will be very disastrous. So one needs to take care of his/her lifestyle by having some exercises at least once a week or twice a week, and then changing your diet to suit your lifestyle or whatever. Yes, it's very important.

Participant 03 credited her knowledge of self-efficacy and the importance of developing and being compliant with these lifestyle changes when she described her experience:

Well if you look at diabetes and Type 2 diabetes and the cause of it, which usually we are told that it is due to certain lifestyle factors, it means that changing diet and adding exercise is the best way to tackle Type 2 diabetes by increasing physical activity and making sure that you are taking the right diet.

Some participants, in contrast, discussed their experiences in trying to make lifestyle change a habit by describing specific lifestyle-change activities they do daily.

Participant 05 described her experience:

I am trying to do a whole lot, like drinking lots of water and doing exercises. Stuff like that. These activities get me out of the house a lot. I have also changed my diet. I eat a lot of fruits now, and vegetables and stuff like that, and pretty much eat healthier mainly. I do not eat a whole lot of red meat, and I try to eat more chicken and fish, and not eat any sweets. I cut back on sweets and that helped a lot.

Developing any lifestyle habits is difficult and takes determination and focus to be able to make the habit last. Some participants were honest about the idea that they were having a difficult time trying to develop these habits, and they expressed their feelings about making these lifestyle modification habits persist. Participant 13 stated that, for her, it was very difficult to develop these habits:

I have been trying to change my diet and trying to walk a little bit, but nothing seems to work. I cannot figure out exactly what foods to eat, and I have tried to walk but I cannot walk too far, so I need a little bit of help I guess, with everything.

Participant 02 described her experience this way:

It's hard. Especially if you have to work an 8-hour shift. Exercise is even worse because by the time I leave work, I don't feel like doing nothing. The diet, hmm, it goes and comes. You stick with it for a while and then fall off the bandwagon, and then get back on, so it's a process. You just have to put your mind to it and stick to it.

Participant 04 also discussed her difficulty with the process of developing these lifestyle changes. She described her experience:

As far as changing the diet, it was difficult, but then again when I tried it, I acquired so much taste for certain things that have come to stay right now and I won't trade it in for any other lifestyle of how I ate. And as far as the physical

activities, I am still working hard on it because of my work schedule, I can't really do much like signing up with a gym, and having a special trainer, but you know, a big part of what I do during the day involves much activity. And so I will walk, and also try to use the tread mill as and when I can.

For Participant 09, the difficulty in developing Type 2 diabetes self-management habits was her inability to afford to buy the healthy foods she needed to become healthy. She described her experience with buying healthy food as being "expensive for her," saying it is a process:

It is very helpful but the thing about it that is a problem when it comes to changing or eating better most foods that are healthy for you are more expensive than the cheap foods that are not healthy for you. So I do like stretches and bends when I wake up in the morning, I do squats when I'm in the shower. So I do stuff to help out, so my legs and stuff will get little stronger so I can, you know do more physical activity but you know it's still a process.

For Participant 11, the difficulty was that she needed the motivation to get up and do something to prepare healthy foods and exercise. She described her struggles directly:

I think that is something that is 100% needed especially with me. But the problem that comes in and it is not even a problem, it's just getting up and doing it. I think if I had some type of buddy team or something or an accountability person that is saying "come on let's piggyback off each other.

Type 2 diabetes patients who do not find the self-efficacy abilities to develop these habits will have to live with the consequences of the progression of the disease. Some participants were worried about what would happen if they did not develop these lifestyle-change habits. Participant 07 discussed this experience from the viewpoint of the consequences of not acting to develop these lifestyle-change habits before delving into specific actions he has taken. He described his experience like this:

The first thing that came to my mind was if you don't take control of that disease, it can kill you. But I don't want to die right now. I want to be able to grow old and take care of my kids and grandkids before I go. I changed my diet, and I exercise. But you know that sometimes it is easier for me to walk to Wal-Mart and other places close to my house than take a car. I usually walk to places I need to go and back, so to me it's like exercising. As far as my diet is concerned, I don't eat anything after 8pm in the evening. I just eat crackers and drink water at night, and as for sugary foods, I eat very little sugar if any, and sometimes I leave the sugar alone. I do walk 4 or 5 times a week.

Although some participants expressed that the problem of developing these lifestyle-change habits was with the physical activity, some stated that their problem was with learning how to prepare and eat healthy foods. Participant 15 described her difficulty:

Well, I don't mind changing my diet because it's a good thing. It is not a bad thing. What I had a problem was trying to learn how to eat the right thing. That

was my problem. Because I have always been the type of person, like the white potatoes and the white rice and fried food. So now, I'm trying to incorporate baked food into my food, eating fruits and vegetables. But then I learned that doing a little bit of exercise, a little bit of walking and changing, just changing a little bit of my food intake and eating the right things, I have noticed that sometimes when I come in here, when they check my A1c, they're like, "Wait a minute. You're doing good."

Participant 06 realized that habit change is difficult, but stressed that because it is important to develop the physical-activity and dietary-change lifestyle, she was ready to "fight" and motivate herself to keep trying. She has this to say about her experience:

It was very important, it was very important and like you say I'm gradually doing stuff on my own because I do get up and walk I did this on my own. I guess I'm trying to fight this thing myself because I didn't take no classes for it. Yeah. I get up every other day I don't do it every day. Every other day I know I need to get up and motivate myself. The diet portion? I don't have a diet but I know certain stuff that I did eat, I don't mess with it anymore.

Participant 08 had already started developing habits to incorporate physical activity and healthy eating into her lifestyle prior to contracting Type 2 diabetes, so she has continued doing the activities she was doing before the Type 2 diagnosis. She expressed her experience this way:

Prior to being diagnosed, know I will go to the gym, I do work out in the yard, I cut the grass. And I had cut back before I got diagnosed. I had cut back on food, because I was in the process of trying to lose weight so I had cut back on a lot of my carbs. I don't drink any sodas maybe every blue moon, but I never really been a soda drinker anyway. So, eating a lot of green vegetables, I had started doing that prior to even being diagnosed with the diabetes.

Theme 2: Challenges with self-management. As part of the Type 2 diabetes-management protocol, primary care doctors must put patients on a daily medication regimen as well as a self-management protocol that includes regular blood-sugar checks, foot checks, and eye check-ups. However, the major emphasis by medical doctors to patients regarding self-management is the addition of physical activity and dietary changes to their lifestyles. This is because research has clearly established the importance of the addition of diet and physical activity to the overall health of people with Type 2 diabetes. Study participants discussed their knowledge of the importance of these self-management behaviors as they relate to the management of their Type 2 diabetes, and to their overall health. They also discussed the specific challenges they have faced in trying to adopt these lifestyle changes. For some participants, their challenges are that they want to eat the type of foods they know are not good for them to eat. Participant 10 described her experience:

Some of the challenges are that there are some foods you are not supposed to eat, but the challenge is the feeling that you want to taste a little bit of that food. My challenge is that sometimes or once in a while, I will eat foods that I am not

supposed to eat. I have challenges in keeping to my diet sometimes, not all the time. Regarding challenges on the physical activity side of things, sometimes too, it's not all the time that I feel like I want to walk. I also have chronic pain, so when the weather is really bad, I don't want to go outside.

Participant 01, however, discussed her challenges with eating the wrong foods as being motivated by the cravings she has constantly. She described her challenges as craving different forms of carbohydrates:

Then the diet too as I was taking most of the carbohydrates from it, I sort of felt some cravings, yes. I sort of felt some cravings, so it was a bit challenging for me from the beginning. So I was craving carbohydrates. Yea, yea, things like bread, white bread, rice and yams and other starchy stuff. Yea starchy foods, and then sugar especially. And after you've eaten some food, you say let me eat some sweet after meals, so you go for a cookie or something. Those things I know now that they add to the simple carbohydrates group and help raise the sugar. So I haven't gotten over the cravings completely, but I have tried, I have done some things that have gone a long way.

Participant 03 described her challenges as being multifaceted. She acknowledged that changing the way she has eaten all this time was difficult. Coming home after a hard day's work to cook healthy meals when she is tired is also a challenge, and the motivation needed to get up and exercise is also a challenge. According to her, being a

full-time mother with younger children also makes these changes challenging. She gave a detailed description of her challenges:

Definitely, like I said, the first challenge I talked about earlier is the fact that you are used to eating a certain way, and all of a sudden you have to change the way you eat. It is not an easy thing to do, to make these dietary changes because eating a certain way is what you have become used to doing all your life. So making the changes is difficult, and also when you work in a certain profession and you are always busy with work, coming home and preparing the healthy meals that you need to eat is also something that is challenging because you are always tired, you are on the run, you are working, so you buy whatever you can get, and then you just grab it because you are hungry and you need to eat. Another thing too is that with the exercise, it's not easy to even get up and say I am going to walk, or run, or do some physical activity because like I said, you go to work and you are tired, you have worked a 12 hour shift and we have only 24 hours in the day and you work 12 hours, and of the remaining 12 hours you have not slept so out of that 12 hours you sleep for 8 hours, and what is left. ... You are a wife a mother, you are taking care of kids, you are cooking, so your life is busy, you either have to cut short your sleep time, and deprive your family some time together in order to be able to exercise. You know, it's something that I battle with every day. And especially if you have younger kids, it's hard.

For Participant 05, his main challenges were the pain he felt when he did certain types of exercise, his addiction to sweets and sugary foods, and the problem of overeating.

He discussed his experiences:

The main challenge for me like I said was the pain when it comes to exercise. On the diet side, the challenges were that I still wanted to eat the sweets, but I had to try and cut back on desserts, cakes, and other sweet foods. So that was some of the challenges that came against me, and also the problem of overeating, so I tried to do portion control with my foods, so that I don't eat a whole lot of food. At family gatherings and outings there is a lot of food, a lot of the sweet stuff, but I can only look at these foods but not be tempted to eat any of it.

Participant 11 was of the opinion that her main challenge is herself. She also discussed another challenge as placing her children's needs above her own. She thought she was the main reason she was having challenges making these lifestyle changes because she was not motivated enough to put in the effort to make these changes last. She described her frustration with lifestyle change:

Well some of the challenges are personal, and the major challenge is myself. Because sometimes I get into a sedentary place where I just don't want to do anything. So the challenge is keeping myself motivated, because you can get things started, getting started is easy; you know, I want to do this, I want to do that. And then you do things for, I will give it a month, and then you're back to doing the old things. Another challenge that I see is, I have a family of three, what

my kids need, that is where I go. I work towards their needs and I put myself last. So that is a challenge that I would say you know should I go over here and buy all these fresh vegetables or should I go and buy him some new tennis shoes. I'm going to buy new tennis shoes and then I will go and get some canned stuff that is okay but it is not really what I want and what I need.

Participant 13 simply described her challenges as, "With my physical activity and exercise, the challenge is being able to just get out of the house to exercise. Finding the right foods to eat all the time is also a challenge." For Participant 09, the challenge was not with the addition of physical activity per se, but with the temptation to eat the wrong foods. This what she had to say in describing the experience:

The challenges would be just trying to stay focused, you know like you have this temptation. I wanted some pizza last night and was so tempted to order some while my husband was asleep. He wouldn't even know that I had it but I said no let me go get something else in the fridge. So pretty much, it's more so temptation of foods that I love that aren't good for me that I still have a problem with. But the physical activity really is not a challenge because it's something that I start enjoying anyway but it's more so the food, the temptation is a problem, that's challenging.

Participant 07 detailed a list of his challenges in making these lifestyle-modification changes. He listed laziness and that engaging in exercise is not easy. He also

cited portion control, a love for starchy foods, and sodas as major challenges. He described his experiences:

The challenges are that exercising is not all that easy. You have to make up your mind to exercise or go for those walks because sometimes you feel lazy to do it. But if you don't make time to do your exercises maintaining and controlling the disease will be hard for you, so you do it. Then also it is difficult to cut down on the foods you love, but you have to cut down on these foods you love. I was born and raised on eating starchy foods, so making changes was not easy. Not drinking sodas is also difficult. I love sprite, but I only drink half of a sprite can and add water to the rest to dilute the sugar. So you know, all the stuff you love have to change, which is a challenge.

Self-management, especially when it relates to eating healthy foods, can be especially challenging when someone with Type 2 diabetes travels away from home, even if they are compliant with their dietary changes. Participant 04 found it quite challenging to stay focused on eating right when she travels away from her home. She also struggled to exercise when on the road. She described her experience:

The challenges I would say are ... like if I have to be away from home, sometimes it is hard to find the right stuff to eat. Unless you carry all your stuff, I mean your prepared meals. But sometimes, depending on where you are going, it gets so hard for me to be able to do that, and so it is whether you are going to starve yourself, or you are going to eat what you can find, when you cannot find

the right stuff to eat. I have to make do with what I find sometimes, and depending on where I am, I can barely do any exercise you know, and the seasons and the times make it so difficult (to eat the right foods, or to exercise). So those are some of the challenges. Every once in a while, when I attend more social gatherings and stuff, I am tempted to be like everybody else, and so cutting back on some of these wrong foods just helps me to be able to face that challenge.

Participant 15 said she likes her coffee in the morning, but stated that it was a challenge not to have sugar in her coffee anymore. Her major craving was for sugar.

It's hard. Because of cravings for sugar. You know I like my coffee in the morning. I like sugar in my coffee. So to learn how to either drink it black or put Stevia in it or Splenda in it is difficult because it doesn't taste the same. That's the hardest thing I had to do is to leave white sugar alone. And to find that for me to enjoy something that I like, I have learned it's okay to have that cup of coffee with no sugar. And another thing I have found that was hard for me to really let go, I always like to eat frosted flake cereal. So now, it's like I can't have it anymore because it had the sugar in it.

Participant 14 stated that her challenge with self-management with diet and exercise was that doing them became boring and monotonous. Because of boredom, she is tempted to indulge in food and drink that she knows are not good for her. She described her experience:

Sometimes the food gets boring. All you eat is leaves and vegetables and all the healthy foods. Sometimes you want to bite into a good steak, and sometimes you want to binge as well as have a couple of bottles of beers or something. But it is always at the back of your mind to eat healthy foods and exercise. I might lapse sometimes and take a bottle of beer or two bottles of beer with my nephew, but it is always at the back of my mind that this cannot be very good for the management of my diabetes condition. But there are challenges, especially when you go out, you are really restricted in your choice of foods to eat. On the physical activity side, exercise takes a lot of good will. My daughter-in-law used to take me to the YMCA in New Jersey, and even though it was not a long drive, the challenge was in being motivated enough to get ready, put on your sneakers and go. The exercise itself is tough, and I have to really concentrate and say that I need to be able to do at least 5,000 steps, and will not sit down until I do.

Participant 06 also stated that her challenge with lifestyle modification was that she was bored eating the right foods and exercising. She added that she had cravings for certain foods and beer. She articulated the following:

My challenge is being bored with exercise and eating right, that's one thing. I could be at work in a clinic probably helping somebody to walk around. I don't want to pass out while I'm trying to help somebody, and they now have to try to help me when I'm supposed to be helping them. I'm crave foods such as pork chops all the time you know, but I know how to eat just a little bit. Just eat a little bit of it. I also had to curtail my social life too. I used to drink beer all the time so

I had to stop that. I drink wine sometimes, not no cheap wines, I like the nice wines. So I just have to do what I got to do.

For Participant 08, in contrast, her challenge was to stay conscious of what she eats so as to choose the right foods instead of the wrong ones. She described her experience:

The challenges are being conscious of what I eat, you know carbohydrates are everywhere on TV, and when you go out with family and friends so, you know I am working really hard not to make the wrong decisions and just gorge on the simple carbohydrates.

Participant 12 thought her challenges in making physical activity and dietary changes made her depressed. She described her experience this way:

The challenges come and go, as well as goes up and down. The ability to stay compliant will up one moment and down another. It makes me depressed. Like I said it's depression. It makes my moods go up and down.

Participant 02 also expressed the feeling of being depressed when she discussed her self-management issues. She listed taking medications daily, concern about eating healthy while at work or out, having to address the emotional challenges that come with it, craving sugars, and being too tired to exercise as challenges she has to address every day. She described the experience this way:

So it's kind of depressing at times knowing that you have to take medication on a daily basis, or even inject medication to help control the diabetes. So I guess that's one of the biggest challenges having to deal with it emotionally. The food is always going to be a challenge, because even with being here at work and getting food catered, it's kind of hard to eat healthy all the time, so that's why one of the biggest challenges I have had is where I have to find foods that I can eat, and go back to the craving or the sugars. Because once you get into the cravings and the sugars, your body wants more and more. So that's one of the biggest challenges I have. When we go out to eat is when I face the biggest challenge, because you don't know what foods to pick. Everything has sugar in it, so just the diet alone is one of my biggest challenges. The challenge is leaving work and going home and being motivated to exercise, even to walk. Especially during the winter time. It's like you don't want to go out and walk because it's too cold. So I get excited when summer comes around, because then I walk at least 3 to 4 times a week. So one of the challenges is that either it's cold or it's too hot to exercise.

Theme 3: Consequences of stopping lifestyle change. Patients with Type 2 diabetes have been told by their healthcare providers that they would have consequences if not taking better care of themselves through effective self-management of their disease. Effective self-management is achieved by being compliant with diabetes medication, as well as engaging in daily physical activity and dietary change. Participants involved with this research study, in response to the interview questions, discussed their understanding of the importance of self-management, as well as the need to develop the self-efficacious

behaviors that would ensure these lifestyle-change behaviors become a daily habit. Most participants fear developing Type 2 diabetes complications such as limb amputations, blindness, heart attacks and strokes, and being an invalid who has to depend on relatives for their everyday needs, as the consequence of not taking care of themselves by effectively managing their Type 2 diabetes. Fear of Type 2 diabetic complications or death was on the minds of the participants, and it was obvious the subject was uncomfortable for participants to discuss at length. Most of them gave cryptic and succinct responses. Some participants did not want to further discuss the issue of consequences.

Participant 10 stressed that all patients with Type 2 diabetes are aware of the foods that are not good for them to eat, so if they go ahead and consume those foods on a regular basis, then they must be ready for the consequences. She described her point of view this way:

Yes I know what the consequences will be if I don't stay focused. There are things we are not supposed to eat as diabetics. As diabetics, we are not supposed to eat foods like white bread and such, but sometimes due to stubbornness, you want to try a little bit of the foods that are not good for you. You want to try maybe a little bit of some cooked and seasoned rice. But you know how your body is going to feel when you eat that food. You will not like the way your body will feel or will react to eating the wrong foods.

Participant 12 discussed consequences of not taking self-management seriously, comparing her health was when she was first diagnosed with Type 2 diabetes and before she started self-managing with diet and exercise to her health and progress now. She said,

My health will go right back to where it was before. I mean if I stopped these lifestyle modification changes, I will be where I began with the Type 2 diabetes, where my health suffered. My health will get maybe two or five times much worse. It will get worse and you will say, man, what did I do?

Participant 01 described the consequences of stopping lifestyle change with physical activity and dietary changes as “disastrous.” She stated, “I for one I think it would be disastrous for me. My health will go down. I can’t I speak for everybody, but my personal experiences have shown that I can’t stop the exercises and eat and eating healthy.”

Participant 03 said her health would deteriorate if she did not give self-management with diet and exercise the importance it deserves. She was quite succinct when she stated,

It would be bad. I mean my health will deteriorate. One, the sugar will keep rising, the blood sugar will keep rising, and then you will be prone to heart attacks, heart diseases, you know. You know, just having that diagnosis of Type 2 diabetes should be something that tells you that hey you need to sit up and pay attention. Because if you don’t, it’s going to lead to further complications.

Participant 11 described the consequences of not actively engaging in physical activity and dietary change as a lifelong process as a downward spiral in her health. She described the experience as, “If I don’t take my diet and exercise regimen seriously, my health would just be a downhill spiral, as far as my blood sugar, my blood pressure, and everything. It would just be terrible.”

Participant 13 was of the opinion that stopping her lifestyle-change efforts would result in her health deteriorating. She described her feelings:

If I stopped these lifestyle change behaviors, my health will go down, just go down, keep going down. So I think if I stopped doing these things and taking my medication, my health will just go down and will not be any good.

Participant 09 strongly stated that leaving herself open to the possibility of the consequences that could lead to Type 2 diabetes complications was simply not an option for her. She provided one of the more lengthy reasons given by all participants, explaining,

It’s not an option at this point because like I said it’s too many people around me that’s close that I see the effects of diabetes on them and I don’t want to be like that. I don’t want to be with sores on my body or them having to cut on me, I’m so against surgery right now so I can’t do that. Mentally that’s not going to, that’s not good for me mentally, and for me to stay sane let me continue doing what I’m supposed to be doing.

Participant 04 also touched on the notion that she will not allow herself to suffer the consequences of diabetes complications by stopping the self-management strategies she has adopted. She also reiterated that stopping is not an option. She stated that if she stopped, she would get sicker, and described the feeling as “falling off a cliff.” She also added,

I think I am going to get sicker if I stopped these lifestyle modification behaviors because whenever I go off track, I feel a little bit like falling off a cliff. You know, you are almost there, so that is not ... to me, I don't see that as an option because to me it's almost like I have a goal. And so I am always trying to reach that goal instead of regressing.

Participant 02 stated she would not even consider the possibility of stopping her self-management efforts, and described the consequences of doing that as a “negative thing.” She stated,

My sugars will be all out of control, I would probably gain all my weight back, and have more health issues if I was to stop with the diet and exercise, and watching what I am eating. It would be a negative thing.

For Participant 07, the fact that he has a family to live for makes it important that he does not stop his diabetes self-management or allow the consequences that can follow if he is noncompliant with his dietary changes and physical activity. He stressed the fact that

Stopping these lifestyle modification behaviors can result in death from diabetes complications. You see, I have a family, and I have to take care of my family. If I don't use diet and exercise to control my diabetes, I am going to be a burden to my wife and kids, and being dead will not help anyone.

Participant 15 was more worried about having to be hospitalized as a consequence of not being serious in her Type 2 diabetes self-management. She remembered that before her Type 2 diabetes diagnosis, she was sick much of the time but did not know why she was getting sick all the time. She stated that she did not want to get back to that time as a result of failing to focus on her Type 2 diabetes self-management. She described the feeling:

It would be like I was, before I started having Type 2 diabetes. Before I got diagnosed. Before I knew I had diabetes, I was sick a lot. And I couldn't understand why. And I did not know if it was because of the things that I was putting in my body or eating. And I was constantly tired and obese. Because honestly, I really don't want to be laid up in the hospital or getting my feet chopped off or having no oxygen. I wouldn't know what to do if I got to that stage. All because I did not follow directions of knowing that I have diabetes and I was not doing the right thing.

Participant 14 stated that the consequence of noncompliance in her diabetes self-management would make her degenerate into something she would not like. She described her thoughts:

I think I would degenerate into something else. I think so. I think about all the scary things they talk about if you don't do these self-management behaviors. If I stop doing any of these exercises and dietary changes, seriously I think the impact on me would be bad. I have it at the back of my mind that I need to do it. But as for the complications, I am very much aware of them, and I don't want to be bed-ridden and be a burden to myself, and to my family.

Participant 06 remembered the experience too well and recounted a period of time when she was found on the side of the road because she had fainted from a side effect of Type 2 diabetes. She described her experience:

You know I'd be back where I was in the hospital somewhere, or laying on the side of the road somewhere. Because my momma told me that I was found on the ground because I had fallen somewhere but I don't remember it. It was a good thing I didn't remember some of those things. Yeah, I just shut down. I don't want to have the experience of falling down somewhere, my body shutting down, or blacking out by the side of the road somewhere.

The concern Participant 08 expressed as a consequence of stopping her Type 2 diabetes self-management with dietary changes and physical activity was that she could become an insulin-dependent Type 1 diabetic. She stated,

Well, if I stopped, I would probably move to Type 1. Yeah. I believe if I stopped those changes that I have made I know without a doubt my condition would

worsen. Well, it would worsen to Type 1, and hopefully I don't get any complications, you know, it could possibly you know, could be amputations.

Theme 4: Discussion about death. Chronic diseases such as Type 2 diabetes, like most other chronic diseases, has been classified as incurable. As a result, people who have been diagnosed with Type 2 diabetes have no choice but to live with the disease until they die. Huizen (2017) reported that people diagnosed with Type 2 diabetes have a shorter lifespan by an average of 10 years than their nondiabetic counterparts. The threat of Type 2 diabetes complications, which can cause untimely death, is a reality for people living with Type 2 diabetes. Thus, it seemed that the possibility of death due to poor self-management of their Type 2 diabetes was on the minds of participants interviewed for this study. The theme of dying if they do not keep up with effective self-management of their disease came up, even though I asked no direct questions about death. Participants seemed reluctant to discuss the issue of death, even though they raised the topic.

Participant 10 was convinced that if she did not keep up with self-management of physical activity and make appropriate dietary changes, she could die early. She described her thoughts:

I think I will die. Because the reason why I am saying that is, is that sometimes you think let me try eating the foods I am craving, but know are not good for me. However, you can see that if you don't stay away from those foods, you will die early than your time, so that is what I can tell you.

Participant 03 stressed that diabetes complications would be bad for her. She echoed the fear of dying when she said,

I can die, and I have also seen people with diabetes end up with ulcers leading to amputations, heart and eye problems. It would be bad for me if I should have these complications. One, the sugar will keep rising, the blood sugar will keep rising, and then I will be prone to heart attacks, heart diseases, you know. I can die.

Participant 05 feared that his life would be cut short if he did not engage in proper self-management:

I think if I stopped these lifestyle modification behaviors it will cut down my life, as far as life expectancy is concerned. If you don't eat right and put the right stuff in your body, I think you will probably end up dying.

Participant 11 put it succinctly when she described the experience when she said, "In a nutshell I think I would die. I think I would die. Because with my condition, I wouldn't want to do anything and I would just basically sit down and I would literally kill myself." Participant 09 also stressed the theme of dying. Seeing a friend lose limbs convinced her that she could be next if she did not take her diabetes self-management seriously. She stated,

I would probably die. I know I would. Because I have a friend that has Type 2 Diabetes and he's lost limbs. As a matter of fact he just had another surgery about two or three weeks ago and he had to amputate another toe.

Participant 07 discussed the fact that if he had diabetes complications, it would lead to death in the end. He explained the feeling this way:

I can get a stroke, kidney failure, or it can kill you in the end. If I don't use diet and exercise to control my diabetes, I am going to be a burden to my wife and kids, and being dead will not help anyone.

Participant 12 simply stated, "Yes and you will end up in the hospital or in the grave." Participant 04 also thought that not taking care of herself through effective self-management would lead to early death. She said, "So I think that if I am not able to do any of these things by keeping up with the dietary changes and physical activity, I would probably die because that is how I feel."

Participant 02 stated she had seen the devastation of diabetic complications first hand and the deaths of relatives from Type 2 diabetes complications. She described the experience:

I have seen several aunts die with just a torso where you know they did not control their sugars and when they passed away, they only had a torso. They had no legs, no arms, and couldn't see, so that one of the motivations that keep me going.

Participant 06 described her fear of dying when she described her feelings about the subject. She stressed her fear of passing out and dying:

You know, I'd be back down on the ground. I might pass out again somewhere, and maybe I won't come out of the blackout this time, I don't think I will. I don't want to talk about death, so let's not talk about that. I'm too young for that and talk of death scares me.

Participant 14, finally, discussed the inevitability of death from Type 2 diabetes when she said, "As far as shortage of lifespan by diabetes complications, we are all going to die, so I don't like to talk about death although it is inevitable."

Themes Associated With Research Question 3

The third research question for this qualitative study sought to elicit the description of the lived experiences of African American participants with Type 2 diabetes regarding any perceived improvement in health due to the addition of physical activity and dietary changes as an integral part of their self-management. The specific research question was, self-efficacy regarding behavior change with dietary changes and physical activity. The specific research question was: "What has the experience of self-management of African Americans with Type 2 diabetes changed in their overall health?"

Theme 1: Effects on weight reduction/control. Patients with Type 2 diabetes tend to gain weight and are often obese. The medications these patients take also makes it difficult to lose weight. Therefore, healthcare providers often encourage weight loss as a necessary tool to help patients with Type 2 diabetes better manage their disease. Of the participants who took part in the study, 13 expressed their experiences with weight loss

due to the addition of physical activity and making dietary changes to their lifestyles.

Participant 02 presented that one benefit of self-management for her was weight loss. She described her experience:

One of the benefits of dietary change and physical activity was losing the weight, and trying to control the diabetes. I mean, I notice that when I was walking, my weight and was very controlled, so that was one motivation to try to do the diet, and also try to do some type of exercise on a daily basis.

Participant 03 provided a lengthy explanation of her experiences with dietary changes and physical activity in regard to weight loss:

Being diagnosed with Type 2 diabetes makes it even more important for you to exercise because you know that is the only way, because you know with the Type 2 diabetes and the weight gained as you grow older and then with diet and the weight gain makes you more prone to or predisposed to Type 2 diabetes. So when you exercise, your weight is checked, and then also you increase your metabolism, and also with the diet you are able to control the Type 2 diabetes. Like I said, you know, the more weight you gain the more your joints or your knees are affected. So having or incorporating physical activity into your life helps in that regard. Exercising affects your weight, and you see it on the scale when you weigh yourself. Cutting down on the diet affects your weight, and you see it on the scale when you weigh yourself, and exercising also helps to reduce weight. But is not easy to do when you are over the age of 40 and you are trying to lose weight. It is

hard, but it is possible. It is doable. I have seen positive changes regarding my weight.

Participant 04 said she has not lost much weight, but also stressed that she has not gained any more weight since she started eating right and added exercise to her regimen. She expressed her experience:

Well my efforts at dietary change and exercise is not much. Like I said earlier I am not doing much of it like I should, but even then I am not gaining weight, so you know I am not overweight which is a good thing. As far as changes I have seen goes, I will say I probably would have gotten bigger and obese or something, but I am able to maintain a certain weight because of the way I eat, I am able to maintain that weight also because of exercise, I am able to not crave for stuff that is not healthy for the body. And I have been able to pretty much maintain the size that I am, and it makes me feel good health-wise versus when I didn't have...when I was not doing anything with my diet because when I wasn't trying to check or be mindful of what I ate and stuff like that, some of the food I ate will make me sicker, and I did not know why.

Participant 07 also reiterated that he has never been overweight, but stressed that self-management strategies with diet and exercise have helped him control his weight. He stated,

The addition of these changes have helped me to control the Type 2 diabetes disease. I am the kind of guy who has not had any problems with my weight, but

these changes have helped me to control my weight and not gain any weight. My weight has fluctuated a little bit, but not much, and I try not to eat any foods that will make me gain weight.

Participant 08 stated,

I had cut back on eating the wrong foods when I got diagnosed. I had cut back on food, because I was in the process of trying to lose weight so I had cut back on a lot of my carbs. I enjoy working out, I want to lose weight, I want to be healthy. So, that's why.

Participant 09 described in detail her experiences from the point of view of having gained too much weight, and the need to lose the weight as a person with Type 2 diabetes:

Last year after one of my physicals with my primary care doctor, I looked at the scale and the scale was 300 pounds and I thought okay we're going the wrong way. I had to do something about this so what I did was I only ate fish and vegetables and within two months I had lost like 35, 36 lbs. And I mean when I said only ate fish and veggies that's all I ate, I didn't eat anything else. I had lost weight before, so I was trying to get back to where I was last year. Just eating strict fish and veggies which seem like that is what works best for my body type, or that is what melts the fat from my body. I also have tried to be more active and stay that way, since I just do not want to be going backwards.

Weight loss is an important component of the Type 2 diabetes treatment protocol, and participants with Type 2 diabetes are aware that they need to watch their weight if they are to be successful in self-managing their Type 2 diabetes disease. Participant 10 took her doctor's recommendation to lose weight and joined a gym and also got a personal trainer. She described the importance of "burning fat" to achieve weight loss:

Yes, my doctor mentioned that I have to do some exercise in order to burn some of the fat and lose weight. Like I said, I registered with a gym and I had a trainer, so the trainer was helping me to learn how to use the machines, like I was getting on the treadmill, and doing some other stuff, I don't know their names, but I will use my legs and hands to exercise in order to burn fat and lose weight. I also walked. Yea anytime I finished eating I try to walk for about maybe 20 or 30 minutes around the neighborhood where I live, so I can burn some of the fat. I also have a stable bike at home that I use from time to time. I sit on it and just paddle, and I am able to burn some calories.

There are several self-management actions that can be taken for patients with Type 2 diabetes to lose weight. Instead of directly addressing the weight she has lost, Participant 11 chose to describe the specific actions she took to cause her to lose the weight:

Some of the things that I've done to lose weight are that, instead of drinking sodas I try to drink water. I switched around to water. And another thing that I've done is I try to eat before six. If I eat before six and then if I get hungry into the night, I

might get some nuts or get something like that that would just help me push over into the next day. I used to try to not eat but now I eat and I try to keep myself and eat better things and try not to get into the point where I am hungry, I have eat something.

Participant 14 credited self-talk and self-motivation with helping her stay committed to the dietary changes and physical activity that helped her lose weight. She described her experience:

I said to myself, I must slim down, I must cut down on the foods I eat. I must do this. I went on to juicing every morning, every morning literally. I used Spinach and other vegetables ... yes. I bought a book called the “Juicer’s Bible” and I juiced every morning religiously. Salad was part of my food. Occasionally I went to the local food. You know you can’t live on this diet food all the time. I lost weight, so for me it was okay.

Participant 15 committed to dietary change and physical activity because she knew that the byproduct of doing these activities was going to be weight loss for her. She described her decision to act on self-management:

And I just decided that, hey, with this lifestyle change, number one: it is also having to lose a bit weight. It helped me not to be so tired. It just makes me feel whole lot better. But my doctor explained to me that as long as I eat certain things in moderation, it’s okay to have a little snack here and there. But it has made a difference in my weight. I noticed my weight going down. Before I knew I had

diabetes, I was sick a lot. And I couldn't understand why. And I don't know if it's because of the things that I was putting in my body or eating. And I was constantly tired and obese. I was thankful that when I came back to my primary care doctor the last time, I think it was 217, maybe about four months ago. So I was thankful when I came back, I got on a scale, and my weight had come down to 203.

Participant 06 stated, "In addition to losing some weight, I feel like I'm clean in the inside, instead of being all clogged up on the inside. I just don't feel clogged up like I used to." Participant 05 cited growing old and the Type 2 diabetes disease as reasons he wanted to lose weight. He said,

Well as you get older, and you start gaining the weight and stuff like that, you tend to for health reasons, you come to the realization that if you change your lifestyle as far as your eating habits and adding exercise, it would be a whole lot better for you, and you lose some weight. I am kind of active anyway, so like I said I am active in the yard. If I am not hurting in my feet, then I am out walking, so as to keep my weight down.

Participant 12 concluded the discussion on weight loss with the help of physical activity and dietary change:

I can eat the food you want but I just have to do it in moderation. And I amazed by how much the weight that I gained drops so easily. And once I drop the weight,

it ask how am I losing so much weight, but other people say are I am losing so much weight. The reason for this is, I modified my food.

Theme 2: Effects on blood sugar/A1c. Healthcare teams require patients with Type 2 diabetes to check their blood sugars daily, and sometimes multiple times a day. Knowledge of blood-sugar readings of patients with Type 2 diabetes is an essential part of diabetes self-management. All participants discussed the importance of lowering their blood-sugar and A1c levels as an important part of their Type 2 diabetes self-management, crucial in managing their disease.

Participant 07 credited a combination of medications, diet, and exercise for keeping his blood sugars stable. He stated,

My blood sugar was very high when I was diagnosed with Type 2 diabetes, but when I consistently took my medications and added diet and exercise, my blood sugar came down, and has been stable for the past 2 years. My primary care doctor changed the medication again. So now I am going to get back to taking the medication, and then add the dietary changes and the physical activity in an effort to bring the blood sugar down.

Participant 09 was emphatic when she explained that the addition of diet and physical activity has helped lower her blood sugar:

Yes, it has because at first like when I was first diagnosed, my blood sugars were very high, in the high hundreds like, from anywhere from one hundred and sixty to a couple of times it's been like one hundred and ninety. But like I said, when I

incorporated more vegetables, and trying to do the breakfast thing in the morning, now the sugars are staying below one hundred and fifty. So that is a big change.

Participant 01 described her experience with self-management and blood sugar levels when she stated,

Yes, I find it a bit okay to go out walking, and to have some exercises around the house. I feel energetic, and I also notice that my blood sugar levels too is a bit stabilized. You see, at first my sugar will be going up and shooting up and down and I did not know what to do, but if I concentrate on what to do like exercising and having a good diet, I know that it the blood sugar will stabilize a bit for me.

Participant 02 agreed that her A1c has come down with the addition of diet and exercise:

I mean, I notice that when I was walking, my sugars were very controlled, so that was one motivation to try to do the exercise, or try to do some type of exercise on a daily basis. Well, as long as I eat like I am supposed to, and exercise, my A1c comes down. So that's one of the changes that I have seen when you do the diet and exercise.

Participant 03 also described her experience:

You know, the balance between diet and exercise helps with the control of the blood sugar levels, and then enhances medication. Like I said, there is proven evidence that when you exercise and eat well, your blood sugar is well controlled.

You just have to be consistent, and for me I think that the blood sugar is gradually going down as indicated by my latest A1c check up. But it is not the rate at which I expect it to go down, but it's going down some.

Participant 04 simply described the effects of diet and exercise on blood-sugar levels this way:

I will walk, and also try to use the tread mill as and when I can, and whenever I do those things I see where it shows in my blood glucose level when I do my daily blood glucose checks, or quarterly A1c checks.

Participant 12 stated,

After a while trying to incorporate the diet and exercise, when I went for my check up, the doctor came in and said hey what have you been doing, the last time your blood sugar was high and now your blood sugar has gone down and the headaches are little bit milder.

Participant 05 described specific A1c numbers in support of the notion that he has seen positive changes in blood-sugar levels when he engaged in effective self-management strategies with diet and exercise:

So I do see some changes to my health when I am doing more exercises, and drinking more water and stuff like that. That has kind of helped a lot with the management of the Type 2 diabetes disease. The changes I see is that the A1c has come down a little bit. I notice that when I was eating a lot of honey and other

sweets that my A1c jumped to 7.4 when the doctors conducted the tests. It was also high when I was told that I had Type 2 diabetes. So after stopping eating the honey and the sugars and the other bad foods, my A1c went back down to 6.4. So the diet and the exercises kind of helped a lot, and that told me right there that I could not eat a lot of sugars and stuff like that.

Participant 06 described her experience this way:

Because I want to feel better about myself I just do self-management with diet and exercise on my own. Because the medical team really don't want you to do too much because you can pass out from hypoglycemia or low blood sugar levels, so I only do so much make sure my blood sugar is right before I go for my walk because I don't want to pass out in the street. So it's precautions, you have to take some precautions to make sure your blood sugar is not too low or too high.

Participant 09 stated that self-management has made a big difference in her blood-sugar levels. She described the experience:

My blood sugar has maintained close to normal levels. Usually when I take my blood glucose reading, it's 120 and actually to be honest I had ran out of medicine but my blood sugar reading still stayed the same because of how I ate. And you know watching what times I eat and you know doing the little bit of exercise that I did do so it does make a big difference.

Even though Participant 10 described her experience in detail, which included her thoughts on the complexity of the Type 2 diabetes disease, she agreed with the other participants that diet and exercise played a big part in normalizing her blood-sugar levels:

I think physical activity and changing my diet has helped me, I think it has helped me a lot. Yes, I have also seen some changes in my blood sugar. I do not know, but what is baffling is that sometimes you eat and you check your blood sugars and they will be fine, and another time you eat the same food and check your blood sugar after 2 hours and the sugars have flared up, so I don't know why that happens. And the next day you eat the same food and afterwards when you check your sugar it will be normal. At other times too you eat the same food and when you go to bed, in the middle of the night, the sugar will drop. So I am not sure, but it is very complicated. It is a very complicated disease or sickness. Overall, taking my medication, eating right, and walking or exercising, I think it is helping my health.

Participant 11 also shared her thoughts:

I think the addition of dietary change and physical activity has helped overall by helping to drop my A1c, helping me to feel that I can just keep going instead of when I get home, instead of just wanting to go upstairs and go to sleep, I could be up, I could be doing the laundry, I could be playing with the kids. The kids got used to me being no, she did not want to do and now I am like let's go do so and so. So it has given me a new livelihood that I didn't have.

Participant 13 was the only participant who stated that, despite her best efforts, she has not seen any improvements in her blood-sugar levels. She complained that she is still having problems with her blood sugar. She described her experience:

I kind of see the positive impact these lifestyle changes have had on my health. I am walking more and feeling stronger each day. And then again, I don't. I still have problems with my A1c, and my blood sugars are still running a little high, so I really don't know.

Participant 14 stated she had seen positive results in lowered blood-sugar levels with the inclusion of diet and exercise. She described her experience:

With physical activity, I feel that if I don't do it, if I don't walk at least 5,000 steps, I feel out of sorts so I think it's important. The normal thing is that my blood sugar is stabilized most of the time. But when my blood sugar is low, I do get sweaty and whatever it is, and I have to quickly go for my Glucerna or find something sweet to top up.

Participant 15 gave a long description about her experience with diet and exercise self-management and blood-sugar levels:

But then I learned that doing a little bit of exercise, a little bit of walking and changing, just changing a little bit of my food intake and eating the right things, I have noticed that sometimes when I come in here, when they check my A1c, my health care provider is like, "Wait a minute. You're doing good. Where is your

diabetes?" I'm like, "Wait a minute, don't tell me that's gone." They'll say, "No, you still have it." But you are on the right track, you are doing something right to keep your A1c down. And so, I was shocked because I was doing my exercise and walking, but I got it. Because I learned how to live a lifestyle and recognize that I can't do this and I can't have this anymore and by doing the right things, And my primary care doctor will say "hey your A1c is awesome! So were taking you off the medicine for a while and see how it works." Because that's what they do. They take you off the medicine and see if you can learn how to live without medication and learn how to eat the right thing and do the right things and keep on moving because you got to be mobile. So, that's what I have learned. I learned to recognize what caused my sugar to go high and what caused my sugar to go low. And once I start realizing that, I'm like Nita, you can't have it anymore. Take it off your list. That's what I do.

Theme 3: Effects on energy levels. Most participants mentioned experiencing more energy when they started adding physical activity and dietary changes to their lifestyles. Some participants explained that it was these newfound energy levels made it possible for them to continue with the self-management regimen.

Participant 10 explained that before her Type 2 diabetes diagnosis, she felt very weak, but with the inclusion of physical activity and dietary change, she now has energy in abundance. She described the experience:

When I did not know that I had the diabetes, I was experiencing weakness, but when I started exercising, I had this energy. You know, sometimes you feel kind

of weak, especially when you finish eating and kind of sit down not doing anything. So, when I started doing the exercise, I saw that I was having this energy which was helping me. I think I have energy, my body is responding well to the food and I don't get any weird symptoms at all, like I am sick or something.

Participant 12 also touched on the issue of getting sick and weak before she decided to change her lifestyle:

Because back then I really didn't think about exercising. I kept saying in my mind that I have to do it I have to do it but I keep putting it off because I have other things that get in the way. But when I started getting sick and getting weaker, I said something is wrong and I have to find out what it is. I kept searching in my mind to find out what was making me weak, I pulled here and pulled there until I found out that I have to move, I have to get out and walk as I figured out that I have to exercise more in order to get my energy and strength back.

Participant 01 simply added:

Yes, lifestyle change gives me energy and also makes me feel light when I add the diet and physical activity to my lifestyle. Yes, the surge of energy makes it okay to go out, and to have some exercises around the house.

Participant 03 also described gaining energy by adding,

With the incorporation of physical activity, you don't get tired easily, you have more energy, it's also good for your joints. Lifestyle change for me has made me

feel better, and it has also given me so much energy to keep doing the diet and exercise.

Participant 05 said that although he was an active person anyway, he described his new experience:

I am kind of an active guy with lots of energy anyway. With this energy, I am active in the yard. If I am not hurting in my feet, then I am out walking, so as to keep my weight down. So I do see some changes to my health when I am doing more exercises, and drinking more water. However, when you do the right things, your body will heal so you can have the energy to go out and do the exercises, walking, and the yard work. So I tend to do what I am supposed to do for the diabetes, and try to help others with the disease also.

Participant 11 described her experience:

Physical activity, it just gives me more energy and makes my endurance better. The energy I get makes me want to strive, want to get up and be with your family, instead of other times when I would just want to go and chill out; now I can go ahead and be physically active. When I'm out there kicking a ball or throwing a ball, it gives me more of an increased stability to go out and want to do more. You know, with the increased energy, I don't get out of breath, MY endurance is much longer, and I just feel better. I have dropped down off some of the medications that I have to take, so it is a totally better lifestyle change.

Participant 13 said she used to just sit around and feel sorry for herself as a result of her diagnosis. She described her experience this way:

I decided to add exercise and proper diet to my lifestyle because of the disease. I decided because I don't do much anymore, I just sit around the house. I guess it's because I just feel sorry for myself. So I have been learning how to eat a little bit better, and do some walking, hoping these activities will one day contribute to helping me with managing the disease. So far, doing these things has given me more energy to keep managing the disease.

Participant 09 said she now has more energy to stay up late at night. She explained what she meant when she said,

And now that I do effective self-management and also take the medicine, I could tell I have a little bit more energy because at one point it was hard for me to stay up late, or you know pass 8 or 9 pm, I would be exhausted, but now I can see that I have more energy and I can stay up until like 10, 11 o' clock. It helps me especially when I have homework and stuff to do that's due, so more energy I can definitely say that this self-management program has given me that.

Participant 07 described his experience as "feeling good." He said,

When I eat right and exercise through my daily walks, I feel very good. I always feel good. So I have a lot of energy to make it possible to maintain the habit of

walking daily. Due to this energy, I usually walk when I run errands to places close to my house instead of using my car.

Participant 04 credited her decision to change and adopt lifestyle change as the reason for getting all the extra energy she now has. She described her experience:

After my Type 2 diabetes diagnosis, I changed a lot of things. I would eat much as I ate healthy food now, I had to count calories, I had to watch what I ate, my carbohydrates, and then planning my meals was a little bit difficult because of the fact that I have to count so much, and then try also to have a schedule and remember when to take my medications. You know being part of the routine which was never part of the lifestyle. And then I had to engage myself in more physical activity than I would have. Without having a lot of energy, making these changes would have been more difficult.

Participant 15 said she used to have a great deal of energy before her Type 2 diabetes diagnosis and wants to get back to that state:

Because I used to have a high tolerance and energy, so now I want to get back to that level of energy. I keep telling myself that I just need to get this back my system, so as to get that energy back. But I used to be energized like get up early, I sleep good at night, all through the night. I started eating right, working out, and drinking water instead of sweet tea. So once I started drinking a lot of water, I noticed a lot of energy.

Participant 14 discussed that because of her new energy levels, she can do more when she travels abroad:

My energy levels are tested more when I travel abroad which I do often, and indulge in the local delights. Then I find that I have to walk more, do some more exercise, but usually because of my high energy levels, I am not that sedentary at all. Normally, I am all over the place doing stuff so the dietary and exercise changes have helped me greatly. Fortunately for me, I am not a TV person. I don't like watching the TV, I am more of a video person, so when my daughter goes to work, I have enough energy to busy myself around the house cleaning and rearranging or packing stuff, which is not a problem for me to do.

On the issue of energy due to dietary changes and physical activity, Participant 06 stated,

That's why I have the energy to walk everywhere. I have the energy to get up and walk with my neighbor where we go out to the thrift stores and we try to find stuff to do, to stay active.

Theme 4: Effects on overall health. Baghbanian and Tol (2012) concluded that enhanced self-management can improve glycemic control and promote healing. The participants with Type 2 diabetes expressed a general understanding of the idea that effective self-management is important in the advancement of their health.

Participant 10 described her understanding of the importance of self-management to her overall health when she emphasized,

The addition of these changes has really helped me. It has really helped me a lot, because like I said, before these changes I was feeling kind of weak when I eat the regular foods that everybody eats. I will get sick and would get tired. But when I decided to cut back on my foods and watch what I eat, I am having a lot of energy as compared to previous days or years when I did not know any better and I was eating the regular meal. Now I think I have got my energy back, and I have more control of the diabetes. I think it has helped me, I think it has helped me a lot. Yes, I have also seen some changes in my blood sugar. Overall, taking my medication, eating right, and walking or exercising, I think it is helping my health.

Participant 12 added: “It makes your health much more better. Because once you switch to changing the diet and adding exercise, and switching the bad habits for the good habits you experience more energy, the Type 2 diabetes becomes much more manageable.”

Participant 01 stated,

If you add the exercises by walking and changing your diet by eating healthy food as you've been directed or as you know is good for your health, you see the changes such as your energy levels improving. that it boosts the medications that you've taken, it makes your sugar levels stabilize.

Participant 03 gave a detailed description of how self-management of Type 2 diabetes helped her overall health:

Changing my diet and adding physical activity makes me feel better. Cutting down on the diet affects your weight, and you see it on the scale when you weigh yourself, and exercising also helps to reduce weight. I have seen positive changes regarding my weight. So I believe that doing that has really helped [I believe she is referring to eating a well balanced diet]. And it is important that even if you are not diabetic, I believe that you should eat a certain way, so that you don't get there, because if you get there, it would be very difficult to reverse

Participant 05 described her experience with self-management this way:

Well, I think these lifestyle habits have helped me a lot, because like I said diabetic neuropathy set in, prompting me to change my lifestyle whether I want to or not. These changes will bring down the sugars and the blood pressure down, and the pain will go away, so doing these changes helped me a lot by doing it that way. I think the impact of the addition of these lifestyle changes have been outstanding because of the way I am doing the changes right now. However when you do the right things, your body will heal so you can go out and do the exercises, walking, and the yard work. So I tend to do what I am supposed to do for the diabetes, and try to help others with the disease also.

Participant 11 stated that her A1c has dropped with lifestyle modification. She described the experience:

I think it has helped overall by helping to drop my A1c, helping me to feel that I can just keep going instead of when I get home, instead of just wanting to go

upstairs and go to sleep, I could be up, I could be doing the laundry, I could be playing with the kids. So it has given me a new livelihood that I didn't have. Energy, yes. Less fatigue.

Participant 13 was very brief when she stated, "I kind of see the positive impact these lifestyle changes have had on my health. I am walking more and feeling stronger each day."

Participant 09 described her experience as a feeling. She explained it this way:

I could tell that the diet and exercise is actually helping a lot more because even with walking the hotel there's a difference in the way I feel once I finish walking versus just walking before. If that makes sense. So I could tell there's something positive going on just by the way my feet used to hurt.

Participant 07 said,

The addition of these lifestyle changes have helped me to control the Type 2 diabetes disease. I am the kind of guy who has not had any problems with my weight, but these changes have helped me to control my weight and not gain any weight.

Participant 04 described the experience of feeling great. She said,

When I am able to eat right, when I am able to exercise, I feel great. And the doctors are not constantly trying to increase my dose because I don't like that, so I am able to stay where I am for a long time before any changes come up. The

addition of these lifestyle changes has been very impactful because I mean, I don't know what I would have done, I don't what my situation would have been, you know. It could be worse, but like I said, I like the change, and I am not afraid to keep up with it.

Participant 02 said she lost a good deal of weight and felt better as a result of lifestyle-change behaviors:

I mean changing the diet and the physical activity is, I've lost a lot of weight, which is a good thing, because now I feel so much better. However, these lifestyle changes have had an overall positive impact on my health. Correct, they've had a positive impact on my health.

Participant 15 incorporated self-management behaviors because she did not want to have diabetes complications later in life:

With lifestyle change, I feel I'm ready to go. That means before I started incorporating it, eating different types of food and walking around, I was like "I don't feel like going anywhere." I just want to lay, sleep. For a little while, I just didn't want to do anything. Now, I'm like "Honey, what are we doing this evening?" Honey, can you go walk with me? So it has been helping me to be able to exercise and eat the right type of food, it has helped me to be able to move. And don't want to quit, and don't want to be one of those people that are losing a limb or going blind. Yes, I don't want any complications. I just want to be able to live a prosperous life. To be able to move, I don't have to worry about anybody

taking care of me, giving me shots, give me this and that. I want to be able to do it myself.

Participant 14 stated,

I think from the way I was diagnosed and what not, I think it has impacted the diet plan that I am on. I think the impact has been positive. There has been a positive impact on my health. Apart from the normal aches and pains of old age which is inevitable with diabetes or not, I think I am in a reasonably good shape for my age.

Participant 06 said,

Yeah, I feel good, I do. One hundred percent. I feel 100%. I want to put it on the calendar 100%. On the score board 100. I feel good, I do. Because like I say when that stuff goes down and I didn't know when it shut me down that was the bad part but now that I know I got myself right. I feel like I'm clean in the inside, instead of being all clogged up on the inside. I just don't feel clogged up like I used to.

Last, Participant 08 was more detailed in her assessment of the results she has seen with self-management:

Yes, like I said, as far as weight, getting more sleep, I'm getting more rest and I'm not having as much problem with my stomach or my bowels so yeah. Because I know I can rid myself of this Type 2 diabetes and that's why I'm staying so motivated because I don't want this to be a lifelong thing for me and I know and

I've done my little research and I've seen where people who even were even insulin-dependent diabetics who are no longer diabetic. My mother for instance was a type two diabetic and she's not anymore so. I know I can, those life changes I know, eventually. I'm not going be diabetic anymore. And I will be boosting my pancreas too, through the different foods that I eat, and also trying to reboot my kidneys and my pancreas and all that so. And I do believe that the green vegetables that I'm eating supposed to help to reboot those organs

Summary

In an effort to gain better insight into the essences of the lived experiences of African American participants with Type 2 diabetes with the phenomenon of physical activity and dietary changes, this qualitative phenomenological research study was conducted through in-depth interviews with 15 African American patients with Type 2 diabetes. The interviews focused on three research questions in an effort to gain answers from participants regarding their thoughts on the effects of these lifestyle changes on their overall health. I obtained informed consent from participants who provided in-depth descriptions of the phenomenon of physical activity and dietary change as self-management factors for Type 2 diabetes control and compliance.

Chapter 4 covered discussions of the study's sampling strategy, data-collection techniques, demographic profiles, research questions, evidence of trustworthiness, data analysis, and presentation of themes. The interviews yielded rich, thick, and in-depth data that were transcribed and analyzed. The data analysis and the themes it yielded were reviewed and summarized in this chapter. The section on presentation of themes

contained the essences of statements and answers given by participants to the interview questions.

The interview data obtained from the rich, thick descriptions of the participants were organized and categorized initially through manual-coding methods. Subsequent to manual coding, I used NVivo 11 to conduct autocoding to develop themes from the identified codes. Altogether, I developed 25 parent and child nodes through the categorization of participant responses to the interview questions. These nodes were created in response to participant answers to the questions. However, only nodes created from three or more sources and referenced five or more times were included as being essential to the data analysis. Finally, I identified 13 main themes, aligned with the research questions, and included responses in the discussion of relevant themes in Chapter 4.

The specific themes identified as being of relevance to the research questions were discussed as part of the data analysis in this chapter. Of the 13 main themes that emerged from the data, five themes addressed Research Question 1: initial emotional response to Type 2 diabetes diagnosis, decision to make lifestyle change, experience with dietary change alone, experience with physical activity alone, and seriousness of the diabetes disease. Four themes addressed Research Question 2: making lifestyle behavior changes, challenges with self-management, consequences of stopping lifestyle changes, and discussion about death. Four themes addressed the third research question: effects on weight reduction/control, effects on blood-sugar levels/A1c, effects on energy levels, and effects on overall health.

Chapter 5 includes a discussion and evaluation of the research findings from Chapter 4. The limitations of the study and the implications from this research on social change for Type 2 diabetes research and healthcare in general are also discussed in Chapter 5. In addition, in Chapter 5 I make recommendations for further research.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this qualitative, phenomenological study was to explore and describe the lived experiences of African American participants with Type 2 diabetes who had experience with the phenomenon of lifestyle changes with physical activity and dietary changes, increasing/maintaining daily physical activity and dietary changes, and how these behavior changes may have impacted their overall health. The primary objective of this phenomenological approach was to document and identify the effects of the phenomenon of physical activity and dietary changes, as a self-management tool, on the overall health of African Americans living with Type 2 diabetes. In Chapter 5, I interpret the findings of the study and draw conclusions based on the results that emerged from the data described in Chapter 4.

This study is important not only to African Americans with Type 2 diabetes, but to all patients with Type 2 diabetes for a number of reasons. First, researchers of Type 2 diabetes have shown that the African American community is one of the most seriously affected by this disease, compared to the general U.S. population (American Diabetes Association, 2016e). Compared to non-Hispanic Caucasians, African Americans are also two times more likely to be diagnosed with Type 2 diabetes, and are more likely to experience diabetes complications such as limb amputations, blindness, and kidney disease (American Diabetes Association, 2016d; HHS, 2016). The Task Force on Black and Minority Health (HHS, 1985) found that knowledge about Type 2 diabetes in minorities, especially African Americans, was limited; as a result, increased research and other medical interventions were needed to help mitigate the disproportionate burden of

this disease in these populations (HHS, 1985). These are some of the reasons why this research study and the findings discussed are so important and timely.

Interpretation of Findings

When I analyzed the findings from this research study, 13 major themes emerged that addressed the three research questions. The discussion follows, aligned with the research questions.

Answers to Research Question 1

Five themes emerged from participant responses to answer Research Question 1: What are the lived experiences of African American patients with Type 2 diabetes who are familiar with lifestyle modifications as they relate to physical activity and dietary changes? Participants' responses revealed five main themes regarding their emotional response to Type 2 diagnosis and their familiarity with the phenomenon under discussion. The first theme identified for Research Question 1 was emotional response to Type 2 diabetes diagnosis. Almost all study participants had feelings ranging from shock to surprise when they found they had Type 2 diabetes.

The emotional response most participants noted was fear, whereas for some it was anxiety, frustration, anger, or helplessness. Low, Tong, and Low (2014) posited that the negative feelings portrayed by those with diabetes upon diagnosis stem from their fear of diabetic complications, as well as fear of the adverse effects of Type 2 diabetes treatment. Although some participants had relatives who had the disease, they thought they were doing enough by way of lifestyle change to prevent themselves from getting the disease. For some participants, although they were experiencing symptoms such as hunger, extreme thirst, and frequent urination, they still did not connect these symptoms with

Type 2 diabetes until they were formally diagnosed by their physicians during a routine check-up.

The second theme that emerged to answer Research Question 1 was making lifestyle changes. This theme related to participants' knowledge and experience with lifestyle by incorporating physical activity and dietary changes. Participants sought to verify familiarity with the phenomenon under investigation. All study participants expressed that their healthcare providers educated them when they were diagnosed with Type 2 diabetes by explaining that their current lifestyles contributed greatly to getting Type 2 diabetes, and physicians explained the importance of changing their lifestyles. Changing dietary habits to a healthy diet and adding exercise to their daily routine has been described as the cornerstone of management for Type 2 diabetics (Utz et al., 2006). Although they understood that lifestyle change goes beyond adding physical activity and making dietary changes, they expressed that making these behavior changes has not been easy, but has been difficult and frustrating. All participants, however, were driven by various emotions—mostly fear—to maintain lifestyle changes.

The third theme identified to answer Research Question 1 was dietary change alone. Participants chosen for this study had to have experience with dietary changes as part of their diabetes self-management. However, although all participants engaged in dietary-change behaviors, they experienced varying levels of self-efficacy with this change. The effectiveness of participants' dietary changes was, therefore, related to how successful they were in their self-efficacy behaviors. Strychar et al. (2012) emphasized that the importance of Type 2 diabetes self-management cannot be ignored. Participants' self-efficacy measures directly correlated with their dietary self-care behaviors,

improvement of their glycemic index, and reduced fat intake (Strychar et al., 2012).

Several participants experienced positive changes to their health as a result of changing their diet, ranging from increased energy to weight loss, reduced blood-sugar levels, and general health. A few participants, however, reported having a hard time making this change, and one participant saw no change at all, due to a lack of will power to maintain dietary change.

The fourth theme related to physical activity alone. Walking, as well as engaging in some form of physical activity on a daily basis, improves A1c and blood-sugar levels while reducing obesity and helping to lower the risk of heart disease and stroke (American Diabetes Association, 2016c). Physical inactivity is a risk factor for Type 2 diabetes whereas physical activity has been shown to protect against the development of the disease (Helmrich, Ragland, Leung, & Paffenbarger, 1991; Zimmet et al., 1991). All participants acknowledged that engaging in physical activity has made their lives better, although several confessed that it is still difficult to make physical activity a daily habit, and personal motivation is the key.

The fifth theme was the seriousness of the disease. Type 2 diabetes is a serious disease, and participants in this study stressed that their healthcare team continuously reminded them of this fact. Type 2 diabetes contributes to kidney disease, heart disease, stroke, vision loss, and blood vessel/vascular disease (National Institute of Diabetes and Digestive and Kidney Diseases, 2016a). Although some participants were motivated by the seriousness of the disease to stay compliant, others were fearful and stated it was fear of the disease that drove them to remain compliant. Several participants expressed that their knowledge of the seriousness of the disease was the driver that kept them focused

on daily self-management, as well as getting quarterly A1c check-ups with their primary care physician. Most participants were confident that, with consistent self-management behaviors, they could live a normal life and prevent or delay the onset of diabetes complications.

Answers to Research Question 2

Four themes emerged to answer Research Question 2. Research Question 2 was, Has self-efficacy, defined as physical activity and dietary changes, affected self-management and overall health of African American individuals with Type 2 diabetes? I sought to elicit from participants the extent to which self-efficacy affected their ability to self-manage their diseases and if this helped in any way to enhance their overall health. The first theme identified to answer this research question was lifestyle-change behavior. The ability of participants to make and maintain diet and exercise changes directly related to their self-efficacy levels, and how much they wanted to change. Most participants experienced some level of self-efficacy with lifestyle change. Some participants, however, cited issues such as unavailable financial resources needed for effective lifestyle changes as reasons they have difficulty making these changes.

Al-Khawaldeh, Al-Hassan, and Froelicher (2017) revealed that diet and exercise self-efficacy that leads to better self-management behaviors resulted in better blood-sugar levels as well as glycemic control. The researchers further reported that participants who exhibited higher levels of self-efficacy also showed better behaviors with their self-management of exercise, diet, medication compliance, and blood-sugar testing (Al-Khawaldeh et al., 2017). All participant responses in the present study indicated they knew the importance of making these lifestyle changes and understood the implications

these changes could have on their overall health. Whether it was to avoid diabetes complications later on, live a longer life to see their children grow, fear of dying at a young age, or expectations that they could reverse the Type 2 diabetes disease, all participants felt they owed it to themselves to work on instilling these lifestyle changes as a daily habit.

The second theme identified to answer Research Question 2 was that self-management was challenging. All participants echoed that self-management of Type 2 diabetes was an ongoing challenge. They also expressed their understanding that any activity that needed to be repeated consistently until it became a habit was going to be difficult to do. Recent research studies showed that most adults with Type 2 diabetes have rarely been able to meet their target glycemic-control goals (Utz et al., 2006). Cochran and Conn (2008) also documented that people with Type 2 diabetes improved their quality of life when they took actions that improved their self-management behaviors. Participant responses, when discussing this theme, centered on self-motivation and fear of diabetes complications. Several participants expressed that their motivation for continuing their self-management activities was mainly the fear that if they did not do so, they could suffer the consequence of diabetic complications later in life.

The third theme identified to answer Research Question 2 was consequences of stopping lifestyle changes. Patients with Type 2 diabetes are quite familiar with the concept that consequences will ensue from failing to take good care of themselves. Reduced quality of life is a consequence for every patients with Type 2 diabetes who fails to engage in effective diabetes self-management. All participants in this study stressed that their healthcare team consistently reminds them of the consequences of diabetes

complications if they do not take better care of themselves. Several participants avowed that instead of reassuring them to engage in self-management behaviors, the knowledge of the consequences associated with diabetes noncompliance has made them afraid, anxious, and depressed. A few participants contemplated becoming noncompliant due to tiredness with these behaviors, and not seeing many positive results. Most participants, however, see this disease and its management as a lifelong struggle that they must undertake.

The fourth theme identified to answer Research Question 2 was untimely death is a reality. All people know death is inevitable; however, it is a topic most people would rather not discuss or acknowledge. Most participants expressed the experience of having a family member or someone they know who died prematurely because of Type 2 diabetes. Most participants also had the unpleasant experience of seeing their family members or someone they know suffer from painful diabetes complications before they died. The gruesome images of loved ones with amputated limbs or in hospital beds after having suffered from strokes or heart attacks are too real for some of the study participants who stated they are anxious and afraid that they might be traveling the same path toward death. Participants reported that fear of death, and the concern about dying prematurely from Type 2 diabetes complications remains the main driver for their self-motivation with lifestyle change in physical activity and diet. For some participants, the inevitability of death from Type 2 diabetes has thrown them into a state of depression. The National Institute of Diabetes and Digestive and Kidney Disease (2016b) reported that depression has become very common in people who are addressing chronic, long-

term diseases and illnesses such as Type 2 diabetes. Although several participants talked about depression, none stated they were getting treatment for this condition.

Answers to Research Question 3

I identified four themes to answer the final research question for this study. Research Question 3 was, What has the experience of self-management of African Americans with Type 2 diabetes changed in their overall health? It was essential to obtain responses from participants about their experiences with dietary changes and physical activity and whether these self-management activities have impacted their overall health. This question elicited positive responses from most participants who expressed they are feeling better and are healthier now compared to when they were initially diagnosed with Type 2 diabetes. The American Diabetes Association (2017) study reported that effective diabetes self-management aligns with self-reported weight reduction (Steinsbekk, Rygg, Lisulo, Rise, & Fretheim, 2012), lower A1c levels (Chrvala, Sherr, & Lipman, 2016), better quality of life (Cochran, & Conn, 2008), better coping skills (Thorpe et al., 2013), and lower cost of health care (Duncan et al., 2011).

The first theme identified to answer Research Question 3 was effects on weight reduction/control. Most patients with Type 2 diabetes are overweight or obese, and this obesity was a contributory factor in them having diabetes in the first place. As a result, weight control and reduction are essential to managing diabetes and controlling blood sugar. All study participants stated their healthcare team consistently checks their weight when they attend their quarterly check-ups, and have advised them numerous times to work on losing some weight as part of their Type 2 diabetes self-management. Leontis (2016) stressed that many patients with Type 2 diabetes are overweight when they are

initially diagnosed, and the extra weight contributed to increasing their insulin resistance, which is the situation when their bodies are not efficiently using the insulin hormone. Most participants reported they have lost weight due to being physically active and changing their diets; however, a few participants reported that, due to the diabetes and other medications they take, they are still struggling to lose any weight. In addition to the direct benefit of losing weight due to their self-management efforts, participants also reported other weight-loss benefits such as boosts in energy levels, reduction in cholesterol levels, and boosts in overall health.

The second theme identified to answer Research Question 3 was effects on blood-sugar levels/A1c. When a person has Type 2 diabetes, it is imperative that they know their blood-sugar numbers. Scott (2016) stated that testing blood sugars regularly is important because it shows how testing allows a person with diabetes to see how certain behaviors, exercise, and certain foods impact their blood-sugar levels on a daily basis. Participants in this study reported they checked their blood-sugar levels every day, whereas some reported they check their numbers twice a day. As part of successful Type 2 diabetes management, in addition to daily blood-sugar monitoring and testing, other measurements such as A1c-level testing, blood-pressure testing, cholesterol levels, and body-mass index should be taken on a regular basis, usually every 3 months (Scott, 2016). Most participants reported that, through their primary care physicians, diabetes education, and their own individual research, they have been made aware of the dangers of having high or elevated blood-sugar levels and the damage it can cause in their bodies, leading to various diabetes complications such as nerve damage (neuropathy), kidney damage (nephropathy), cardiovascular disease, and eye disease (retinopathy).

The third theme that emerged to answer Research Question 3 was effects on energy levels. Living with Type 2 diabetes can be tiring, and self-management of Type 2 diabetes is a complex, confusing, and exhaustive process that often results in diabetes-related fatigue (Sadick, 2017). However researchers showed that, with a healthy diet, exercise program, and weight loss, many patients with Type 2 diabetes can break the cycle of fatigue and boost their energy levels (Sadick, 2017). Many participants reported their energy levels improved when they engaged in dietary-change habits and added physical activity to their daily routines. Participants also reported that the high-energy levels they gained from becoming efficient in their self-management habits made it possible for them to maintain these lifestyle-change activities. Most participants reported they could discern the difference between their energy as a progression from the weak state they were in at initial Type 2 diagnosis to the increasing energy they are experiencing with their new daily diet and exercise habits. Participants also reported benefits they have gained from having more energy, including weight loss, better control of blood sugar, and better sleep at night.

The fourth theme identified to answer Research Question 3 was effects on overall health. Overall health and living a normal life is the goal of most patients with Type 2 diabetes, and consistent self-management behaviors promote improved glycemic control and healing (Baghbanian & Tol, 2012). Every participant in the study stated that, as a person with Type 2 diabetes, they understood no cure exists for this disease; however, they stressed that their main goal for embracing and incorporating self-management practices with diet and exercise was to gain overall health and live a normal life. Participants reported having an overall sense of better health now, compared to when

they were first diagnosed with Type 2 diabetes. Some health results included going from a feeling of weakness to gaining some strength, from being sick and tired all the time to feeling healthy and energetic, seeing a drop in A1c levels, losing some weight, sleeping better at night, and experiencing an overall sense of health.

Conceptual Framework and Implications

The findings that emerged from the research study relating to the difficulty and process of making lifestyle changes with physical activity and dietary changes were clearly articulated. The concept of self-efficacy, which was essential in determining how well African American patients with Type 2 diabetes effectively self-managed their diabetes through physical activity and dietary changes served as the framework for the development of the study's research questions. The concept of self-efficacy also formed the basis for the discussion of the results, the conclusions that were drawn, and the basis for the dissemination of the findings of the research study. Lifestyle-change self-efficacy and self-management behaviors were predictors of improved glycemic control. In addition, participants who exhibited higher self-efficacy reportedly showed improved self-management habits in exercise, diet, blood-sugar monitoring, and medication compliance (as suggested by Al-Khawaldeh et al., 2017).

The research study employed the use of a qualitative phenomenological approach that enabled African American participants to give accounts of their experiences with physical activity and dietary changes as a component of the self-management of their Type 2 diabetes. The opinions and experiences of participants were accurately recorded, and self-efficacy and TPB measures, based on the data obtained, were assessed and analyzed as they relate to the effects of lifestyle-change behavior on study participants.

A secondary construct that related to the self-efficacy theory, assessed through the research questions and discussions by research participants was the TPB. The data-analysis section of this research study presented analysis and description of the extent to which participants' self-management behaviors adhered to their healthcare providers' recommendations on best practices regarding the addition of physical activity, dietary changes, and medication compliance. Ajzen (1991) asserted that the TPB was one of the most used theoretical models, and its application in research accurately predicts several health actions and behaviors including physical activity and dietary-change behaviors.

Study participants described their experiences with the phenomenon of dietary change and physical activity and their discussions generated rich thick, in-depth information and data to inform effective self-management strategies on how African Americans patients with Type 2 diabetes can better manage their disease conditions. Effective self-management of Type 2 diabetes is imperative if these participants have any hope of living normal lives, and their ability to do that will depend on their willingness to adopt higher self-efficacy attitudes to self-management as well as develop behaviors that enhance rather than diminish their lifestyle-change habits. The in-depth information generated by study participants was consistent with qualitative phenomenological studies, whereas the data collection and data analysis were consistent with the methodology of the qualitative approach to this study.

Limitations of the Study

Several limitations emerged in this research study. The setting of this research study was two internal medicine clinics in south Charlotte. Although I chose these two settings due to their convenient location and high African American population of

patients with Type 2 diabetes, the physicians who owned these health facilities had conference rooms and other meeting facilities that made it easy to interview on site, whereas other medical facilities may not have had these facilities.

Another limitation related to the participants chosen for the research study. Participants selected for this study were African American patients with Type 2 diabetes between the ages of 18 and 65 who were familiar with the phenomenon. Because of the narrow focus of the study, several patients with Type 2 diabetes who had much to contribute were eliminated from the study. Also, the sample size of 15 participants may not have been sufficiently representative. The study, however, followed the methodology and approach of qualitative research, and I interviewed two more participants even after achieving saturation, to further ensure accuracy.

I was the sole instrument of the research study, which could be a limitation because, despite best practices in qualitative research, personal biases could still creep into the study. As the sole instrument, I interviewed participants, recorded and gathered participant data, organized this data into themes, and then tried to make sense of the data in the data-analysis process. I used reflection and bracketing or epoche in the research study to ensure all my assumptions, insights, and prior experiences were suspended. I also ensured credibility in the study by conducting member checks with 10 participants who agreed to go over the transcribed data and check for mistakes, errors, or misrepresentations in the data. Member-checking participants had the opportunity to add more relevant information they might have missed in the interview process: 10 participants agreed to conduct member checks whereas five participants excused themselves from further involvement in the study, due to time and other constraints.

Four participants who conducted the member checks made some modifications related to correcting their grammar and use of words than to the content of the data.

Another limitation relates to the qualitative-research approach itself, because the success of qualitative researcher is largely dependent on the researcher's personal skills and personal biases. Research rigor is difficult to demonstrate, assess, or maintain. However, I conducted this qualitative research study with strict adherence to the qualitative phenomenological approach and methodology, thereby ensuring it is comprehensive, unbiased, reliable, valid, rigorous, and credible (C. Anderson, 2010). Also, data collected from participants are not generalizable to a larger population, but can be transferable from one setting to another (C. Anderson, 2010).

Recommendations

I designed this qualitative phenomenological research study to describe and analyze the lived experiences of African American participants with Type 2 diabetes concerning the phenomenon of physical activity and dietary changes. Living with Type 2 diabetes is hard enough without the added task of lifestyle change and self-management. For the African Americans who participated in the study, their challenges are not that they are not aware of the self-management they must perform daily, but the difficulty lies in the struggle to make these behavioral changes a habit. They have a constant struggle to watch what they eat and motivate themselves to get up and exercise while they worry about the possibility of Type 2 diabetes complications down the line.

To be able to obtain the essence of the lived experiences that characterized this research study, I focused on the analysis of the meaning of participants' experiences, as well as the behavioral patterns that emerged regarding experiences with the phenomenon

(Waters, 2017). Based on participants' responses, analyzed to form themes from the research questions asked, it was evident that lifestyle changes with physical activity and dietary changes positively affected the lives and overall health of African Americans living with Type 2 diabetes.

This research was conducted to highlight the voices and experiences of African Americans with Type 2 diabetes and how they self-managed their disease primarily with diet and exercise, and I aimed to ensure those voices are heard by organizations, institutions, and communities that could help them better manage this disease. The evidence that emerged from the responses showed participants consistently repeated several themes. The themes that emerged from the participant data included initial emotional response to the diagnosis, making lifestyle-change decisions, dietary-change experiences, physical-activity experiences, seriousness about diabetes disease, lifestyle-change behaviors, self-management is a challenge, lifestyle-change consequences, discussion about death, weight reduction/control, blood-sugar/A1c reduction, effects on energy levels, and effects on overall health.

I extracted the themes from the interview data, and deemed them appropriate to answer the research questions. I examined the issues identified in the research problem statement and questions in-depth and in detail in the study. I also fully examined and discussed participant experiences with the phenomenon under study through the medium of asking questions that could be guided and redirected to get complete accounts from the participants in real time. Some participants discussed issues such as lack of access to healthy foods and safe places to engage in physical activity as factors making self-management difficult, whereas other participants were concerned with self-motivation

and time-management to be able to make self-management behaviors work for them. The American Diabetes Association's (2016b) new "2017 Standards of Medical Care in Diabetes" highlighted the importance of getting access to help for those with Type 2 diabetes on psychological health issues, having more options for expanded and personalized treatment, and making it possible for those with diabetes to track hypoglycemia as key areas where more help is needed in the effective management of the disease.

From the participant responses, self-management of Type 2 diabetes was a very complex set of behaviors and actions that included having to visit several healthcare teams—primary care, specialty, eye care, foot care, and nutritionists and dietitians—on a regular basis. In addition to making and keeping current with appointments to see these health professionals, study participants also had to engage in self-management practices that included the addition of physical activity and dietary changes to their lifestyles. It is no wonder that one of the feelings expressed by participants was that of being overwhelmed with everything that was happening, often resulting in anxiety, insomnia, and depression for these participants.

However, the evidence also showed that lack of diabetes self-management education as well as lack of available resources have made this lifestyle-change behavior difficult to acquire and maintain. As a result, recommendations for disease management that seeks to make Type 2 diabetes care simple and uncomplicated, as well as make diabetes-care resources accessible to participants are timely and direly needed. Patients with type 2 diabetes require more education to better manage their disease, Health care organizations involved in diabetes patient care need to develop more comprehensive

methods to educate them. Also, organizations that provide aid to African Americans with type 2 diabetes should focus on providing resources to those who have trouble affording healthy foods, and safe places to exercise.

The study will also recommend to Type 2 diabetes stakeholders and other government entities the need to implement new self-management programs and better strategies that make it easier and more effective for African Americans to gain access to interested stakeholders, necessary diabetes educational resources, needed nutrition and dietary resources, as well as exercise and other physical activity spaces and facilities.

Type 2 diabetes patients need an educational foundation that is easily accessible and cost-effective for not only African Americans with the disease, but all Type 2 diabetics, since this is vital component of diabetes care for all people with diabetes (American Association of Diabetes Educators, 2017). Therefore I also recommend that communities, with the help of the American Diabetes Association, the HHS, and public-health authorities come together to establish neighborhood diabetes self-management education and support facilities and programs in the communities where these patients with Type 2 diabetes reside.

Several areas of need, help, and support were identified from the responses of participants and themes that emerged from the data, summarized as follows:

- Providing prolonged and thorough diabetes education for newly diagnosed people with Type 2 diabetes.
- Creating awareness of Type 2 diabetes and the dangers of diabetes complications in the African American population.

- Creating better diet and exercise programs that effectively support self-management.
- Making resources and programs available in communities where African American patients with Type 2 diabetes live.
- Making resources and support systems available to family members of people living with Type 2 diabetes.
- Making mental and psychological health resources available to African Americans with Type 2 diabetes to help counteract the effects of anxiety, insomnia, and depression.
- Creating education and public health programs and policies that are geared toward the protection of younger generations of African Americans by educating and encouraging lifestyle changes that focus on physical activity and dietary change.

Implications for Social Change

The findings and recommendations in this research study are significant in advancing knowledge of Type 2 diabetes research as it relates to the peculiar needs of African Americans who suffer from this disease. This research study contributes to positive social change as it builds on current research and existing knowledge regarding more effective self-management programs and strategies aimed at targeting, enriching, and promoting the lives and health of African American patients with Type 2 diabetes.

Findings and recommendations in this study contribute to positive social change by giving voice to the experiences, discussions, fears, and hopes of African American

participants with Type 2 diabetes in hopes that current health policies at the federal, state, and local levels that relate to the care of Type 2 diabetes will change to reflect effective policies. The goal is to reduce the cost burden of the disease, reduce the reality of untimely death, upgrade the quality, and enhance the lives of these people who live with the burden of Type 2 diabetes. The CDC (2014) reported that the challenge that research on Type 2 diabetes prevention and management faces is the reduction of the health, human, and financial costs of diabetes that can only be achieved through prevention of new diabetes cases, and the effective management of existing cases, which all lead to effecting positive social change.

Conclusion

I conducted this research study to understand the lived experience of African Americans patients living with Type 2 diabetes regarding how lifestyle changes with physical activity and dietary changes have impacted the self-management of their disease. The 15 participants selected for this study gave detailed and in-depth accounts of their experiences, highlighting issues such as dismay at being diagnosed with Type 2 diabetes, knowledge and actions that characterized their self-management with diet and exercise, the challenges of self-management, and their resolve to delay the onset of diabetes complications for as long as they can. They also discussed their fears, anxieties, and depression about the process of managing their Type 2 diabetes. Many participants also provided details about why lack of financial resources affected their ability to eat the right foods for effective self-management, whereas others stressed the lack of time, lack of motivation, and other work and family obligations as reasons they have a difficult time exercising on a consistent basis.

Previous research and the findings from this study point to the need to better understand what living with Type 2 diabetes really entails for African Americans. The findings also highlight the need for better and more effective support services and programs that can help these patients with Type 2 diabetes better self-manage their disease. The study will also help to better inform and educate primary care doctors, healthcare specialists, public health authorities, nutritionists, dieticians, diabetes educators, and other interested stakeholders about relevant Type 2 diabetes information from the perspective of those living with the disease. This research study highlighted the many complexities, issues, and difficulties of self-management and lifestyle changes for African American patients living with Type 2 diabetes.

It is imperative that the needs and issues addressed in the recommendations section be implemented by the healthcare and public-health stakeholders in charge of mitigating the effects of the Type 2 diabetes epidemic if this disease is to be controlled. Action taken to correct these needs will greatly enhance the life and overall health of African Americans living with Type 2 diabetes as well reduce the death toll suffered by people living with this disease through untimely death, thereby having a positive social-change impact on this population.

References

- Adams, K., & Corrigan, J. M. (Eds.). (2003). *Priority areas for national action: Transforming health care quality*. Washington, DC: National Academies Press.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. doi:10.1016/0749-5978(91)90020-T
- Ajzen, I. (2001). Nature and operation of attitudes. *Annual Review of Psychology*, 52, 27–58. doi:10.1146/annurev.psych.52.1.27
- Ajzen, I. (2002). *Constructing a TpB questionnaire: Conceptual and methodological considerations*. Retrieved March 15, 2017 from <https://people.umass.edu/aizen/pdf/tpb.measurement.pdf>
- Ajzen, I. (2011). The theory of planned behavior: Reactions and reflections. *Psychology & Health*, 26, 1113–1127. doi:10.1080/08870446.2011.613995
- Ajzen, I., & Driver, B. L. (1992). Application of the theory of planned behavior to leisure choice. *Journal of Leisure Research*, 24, 207–224.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Al-Khawaldeh, O. A., Al-Hassan, M. A., & Froelicher, E. S. (2017). Self-efficacy, self-management, and glycemic control in adults with Type 2 diabetes mellitus. *Journal of Diabetes and its Complications*, 26, 10–16. doi:10.1016/j.diabcomp.2011.11.002
- American Association of Diabetes Educators. (2007). *AADE 7 self-care behaviors*. Retrieved January 1, 2017 from <https://www.diabeteseducator.org/patient-resources/aade7-self-care-behaviors>

- American Association of Diabetes Educators. (2017). *2017 national standards for diabetes self-management education and support*. Retrieved March 15, 2017 from https://professional.diabetes.org/sites/professional.diabetes.org/files/media/2017_national_standards_for_dsmes_public_comment.pdf
- American Diabetes Association. (2013). Standards of medical care in diabetes. *Diabetes Care*, 36, S11–66. doi:10.2337/dc13-S011
- American Diabetes Association. (2014a). Standards of medical care in diabetes. *Diabetes Care*, 37, S14–S80. doi:10.2337/dc14-S014
- American Diabetes Association. (2014b). *Treatment and care for African Americans*. Retrieved January 15, 2017 from <http://www.diabetes.org/living-with-diabetes/treatment-and-care/high-risk-populations/treatment-african-americans.html>
- American Diabetes Association. (2015). *Are you at risk?* Retrieved January 20, 2017 from <http://www.diabetes.org/newsroom/press-releases/2015/are-you-at-risk-for-type-2-diabetes.html>
- American Diabetes Association. (2016a). *Food & fitness*. Retrieved January 10, 2017 from <http://www.diabetes.org/food-and-fitness/>
- American Diabetes Association. (2016b). *Live empowered/African American programs*. Retrieved February 5, 2017 from <http://www.international-diabetes-association.com/live-empowered-african-american-programs/>
- American Diabetes Association. (2016c). *Physical activity is important*. Retrieved February 5, 2017 from <http://www.diabetes.org/food-and-fitness/fitness/physical-activity-is-important.html>

American Diabetes Association. (2016d). *Statistics about diabetes: Overall numbers, diabetes and prediabetes*. Retrieved February 15, 2017 from [http://www.](http://www.diabetes.org/diabetes-basics/statistics/?referrer=https://www.google.com/)

[diabetes.org/diabetes-basics/statistics/?referrer=https://www.google.com/](http://www.diabetes.org/diabetes-basics/statistics/?referrer=https://www.google.com/)

American Diabetes Association. (2016e). *Treatment and care for African Americans*.

Retrieved March 1, 2017 from [http://www.diabetes.org/living-with-](http://www.diabetes.org/living-with-diabetes/treatment-and-care/high-risk-populations/treatment-african-americans.html)

[diabetes/treatment-and-care/high-risk-populations/treatment-african-](http://www.diabetes.org/living-with-diabetes/treatment-and-care/high-risk-populations/treatment-african-americans.html)

[americans.html](http://www.diabetes.org/living-with-diabetes/treatment-and-care/high-risk-populations/treatment-african-americans.html)

American Diabetes Association. (2016f). *Type 2*. Retrieved March 10, 2017 from

<http://www.diabetes.org/diabetes-basics/type-2/>

American Diabetes Association, (2017). Lifestyle management. *Diabetes Care*, 40(1).

533-543.

Amerson, R. (2011). Making a case for the case study method. *Journal of Nursing*

Education, 50, 427–428. doi:10.3928.01484834-20110719-01

Anderson, C. (2010). Presenting and evaluating qualitative research. *American Journal of*

Pharmaceutical Education, 74, 1–6. Retrieved March 18, 2017 from

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2987281/>

Anderson, R. M., Funnell, M. M., Butler, P. M., Arnold, M. S., Fitzgerald, J. T., & Feste,

C. C. (1995). Patient empowerment: Results of a randomized controlled trial.

Diabetes Care, 18, 943–949. doi:10.2337/diacare.18.7.943

Arfken, C. L., Reno, P. L., Santiago, J. V., & Klein, R. (1998). Development of

proliferative diabetic retinopathy in African-Americans and Whites with type 1

diabetes. *Diabetes Care*, 21, 792–795. doi:10.2337/diacare.21.5.792

- Armah, N. (2014, April 7). *Making equity count in the built environment* [Web log]. Retrieved May 15, 2017 from <http://www.naacp.org/blog/entry/making-equity-count-in-the-built-environment>
- Avery, L., Flynn, D., Wersch, A., Sniehotta, F. F., & Trenell, M. I. (2012). Changing physical activity behavior in Type 2 diabetes. *Diabetes Care*, *35*, 2681–2689. doi:10.2337/dc11-2452
- Baghbanian, A., & Tol, A. (2012). The introduction of self-management in Type 2 Diabetes care: A narrative review. *Journal of Education and Health Promotion*, *1*, Art. 35. doi:10.4103/2277-9531.102048
- Bandura, A. (Ed.). (1995). *Self-efficacy in changing societies*. New York, NY: Cambridge University Press.
- Bandura, A. (1997). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*, 191–215. doi:10.1037/0033-295X.84.2.191
- Bandura, A. (2005). The evolution of social cognitive theory. In K. G. Smith & M. A. Hitt (Eds.) *Great minds in management* (pp. 9–35). Oxford, England: Oxford University Press.
- Barker, L. E., Kirtland, K. A., Gregg, E. W., Geiss, L. S., & Thompson, T. J. (2011). Geographical distribution of diagnosed diabetes in the U.S.: A diabetes belt. *American Journal of Preventive Medicine*, *40*(4), 434-439.
- Bitting, K. (2012). *Arguing for the importance of your research: The literature review*. Retrieved March 20, 2017 from <http://gradfund.rutgers.edu/blog/arguing-for-the-importance-of-your-research-the-literature-review/>

- Blue, C. L. (2007). Does the theory of planned behavior identify diabetes-related cognitions for intention to be physically active and eat a healthy diet? *Public Health Nursing, 24*, 141–150. doi:10.1111/j.1525-1446.2007.00618.x
- Boule, N. G., Haddad, E., Kenny, G. P., Wells, G. A., & Sigal, R. J. (2001). Effects of exercise on glycemic control and body mass in Type 2 diabetes mellitus: A meta-analysis of controlled clinical trials. *Journal of the American Medical Association, 286*, 1218–1227. doi:10.1001/jama.286.10.1218
- Bray, J. W., Kelly, E. L., Hammer, L. B., Almeida, D. M., Dearing, J. W., King, R. B., & Buxton, O. M. (2013). *An integrative, multilevel, and transdisciplinary research approach to challenges of work, family, and health*. RTI Press publication No. MR-0024-1303. Research Triangle, NC: RTI Press.
- Bucic, T., Robinson, L., & Ramburuth, P. (2010). Effects of leadership style on team learning. *Journal of Workplace Learning, 22*, 228–248. doi:10.1108/13665621011040680
- Byers, D., Garth, K., Manley, D., & Chlebowy, D. O. (2016). Facilitators and barriers to Type 2 diabetes self-management among rural African American adults. *Journal of Health Disparities Research and Practice, 9*(1), 164–174. Retrieved March 20, 2017 from <http://digitalscholarship.unlv.edu/cgi/viewcontent.cgi?article=1395&context=jhdrp>
- Carey, M. P., & Forsyth, A. D. (2017). *Teaching tip sheet: Self-efficacy*. Retrieved March 30, 2017 from <http://www.apa.org/pi/aids/resources/education/self-efficacy.aspx>

- Centers for Disease Control and Prevention. (2011a). *National diabetes fact sheet: General information and national estimates on diabetes in the United States*. Atlanta, GA: U.S. Department of Health and Human Services.
- Centers for Disease Control and Prevention. (2011b). *Successes and opportunities for population-based prevention and control at a glance 2011*. Retrieved December, 2, 2016 from <http://www.cdc.gov/chronicdisease/resources/publications/AAG/ddt.htm>
- Centers for Disease Control and Prevention. (2014). *National diabetes statistics report: Estimates of diabetes and its burden in the United States*. Retrieved December 5, 2017 from <http://www.thefdha.org/pdf/diabetes.pdf>
- Centers for Disease Control and Prevention. (2015). *National diabetes statistics report: Estimates of diabetes and its burden in the United States*. Atlanta, GA: Retrieved December 10, 2016 from <https://stacks.cdc.gov/view/cdc/23442>
- Chan, Q., Stamler, J., & Elliott, P. (2015). Dietary factors and high blood pressure in African-Americans. *Current Hypertension Reports*, 17(2), Art. 10. doi:10.1007/s11906-014-0517-x
- Chenail, R. J. (2012). Conducting qualitative data analysis: Qualitative data analysis as a metaphoric process. *Qualitative Report*, 17, 248–253. Retrieved May 1, 2017 from <http://nsuworks.nova.edu/tqr/vol17/iss1/13>
- Cheng, D. (2005). Prevalence, predisposition and prevention of type II diabetes. *Nutrition & Metabolism*, 2(29). doi:10.1186/1743-7075-2-29

- Chin, M. H., Polonsky, T. S., Thomas, V. D., & Nerney, M. P. (2000). Developing a conceptual framework for understanding illness and attitudes in older, urban, African Americans with diabetes. *Diabetes Educator, 26*, 439–449. doi:10.1177/014572170002600311
- Chin, M. H., Zhang, J. X., & Merrell, K. (1998). Diabetes in the African American Medicare population: Quality of care, and resource utilization. *Diabetes Care, 21*, 1090–1095. doi:10.2337/diacare.21.7.1090
- Chrvala, C. A., Sherr, D., & Lipman, R. D. (2016). Diabetes self-management education for adults with Type 2 diabetes mellitus: A systematic review of the effect on glycemic control. *Patient Education & Counseling, 99*, 926–943. doi:10.1016/j.pec.2015.11.003
- Clark, M., Hampson, S. E., Avery, L., & Simpson, R. (2004). Effects of a tailored lifestyle self-management intervention in patients with Type 2 diabetes. *British Journal of Psychology, 9*, 365–379. doi:10.1348/1359107041557066
- Cochran, J., & Conn. V. S. (2008). Meta-analysis of quality of life outcomes following diabetes self-management training. *Diabetes Educator, 34*, 815–823. doi:10.1177/0145721708323640
- Cohen, L., Manion, L., & Morrison, K. (2000). *Research methods in education* (5th ed.). New York, NY: RoutledgeFalmer.
- Colaizzi, P. (1973). *Reflection and research in psychology*. Dubuque, IA: Kendall-Hunt.
- Colberg, S. R., Sigal, R. J., Fernhall, B., Regensteiner, J. G., Blissmer, B. J., Rubin, R. R., ... Braun, B. (2010). Exercise and Type 2 diabetes. *Diabetes Care, 33*, e147–e167. doi:10.2337/dc10-9990

- Collins, R., & Winkleby, M. A. (2002). African American women and men at high and low risk for hypertension: A signal detection analysis of NHANES III, 1988–1994. *Preventive Medicine, 35*, 303–312. doi:10.1006/pmed.2002.1081
- Connelly, L. M. (2010). What is phenomenology? *Medsurg Nursing, 19*(2), 127-128.
- Conner, M., Kirk, S. F., Cade, J. E., & Barrett, J. H. (2003). Environmental influences: Factors influencing a woman's decision to use dietary supplements. *Journal of Nutrition, 133*, 1978–1982. Retrieved March 5, 2017 from <http://jn.nutrition.org/content/133/6/1978S.full.pdf+html>
- Conner, M., Norman, P., & Bell, R. (2002). The theory of planned behavior and healthy eating. *Health Psychology, 21*, 194–201. doi:10.1037/0278-6133.21.2.194
- Creswell, J. W. (2012). *Qualitative inquiry & research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage.
- Dansinger, M. (2015). *The Hemoglobin A1c (HbA1c) test for diabetes*. WebMD. Retrieved May 10, 2017 from <http://www.webmd.com/diabetes/guide/glycated-hemoglobin-test-hba1c>
- Davenport, T. H., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Cambridge, MA: Harvard Business School Press.
- Denzin, N. K. & Lincoln, W. S. (2000). *Handbook of Qualitative Research*. (2nd ed.). Thousand Oaks, CA: Sage.
- Denzin, N. K., & Lincoln, Y. (Eds.). (2003). *The landscape of qualitative research: Theories and issues* (2nd ed.). Thousand Oaks, CA: Sage.

- Doswell, W. M., Braxter, B. J., Cha, E., & Kim, K. H. (2011). Testing the theory of reasoned action in explaining sexual behavior among African American young teen girls. *Journal of Pediatric Nursing, 26*, e45–54. doi:10.1016/j.pedn.2011.03.007
- Downs, D. S., & Hausenblas, H. A. (2005). The theories of reasoned action and planned behavior applied to exercise: A meta-analytic update. *Journal of Physical Activity & Health, 2*, 76–97. doi:10.1123/jpah.2.1.76
- Duncan, I., Ahmed, T., Li, Q. E., Stetson, B., Ruggiero, L. Burton, K., ... Fitzner, K. (2011). Assessing the value of the diabetes educator. *Diabetes Educator, 37*, 638–657. doi:10.1177/0145721711416256
- Engstrom, M. S., Leksell, J., Johansson, U., & Gudbjornsdottir, S. (2016). What is important for you? A qualitative interview study of living with diabetes and experiences of diabetes care to establish a basis for a tailored patient-reported outcome measure for the Swedish National Diabetes Register. *British Medical Journal, 6*, 1–10. doi:10.1136/bmjopen-2015-010249
- Ervin, R. B., & Ogden, C. L. (2013). Consumption of added sugars among U.S. adults, 2005-2010. Retrieved June 10, 2017.
- Faghri, P., & Buden, J. (2015). Health behavior knowledge and self-efficacy as predictors of body weight. *Journal of Nutrition Disorders & Therapy, 5*, 169–174. doi:10.4172/2161-0509.1000169
- Farrell, K., Wicks, M. N., & Martin, J. C. (2004). Chronic disease self-management improved with enhanced self-efficacy. *Clinical Nursing Research, 13*, 289–308. doi:10.1177/1054773804267878

- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Fowler, M. (2007). Diabetes treatment: Part 1, diet and exercise. *Clinical Diabetes*, *25*, 105–109. doi:10.2337/diaclin.25.3.105
- Funnell, M. (2013). Beyond the data: Moving towards a new DAWN in diabetes. *Diabetic Medicine*, *30*, 765–766. doi:10.1111/dm3.12244
- Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *Qualitative Report*, *20*, 1408–1416. Retrieved May 20, 2017 from https://www.researchgate.net/publication/282955844_Are_We_There_Yet_Data_Saturation_in_Qualitative_Research
- Giorgi, A. (1975). An application of phenomenological method. In A. Giorgi, C. Fischer, & E. Murray (Ed.), *Duquesne studies in phenomenological psychology* (Vol. II). Pittsburgh, PA: Duquesne University Press. doi:10.5840/dspp197521
- Glasgow, R. E. (1994). Social-environmental factors in diabetes: Barriers to diabetes self-care. In C. Bradely (Ed.), *Handbook of psychology and diabetes* (pp. 335–349). Chur, Switzerland: Harwood Academic.
- Glasgow, R. E., Hampson, S. E., Strycker, L. A., & Ruggiero, L. (1997). Personal-model beliefs and social environmental barriers related to diabetes self-management. *Diabetes Care*, *20*, 556–561. doi:10.2337/diacare.20.4.556
- Go, A. S., Mozaffarian, D., Roger, V. L., Benjamin, E. J., Berry, J. D., Blaha, M. J., ... Turner, M. B. (2014). Heart disease and stroke statistics—2014 update. *American Heart Association*. 129: e28–e292. doi:10.1161/01.cir.0000441139.02102.80

- Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *Qualitative Report, 8*, 597–607. Retrieved May 15, 2017 from <http://nsuworks.nova.edu/tqr/vol8/iss4/6/>
- Goldblatt, H., Karnieli-Miller, O., & Neumann, M. (2011). Sharing qualitative research findings with participants: Study experiences of methodological and ethical dilemmas. *Patient Education & Counseling, 82*, 389–395. doi:10.1016/j.pec.2010.12.016
- Greenbank, P. (2003). The role of values in educational research: The case for reflexivity. *British Educational Research Journal, 29*, 791–801. doi:10.1080/0141192032000137303
- Gross, L. S., Li, I., Ford, E. S., & Liu, S. (2004). Increased consumption of refined carbohydrates and the epidemic of Type 2 diabetes in the United States: An ecological assessment. *American Journal of Clinical Nutrition, 79*, 774–779. Retrieved June 10, 2017 from <http://ajcn.nutrition.org/content/79/5/774.full>
- Gu, K., Cowie, C. C., & Harris, M. I. (1998). Mortality in adults with and without diabetes in a national cohort of the US population, 1971–1993. *Diabetes Care, 21*, 1138–1145. doi:10.2337/dc09-0680
- Gunggu, A., Thon, C. C., & Lian, C. W. (2016). Predictors of diabetes self-management among Type 2 diabetes patients. *Journal of Diabetes Research*. Art. 9158943. doi:10.1155/2016/9158943
- Haas, L., Maryniuk, M., Beck, J., Cox, C. E., Duker, P., Edwards, L., ... Youssef, G. (2012). National standards for diabetes self-management education and support. *Diabetes Care, 35*, 2393–2401. doi:10.2337/dc12-1707

- Hampson, S. E., Glasgow, R. E., & Toobert, D. J. (1990). Personal models of diabetes & their relations to self-care activities. *Health Psychology, 9*, 632–646. doi:10.1037/0278-6133.9.5.632
- Hansen, E., Landstad, B. J., Hellzen, O., & Svebak, S. (2011). Motivation for lifestyle changes to improve health in people with impaired glucose tolerance. *Scandinavian Journal of Caring Sciences, 25*, 484–490. doi:10.1111/j.1471-6712.2010.00853.x
- Harris, M. I., Flegal, K. M., Cowie, C. C., Eberhardt, M. S., Goldstein, D. E., Little, R. R., ... Byrd-Holt, D. D. (1998). Prevalence of diabetes, impaired fasting glucose, and impaired glucose tolerance in US adults. The Third National Health and Nutrition Examination Survey, 1988–1994. *Diabetes Care, 21*, 518–524. doi:10.2337/diacare.21.4.518
- Hausenblas, H. A., Carron, A. V., & Mack, D. E. (1997). Application of the theories of reasoned action and planned behavior to exercise behavior: A meta-analysis. *Journal of Sport & Exercise Psychology, 19*, 36–51. doi:10.1123/jsep.19.1.36
- Helmrich, S. P., Ragland, D. R., Leung, R. W., & Paffenbarger, R. S. (1991). Physical activity and reduced occurrence of non-insulin-dependent diabetes mellitus. *New England Journal of Medicine, 325*, 147–152. doi:10.1056/NEJM199107183250302

- Hemmingsen, B., Lund, S. S., Gluud, C., Vaag, A., Almdal, T. P., Hemmingsen, C., & Wettersley, J. (2013). Targeting intensive glyceemic control versus targeting conventional glyceemic control for Type 2 diabetes mellitus. *Cochrane Database of Systematic Reviews*, 2013, Issue 11, Art. CD008143. doi:10.1002/14651858.CD008143.pub3
- Hibbard, J., Mahoney, E., Stock, R., Tusler, M. (2007). Self-management and health care utilization. *Health Research and Educational Trust*, 42, 1443–1463. doi:10.1111/j.1475-6773.2006.00669.x
- Hoffman, A. J. (2003). Enhancing self-efficacy for optimized patient outcomes through the theory of symptom self-management. *Cancer Nursing*, 36(1), E16-E26. doi:10.1097/NCC.0b013e31824a730a.
- Hoffman, A. J. (2013). Enhancing self-efficacy for optimized patient outcomes through the theory of symptom self-management. *Cancer Nursing*, 36, e16–e26. doi:10.1097/NCC.0b013e31824a730a
- Holloway, J. E. (2005). *Africanisms in American culture*. Bloomington: Indiana University Press.
- Holmen, H., Wahl, A., Torbjornsen, A., Jenum, A. K., Smastuen, M. C., & Ribu, L. (2016). Stages of change for physical activity and dietary habits in persons with Type 2 diabetes included in a mobile health intervention: The Norwegian study in Renewing Health. *BMJ Open Diabetes Research Care*, 4, Art. e000193. doi:10.1136/bmjdr-2016-000193

Huizen, J. (2017). *Diabetes and life expectancy: What effect does Type 2 diabetes have?*

Retrieved January 15, 2017 from <http://www.medicalnewstoday.com/articles/317477.php>

Husserl, E. (1970). *Logical investigation*. New York, NY: Humanities Press.

Hycner, R. H. (1985). Some guidelines for the phenomenological analysis of interview data. *Human Studies*, 8, 279-303.

Hycner, R. H. (1999). Some guidelines for the phenomenological analysis of interview data. In A. Bryman & R. G. Burgess (Eds.), *Qualitative research* (Vol. 3, pp. 143–164). Thousand Oaks, CA: Sage.

Johnson, R. B. (1997). Examining the validity structure of qualitative research. *Education*, 118, 282–292. Retrieved May 18, 2017 from https://www.researchgate.net/profile/R_Johnson3/publication/246126534_Examining_the_Validity_Structure_of_Qualitative_Research/links/54c2af380cf219bbe4e93a59/Examining-the-Validity-Structure-of-Qualitative-Research.pdf

Jonsson, P. (2006). Back-story: Southern discomfort food. *Christian Science Monitor*.

Retrieved December 10, 2016 from <http://www.csmonitor.com/2006/0206/p20s01-lifo.html>

Joseph, J. J., Echouffo-Tcheugui, J. B., Golden, S. H., Chen, H., Jenny, N. S., Camethon, M. R., ... Bertoni, A. G. (2016). Physical activity, sedentary behaviors and the incidence of Type 2 diabetes mellitus: The Multi-Ethnic Study of Atherosclerosis (MESA). *BMJ Open Diabetes Research and Care*, 23, Art. e000185. doi:10.1136/bmjdr-2015-000185

- Kann, L., Kinchen, S., Shanklin, S. L., Flint, K. H., Hawkins, J., Harris, W. A., ... Zaza, S. (2013). Youth risk behavior surveillance—United States. *Morbidity and Mortality Weekly Report*, 63(SS04), 1–168. Retrieved November 20, 2016 from <https://www.cdc.gov/mmwr/preview/mmwrhtml/ss6304a1.htm>
- Keen, E. (1975). *A primer in phenomenological psychology*. New York, NY: Holt, Reinhart and Winston.
- Knowler, W. C., Barrett-Connor, E., Fowler, S. E., Hamman, R. F., Lachin, J. M., Walker, E. A., & Nathan, D. M. (2002). Reduction in the incidence of Type 2 diabetes with lifestyle intervention or metformin. *New England Journal of Medicine*, 346, 393–403. doi:10.1056/NEJMoa012512
- Konen, J. C., Summerson, J. H., Bell, R. A., & Curtis, L. G. (1999). Racial differences in symptoms and complications in adults with Type 2 diabetes mellitus. *Ethnicity & Health*, 4, 39–49. doi:10.1080/13557859998182
- Korkiakangas, E. E., Alahuhta, M. A., Husman, P. M., Keinanen-Kiukaanniemi, S., Taanila, A. M., & Laitinen, J. H. (2011). Motivators and barriers to exercise among adults with a high risk of Type 2 diabetes—A qualitative study. *Scandinavian Journal of Caring Sciences*, 25, 62–69. doi:10.1111/j.1471-6712.2010.00791.x
- Kushi, L. H., Doyle, C., McCullough, M., Rock, C. L., Demark-Wahnefried, W., Bander, E. V., ... Gansler, T. (2012). American Cancer Society guidelines on nutrition and physical activity for cancer prevention: Reducing the risk of cancer with healthy food choices and physical activity. *CA: A Cancer Journal for Clinicians*, 62, 30–67. doi:10.3322/caac.20140

- Lauritzen, T., Griffin, S., Borch-Johnsen, K., Wareham, N. J., Wolffenbuttel, B. H., & Rutten, G. (2000). The ADDITION study: Proposed trial of the cost-effectiveness of an intensive multi-factorial intervention on morbidity and mortality among people with Type 2 diabetes detecting by screening. *International Journal of Obesity and Related Metabolic Disorders*, *24*, S6–11. doi:10.1038/sj.ijo.0801420
- Lave, J., & Kvale, S. (1995). What is anthropological research? An interview with Jean Lave by Steinar Kvale. *International Journal of Qualitative Studies in Education*, *8*, 219–228. doi:10.1080/0951839950080301
- Layder, D. (1998). *Social practice: Linking theory and social research*. Thousand Oaks, CA: Sage.
- Leonard, B. (2013). *What is diet & nutrition?* Retrieved January 25, 2017 from <http://www.takingcharge.csh.umn.edu/enhance-your-wellbeing/health/diet-nutrition/what-diet-nutrition>
- Leontis, L. M. (2016). *Type 2 diabetes: How to lose weight*. Retrieved December 5, 2016 from <https://www.endocrineweb.com/conditions/type-2-diabetes/type-2-diabetes-how-lose-weight>
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Thousand Oaks, CA: Sage.
- Long, T., & Johnson, M. (2000). Rigor, reliability and validity in qualitative research. *Clinical Effectiveness in Nursing*, *4*, 30–37. doi:10.1054/cein.2000.0106
- Lorig, K. R., & Holman, H. (2003). Self-management education: History, definition, outcomes, and mechanisms. *Annals of Behavioral Medicine*, *26*, 1–7. doi:10.1207/S15324796ABM2601_01

- Lorig, K. R., Sobel, D. S., Ritter, P. L., Laurent, D., & Hobbs, M. (2001). Effects of a self-management program on patients with chronic disease. *Effective Clinical Practice, 4*(6), 256-262.
- Low, L. L., Tong, S. F., & Low, W. Y. (2014). Mixed feelings about the diagnosis of Type 2 diabetes mellitus: A consequence of adjusting to healthy related quality of life. *Collegium Antropologicum, 38*, 11–20. Retrieved May, 10, 2017 from <http://www.collantropol.hr/antropo/article/view/769>
- Madden, T. J., Ellen, P. S., & Ajzen, I. (1992). A comparison of the theory of planned behavior and the theory of reasoned action. *Personality and Social Psychology Bulletin, 18*, 3–9. doi:10.1177/0146167292181001
- Marshall, M. C., Jr. (2005). Diabetes in African Americans. *Postgraduate Medical Journal, 81*, 734–740. doi:10.1136/pgmj.2004.028274
- Maxwell, J. A. (2012). *Qualitative research design: An interactive approach* (3rd ed.). Thousand Oaks, CA: Sage.
- Mayo Clinic. (2014). *Diabetes management: How lifestyle, daily routine affect blood sugar*. Retrieved May 1, 2017 from <http://www.mayoclinic.org/diseases-conditions/diabetes/in-depth/diabetes-management/art-20047963>
- Mayo Clinic. (2015). *Type 2 diabetes: Symptoms and causes*. Retrieved April 10, 2017 from <http://www.mayoclinic.org/diseases-conditions/type-2-diabetes/basics/complications/con-20031902>
- Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative Data Analysis: A Methods Sourcebook*. (3rd ed.). Thousand Oaks, CA: Sage.

- Mischler, E. G. (2000). Validation in inquiry-guided research: The role of exemplars in narrative studies. *Harvard Educational Review, 60*, 415–442. doi:10.17763/haer.60.4.n4405243p6635752
- Morrow, S. L. (2005). Quality and trustworthiness in qualitative research in counseling psychology. *Journal of Counseling Psychology, 52*, 250–260. doi:10.1037/0022-0167.52.2.250
- Morse, J. M., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods, 1*, Art. 2. doi:10.1177/160940690200100202
- Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage.
- National Institute of Diabetes and Digestive and Kidney Diseases. (2016a). *Diet & nutrition*. Retrieved March, 25, 2017 from <https://www.niddk.nih.gov/health-information/diet-nutrition>
- National Institute of Diabetes and Digestive and Kidney Diseases. (2016b). *What is diabetes?* Retrieved February 10, 2017 from <https://www.niddk.nih.gov/health-information/diabetes/overview/what-is-diabetes>
- National Institutes of Health. (2016). *What is physical activity?* Retrieved January 20, 2017 from <https://www.nhlbi.nih.gov/health/health-topics/topics/phys>
- National Recreation and Park Association. (2014). *Parks and recreation in underserved areas: A public health perspective*. Ashburn, VA: Author.

- Nguyen, M. N., Potvin, L., & Otis, J. (1997). Regular exercise in 30- to 60-year-old men: Combining the stages-of-change model and the theory of planned behavior to identify determinants for targeting heart health interventions. *Journal of Community Health, 22*, 233–246. doi:10.1023/A:1025196218566
- Nigatu, T. (2009). *Qualitative data analysis*. Retrieved May 30, 2017 from <http://www.slideshare.net/tilahunigatu/qualitative-data-analysis-11895136>
- Noble, H., & Smith, J. (2015). Issues of validity and reliability in qualitative research. *Evidence-Based Nursing, 18*, 34–36. doi:10.1136/eb-2015-102054
- Nordqvist, C. (2015). *What is healthy eating? What is a healthy diet?* Retrieved May 28, 2017 from <http://norkeys.com/2015/06/15/what-is-healthy-eating-what-is-a-healthy-diet/>
- Norris, S. L., Lau, J., Smith, S. J., Schmid, C. H., & Engelgau, M. M. (2002). Self-management education for adults with Type 2 diabetes: A meta-analysis of the effect on glycemic control. *Diabetes Care, 25*, 1159–1171. doi:10.2337/diacare.25.7.1159
- Paddock, C. (2014). *Diabetes rise in the US is “alarming” say CDC*. Retrieved December 2, 2016 from <http://www.medicalnewstoday.com/articles/278140.php>
- Pare, M. (2016). *Qualitative data analysis: Concepts and approaches*. Retrieved April 10, 2017 from <https://www.maxwell.syr.edu/uploadedFiles/moynihan/cqrm/Pare%CC%81%20%20SD101A%20Qualitative%20Data%20Analysis%20Concepts%20and%20Approaches.pdf>

- Paris, R. M., Bedno, S. A., Krauss, M. R., Keep, L. W., & Rubertone, M. V. (2001). Weighing in on Type 2 diabetes in the military: Characteristics of U.S. military personnel at entry who develop Type 2 diabetes. *Diabetes Care*, *24*, 1894–1898. doi:10.2337/diacare.24.11.1894
- Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Thousand Oaks, CA: Sage.
- Patton, M. Q. (2002). *Qualitative research & evaluation methods*. Thousand Oaks, CA: Sage.
- Petty, N. J., Thomson, O. P., & Stew, G. (2012). Ready for a paradigm shift? Part 1: Introducing the philosophy of qualitative research. *Manual Therapy*, *17*, 267–274. doi:10.1016/j.math.2012.03.006
- Peyrot, M., & Rubin, R. R. (2007). Behavioral and psychosocial interventions in diabetes. *Diabetes Care*, *30*, 2433–2440. doi:10.2337/dc07-1222
- Pietkiewicz, I., & Smith, J. A. (2014). A practical guide to using interpretative phenomenological analysis in qualitative research psychology. *Czasopismo Psychologiczne (Psychological Journal)*, *20*, 361–369. doi:10.14691/CPJ.20.1.7
- Pillay, J., Armstrong, M. J., Butalia, S., Donovan, L. E., Sigal, R. J., Vandermeer, B., ... Dryden, D. M. (2015). Behavioral programs for Type 2 diabetes mellitus: A systematic review and network meta-analysis. *Annals of Internal Medicine*, *163*, 848–860. doi:10.7326/M15-1400

- Powers, M. A., Bardsley, J., Cypress, M., Duker, P., Funnell, M. M., Fischl, A. H., ... Vivian, E. (2015). Diabetes self-management education and support in Type 2 diabetes. *Diabetes Care*, 38, 1372–1382. doi:10.1177/0145721716689694
- Preedy, V. R., Hunter, L.-A., & Patel, V. (Eds.). (2013). *Diet quality: An evidence-based approach Vol. 1*. New York, NY: Humana Press.
- QSR International. (2014). *NVivo 10 for windows: Getting started*. Retrieved April 10, 2017 from <http://download.qsrinternational.com/Document/NVivo10/NVivo10-Getting-Started-Guide.pdf>
- Radhakrishnan, K. (2012). The efficacy of tailored interventions for self-management outcomes of type 2 diabetes, hypertension or heart disease: A systematic review. *Journal of Advanced Nursing*, 68(3), 496-510. doi: 10.1111/j.1365-2648.2011.05860.x.
- Rahim-Williams, B. (2011). Beliefs, behaviors, and modifications of Type 2 diabetes self-management among African American women. *Journal of the National Medical Association*, 103, 203–215. Retrieved November 5, 2016 from [http://www.journalnma.org/article/S0027-9684\(15\)30300-X/pdf](http://www.journalnma.org/article/S0027-9684(15)30300-X/pdf)
- Ruggiero, L., Glasgow, R. E., Dryfoos, J. M., Rossi, J. S., Prochaska, J. O., Orleans, C. T., ... Reed, G. R. (1997). Diabetes self-management: Self-reported recommendations and patterns in a large population. *Diabetes Care*, 20, 568–576. doi:10.2337/diacare.20.4.568
- Sadick, B. (2017). *Regaining your energy with Type 2 diabetes: Tips to prevent fatigue*. Retrieved June 20, 2017 from <https://www.everydayhealth.com/hs/type-2-diabetes/regaining-energy-with-diabetes/>

- Sanders-Thompson, V. L., Johnson-Jennings, M., Baumann, A. A., & Proctor, E. (2015). Use of culturally focused frameworks for adapting diabetes prevention programs: A qualitative review. *Preventing Chronic Disease, 12*, Art. 140421. doi:10.5888/pcd12.140421
- Sanjari, M., Bahramnezhad, F., Fomani, F. H., Shoghi, M., & Cheraghi, M. A. (2014). Ethical challenges of researchers in qualitative studies: The necessity to develop a specific guideline. Retrieved July 15, 2017 from https://www.researchgate.net/publication/269712541_Ethical_challenges_of_researchers_in_qualitative_studies_The_necessiy_to_develop_a_specific_guideline
- Schram, M. T., Baan, C. A., & Pouwer, F. (2009). Depression and quality of life in patients with diabetes: A systematic review from the European depression in diabetes (EDID) research consortium. *Current Diabetes Reviews, 5*, 112–119. doi:10.2174/157339909788166828
- Scott, J. A. (2016). *Diabetes by the numbers*. Retrieved November 10, 2016 from <https://www.everydayhealth.com/hs/managing-type-2-diabetes/diabetes-by-the-numbers/>
- Seeleang, K. (2010). Genetic disparities in the development of Type 2 diabetes among African Americans. *Journal of the American Academy of Nurse Practitioners, 23*, 473–478. doi:10.1111/j.1745-7599.2011.00645.x
- Sekot, A. (2010). Physical activity as a sociological phenomenon. *Physical Culture and Sport: Studies and Research, 50*, 32–43. doi:10.2478/v10141-010-0022-0
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information, 22*, 63–75. doi:10.3233/EFI-2004-22201

- Simon, M. (2011). *Assumption, limitations and delimitations*. Retrieved October 29, 2016 from <http://dissertationrecipes.com/wp-content/uploads/2011/04/AssumptionslimitationsdelimitationsX.pdf>
- Sjoberg, S., Kim, K., & Reicks, M. (2004). Applying the theory of planned behavior to fruit and vegetable consumption by older adults. *Journal of Nutrition for the Elderly*, 23(4), 35–46. doi:10.1300/J052v23n04_03
- Snyder, C. R., & Lopez, S. J. (2007). *Positive psychology: The scientific and practical explorations of human strength*. Thousand Oaks, CA: Sage.
- Stateofobesity.org. (2014). *Obesity prevention in black communities*. Retrieved from <http://stateofobesity.org/disparities/blacks/>
- Statistics Solutions. (2017). *What is trustworthiness in qualitative research?* Retrieved December 15, 2016 from <http://www.statisticssolutions.com/?s=%22What+is+trustworthiness+in+qualitative+research%3F+%22>
- Steinsbekk, A., Rygg, L. Ø., Lisulo, M., Rise, M. B., & Fretheim, A. (2012). Group based diabetes self-management education compared to routine treatment for people with Type 2 diabetes mellitus. A systematic review with meta-analysis. *BMC Health Services Research*, 12, Art. 213. doi:10.1186/1472-6963-12-213
- Strecher, V. J., DeVellis, B. M., Becker, M. H., & Rosenstock, I. M. (1986). The role of self-efficacy in achieving health behavior change. *Health Education Quarterly*, 13, 73–92. doi:10.1177/109019818601300108
- Strychar, I., Elisha, B., & Schmitz, N. (2012). Type 2 diabetes self-management: Role of diet self-efficacy. *Canadian Journal of Diabetes*, 36, 337–344. doi:10.1016/j.cjcd.2012.10.005

- Tang, T. S., Funnell, M. M., & Oh, M. (2012). Lasting effects of a 2-year diabetes self-management support intervention: Outcomes at 1-year follow-up. *Preventing Chronic Disease, 9*, Art. E109. doi:10.5888/pcd9.110313
- Thorpe, C. T., Fahey, L. E., Johnson, H., Deshpande, M., Thorpe, J. M., & Fisher, E. B. (2013). Facilitating healthy coping in patients with diabetes: a systematic review. *Diabetes Education, 39*, 33–52. doi:10.1177/0145721712464400
- Trochim, W. M. (2006). *Qualitative validity*. Retrieved April 15, 2017 from <http://www.socialresearchmethods.net/kb/qualval.php>
- Tufford, L., & Newman, P. (2010). Bracketing in qualitative research. *Qualitative Social Work, 11*, 80–96. doi:10.1177/1473325010368316
- Tull, E. S., & Roseman, J. M. (1995). *Diabetes in African Americans*. In National Institute of Diabetes and Digestive and Kidney Diseases (Ed.), *Diabetes in America* (2nd ed., pp. 613–630). Retrieved November 25, 2016 from <https://www.niddk.nih.gov/about-niddk/strategic-plans-reports/Documents/Diabetes%20in%20America%202nd%20Edition/chapter31.pdf>
- U.S. Census Bureau. (2011). *Overview of race and Hispanic origin 2010*. Retrieved October 10, 2016 from <http://www.census.gov/prod/cen2010/briefs/c2010br-02.pdf>
- U.S. Department of Health and Human Services. (1985). *Report of the Secretary's task force on Black and minority health*. Retrieved November 22, 2016 from https://health.wyo.gov/wp-content/uploads/2016/02/43-14579_reportofsecretar00usde.pdf

- U.S. Department of Health and Human Services, Office of Minority Health. (2014). *Obesity and African Americans*. Retrieved October 10, 2016 from <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=25>
- U.S. Department of Health and Human Services, Office of Minority Health. (2016). *Diabetes and African Americans*. Retrieved October 20, 2016 from <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=18>
- Utz, S. W., Steeves, R. H., Wenzel, J., Hinton, I., Jones, R. A., Andrews, D., ... Oliver, M. N. (2006). "Working hard with it": Self-management of Type 2 diabetes by rural African Americans. *Family & Community Health, 29*, 195–205. doi:10.1097/00003727-200607000-00006
- Van der Bijl, J. J., & Shortridge-Baggett, L. M. (2002). The theory and measurement of the self-efficacy construct. *Scholarly Inquiry for Nursing Practice, 15*, 189–207.
- Van Manen, M. (1990). *Researching lived experience: Human science for an action sensitive pedagogy*. Walnut Creek, CA: Left Coast Press.
- Van Manen, M. (2007). Phenomenology of practice. *Phenomenology & Practice, 1*(1), 11-30.
- Wagner, E., Austin, B., & Von Korff, M. (1996). Improving outcomes in chronic illness. *Managed Care Quarterly, 4*, 12–25.
- Waters, J. (2017). *Phenomenological research guidelines*. Retrieved February 10, 2017 from <https://www.capilanou.ca/psychology/student-resources/research-guidelines/Phenomenological-Research-Guidelines/>

- Weinstein, N. (1993). Testing four competing theories of health-practice behavior. *Health Psychology, 12*, 324–333. Retrieved March 10, 2017 from <http://www.uvm.edu/~bwilcke/weinstein.pdf>
- Welman, J. C., & Kruger, S. J. (1999). *Research methodology for the business and administrative sciences*. Johannesburg, South Africa: International Thompson.
- Wijesuriya, M. A., De-Abrew, W. K., Weerathunga, A., Perera, A., & Vasantharajah, L. (2012). Association of chronic complications of Type 2 diabetes with the biochemical and physical estimations in subjects attending single visit screening for complications. *Journal of Diabetology, 1*, 3–13.
- Williams, J. S., Lynch, C. P., Knapp, R. G., & Egede, L. E. (2014). Technology-Intensified Diabetes Education Study (TIDES) in African Americans with type 2 diabetes: Study protocol for a randomized controlled trial. *Trials, 15*, 460. doi:10.1186/1745-6215-15-460.
- Zhang, X., Norris, S. L., Chowdhury, F. M., Gregg, E. W., & Zhang, P. (2007). The effects of interventions on health-related quality of life among persons with diabetes: A systematic review. *Medicine Care, 45*, 820–834. doi:10.1097/MLR.0b013e3180618b55
- Zimmet, P. Z., Collins, V. R., Dowse, C. K., Alberti, M. M., Tuomilehto, J., Gareeboo, H., & Chitson, P. (1991). The relation of physical activity to cardiovascular disease risk factors in Mauritians. *American Journal of Epidemiology, 134*, 862–875. doi:10.1093/oxfordjournals.aje.a116161

Appendix A: Interview Protocol Form

Research Study: Effects of Lifestyle Changes on the Health of African American Diabetics in Charlotte

Date: _____

Time: _____

Location: _____

Interviewer: _____

Interviewee: _____

Release form signed? _____

Notes to interviewee:

Thank you for your participation. I believe your input will be valuable to this research and in helping to expand knowledge and understanding of this phenomenon.

Confidentiality of participants and their responses is guaranteed.

Approximate length of interview: 30 minutes to 1 hour, seven major questions.

What is the purpose of research?

The purpose of the research to better understand the essence of the lived experience of the phenomenon of physical activity and dietary changes, and whether these self-efficacy behaviors have impacted the overall health of African American adults with Type 2 diabetes or not.

Interview Questions:

1. What are your thoughts about changing your diet and adding physical activity to your daily routine?

Response from Interviewee:

2. What made you decide to add exercise and proper diet to your lifestyle?

Response from Interviewee:

3. Can you describe what changes, if any, you have experienced with the addition of physical activity to your lifestyle?

Response from Interviewee:

4. Can you describe what changes if any you have experienced with the addition of dietary changes to your lifestyle?

Response from Interviewee:

5. What do you think the addition of these lifestyle modification changes can or have had on your health?

Response from Interviewee:

6. Can you describe what you think will happen to your health if you stopped these lifestyle modification behaviors?

Response from Interviewee:

7. What are some of the challenges you encountered in making these lifestyle modification behavioral changes?

To close the interview:

I thank you for giving your valuable time for this interview, and I reassure you of the confidentiality of your identity and responses. I also ask for your permission to call you for any follow-up questions that I might have related to this study.

Appendix B: Letter of Cooperation, ALFA Medical Clinic

Letter of Cooperation from ALFA Medical Clinic, PA.

ALFA Medical Clinic, PA.
2540 West Arrowood Road, #110,
Charlotte, NC. 28273
(704) 588-9997

Date: 2/10/2017

Dear Charles Osei-Duro,

Based on my review of your research proposal, I give permission for you to conduct the study entitled "Effects of Lifestyle changes on the Health of African American Type 2 Diabetics" within ALFA Medical Clinic. As part of this study, I authorize you to put flyers in the patient waiting areas, email/mail flyers or study information to African American type 2 diabetes patients, and conduct interviews at the facility. Individuals' participation will be voluntary and at their own discretion.

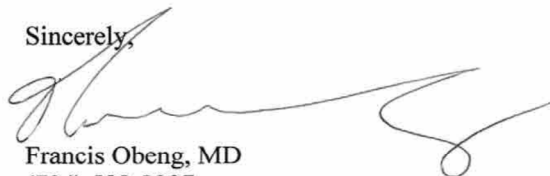
We understand that our organization's responsibilities include: Giving full access to front office staff, break room and manager's office, and any other resources that will make it possible for you to conduct successful interviews and data collection. We reserve the right to withdraw from the study at any time if our circumstances change.

I understand that the student will not be naming our organization in the doctoral project report that is published in ProQuest.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University IRB.

Sincerely,



Francis Obeng, MD
(704) 588-9997

Walden University policy on electronic signatures: An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically. Electronic signatures are regulated by the Uniform Electronic Transactions Act. Electronic signatures are only valid when the signer is either (a) the sender of the email, or (b) copied on the email containing the signed document. Legally an "electronic signature" can be the person's typed name, their email address, or any other identifying marker. Walden University staff verify any electronic signatures that do not originate from a password-protected source (i.e., an email address officially on file with Walden).

Appendix C: Letter of Cooperation, Crown Clinic

Letter of Cooperation from Crown Clinic

Crown Clinic
4500 South Tryon Street,
Charlotte, NC. 28217
(704) 527-5522

Date: 02/20/2017

Dear Charles Osei-Duro,

Based on my review of your research proposal, I give permission for you to conduct the study entitled "Effects of Lifestyle changes on the Health of African American Type 2 Diabetics" within Crown Clinic.. As part of this study, I authorize you to put flyers in the patient waiting areas, email/mail flyers or study information to patients, and conduct interviews at the facility. Individuals' participation will be voluntary and at their own discretion.

We understand that our organization's responsibilities include: Giving full access to front office staff, break room and manager's office, and any other resources that will make it possible for you to conduct a successful interviews and data collection. We reserve the right to withdraw from the study at any time if our circumstances change.

I understand that the student will not be naming our organization in the doctoral project report that is published in ProQuest.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University IRB.

Sincerely,



Ngozi Oriaku
Practice Administrator
(704) 527-5522

Walden University policy on electronic signatures: An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically. Electronic signatures are regulated by the Uniform Electronic Transactions Act. Electronic signatures are only valid when the signer is either (a) the sender of the email, or (b) copied on the