2016

Effect of Healthy Food Demonstration on Minority Women's Dietary Habits in San Antonio, Texas

Staria Hudson Black
Walden University

Walden University

College of Health Sciences

This is to certify that the doctoral study by

Staria Hudson-Black

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. Mary Verklan, Committee Chairperson, Health Services Faculty
Dr. Amy Wilson, Committee Member, Health Services Faculty
Dr. Tracy Scott, University Reviewer, Health Services Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2016

Abstract

Effect of Healthy Food Demonstration on Minority Women's Dietary Habits in San Antonio, Texas

by

Staria Hudson-Black, MSN, FNP-BC

Project Submitted in Partial Fulfilment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

May 2016

Abstract

Obesity has become a global epidemic. Healthcare cost continues to increase due to co-morbidities such as diabetes, hypertension, and coronary artery disease associated with obesity. The purpose of this project was to examine whether teaching nutritious food choices to obese African American and Hispanic females in healthy cooking demonstrations would have an effect on their dietary behavior. The holistic self-care model was used to develop healthy strategies for weight loss. The model guided the development of nutritional support, exercise, and spiritual strategies for weight reduction. African American and Hispanic females between the ages of 25 to 64 were solicited from a local faith-based organization. Criteria for inclusion were a BMI greater or equal to 30, completion of a pre- and post- 24-hour dietary journal, and a pre- and post- Mediterranean diet assessment survey. Women had to participate in 3 out of 4 cooking demonstration classes. Ten participants met the full criteria for inclusion in the data. The results of the participants' responses were totaled and a percentage value was determined for each question. Comparison of the percentages between the 2 surveys showed no change in the participants' dietary habits, except in the area of red meat consumption, which decreased by 40%. The participants' mean BMI pre-survey was 37.92 and 37.80 post-survey. Lifestyle modifications such as dietary changes have the potential to decrease the obesity rate. The positive impact of the cooking demonstrations on African American and Hispanic families includes a potential decrease in comorbidities associated with obesity. A healthy future for these population groups will depend on the health of their children, and social change can occur if children adopt the healthy lifestyle behaviors of the adults in their household.

Effect of Healthy Food Demonstration on Minority Women's Dietary Habits in San Antonio, Texas

by

Staria Hudson-Black, MSN, FNP-BC

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

May 2016

Dedication

This project is dedicated to my husband Aldon James Black who's support and encouragement gave me the determination to complete this journey. Even though you are not here to see the final product it was your love that kept me focus throughout this process. An abundance of praise to my Lord and Savior Jesus Christ, my rock, during this journey.

Acknowledgments

I would like to acknowledge my Lord and Savior Jesus Christ for providing me the strength through a difficult time in my life to complete this project. Praise be to God for Dr. M.Terese Verklan and Sharon Perrilliat-Drewes, MSN, RN, for their guidance and support through this project. I would also like to acknowledge Dr. Kelly Richardson, my preceptor, for her help and mentorship during my practicum; Sylvia Weech, RN for doing the cooking demonstration classes, Dr. Amy Swango-Wilson and my family and friends who helped me to focus on the prize during the rough times.

Table of Contents

List of Tables iv

List of Figures v

Section 1: Overview of the Evidence-Based Project 1

Introduction 1

Problem Statement 2

Purpose Statement and Project Objectives 3

Significance and Relevance to Practice 5

Project Question 6

Evidence-based Significance of the Project 7

Implications for Social Change in Practice 9

Definition of Terms 11

Assumptions and Limitations 11

Summary 12

Section 2: Review of Scholarly Evidence 14

Specific Literature 14

General Literature 19

Theoretical Framework 21

Summary 23

Section 3: Approach 25

Project Design and Method 25

Population and Sampling 26

Data Collection 26
Instruments 28
Data Analysis 29
Project Evaluation Plan 31
Summary 32
Section 4: Discussion and Implications 33
Summary and Evaluation of Findings 33
Discussion of Findings in the Context of Literature and Frameworks 39
Implications 40
Project Strengths and Limitations 42
Analysis of Self 43
As Scholar 43
As Practitioner 44
As Project Developer 44
What does this project mean for future professional development? 45
Summary and Conclusions 45
Section 5: Dissemination Plan 47
Introduction 47
Manuscript 47
Introduction 47
Purpose 48
Research Question and Objectives 50

Designs....51
Methods....52
Data Analysis....54
Results....55
Limitations....58
Implications for Practice....59
Conclusions....60
References....61
Appendix A: Mediterranean Diet: Healthy Cooking Demonstration Participant Survey....69
Demographic Survey....70

List of Tables

Table 1. Mean age of participants 35

Table 2. Pre- and Post-BMI Means Results 36

Table 3. 24-hour pre-dietary journal logged result of participants 36

Table 4. 24-hour post-dietary journal logged result of participants 37

Table 5. Adherence to the Mediterranean diet 38

List of Figures

Figure 1. Pre- and Post-BMI of Participants.....xx

Section 1: Overview of the Evidence-Based Project

Introduction

The prevalence of obesity has soared in the United States (US). Approximately one-third of adults in North America have health problems associated with being obese (Centers for Disease Control and Prevention [CDC], 2011). As reported by the National Health and Nutrition Examination Survey 2011-2012, there is a disproportionate disparity in obesity based on race and ethnicity. African American and Hispanic females over the age of 19 years have higher rates of obesity when compared to Caucasian females of the same age group (Ogden, Carroll, Kit, & Flegal, 2013). These minority women are at a greater risk for developing comorbidities associated with obesity than other minority groups.

Diabetes, cardiovascular, and certain cancers are directly linked to obesity affecting the morbidity and mortality rate of African American and Hispanic females (Sivalingam et al., 2011; Forster, Veerman, Barendregt, & Vos, 2011). Reducing the risk of obesity impacts the overall population health (Lazarou & Kouta, 2010). Changing the behavior of the obese individual's dietary habits could reduce comorbidities associated with obesity.

Interventions such as a reduced caloric diet, physical activity, behavior modification, pharmaceuticals, and surgery have not been successful with respect to long term weight loss (Popkess-Vawter, 2009). A dearth of research exists in the area on how food demonstration impact life style habits. Therefore the purpose of this pilot project

was to determine what was the effect of healthy food demonstrations on change in dietary habits among obese minority women ages 25 to 64 in San Antonio, Texas.

Problem Statement

Obesity is defined as a body mass index (BMI) of 30 or greater (Ward-Smith, 2010). Statistical data captured by the CDC between 1980 and 2008 indicates that the adult obesity rate increased by 50% classifying 72 million adults as obese in the US (CDC, 2011). The US had eighteen states that met the obesity criteria in 2013 with a prevalence range of 30% or greater. The eleven southern states were Alabama, Arkansas, Georgia, Kentucky, Louisiana, Mississippi, Oklahoma, South Carolina, Tennessee, Texas, and West Virginia. The five Midwest states were Iowa, Indiana, Kansas, Michigan, and Ohio. The northern state included in the statistics was North Dakota and Delaware was the only eastern state (CDC, 2013). Irrespective of demographic or geographic standing, obesity rates have escalated in the last few decades among all ethnic groups (CDC, 2103).

As the obesity rate continues to rise financial cost will also increase. Treatment for obesity and related comorbidities in 2008 has been estimated at $147 billion (CDC, 2014). Management of healthcare for obese individuals can cost several thousands of dollars over a life span (Schroeder, Garrison, & Johnson, 2011). The obesity cost for both public and private payers is $1,429 more annually than the amount associated with an individual with a normal BMI (Finkelstein, Trogdon, Cohen, & Dietz, 2009).

Finkelstein et al (2012) forecast the rate of obesity will increase 33% by 2030 and the prevalence of morbid obesity by 13 % impacting the effort to diminish health care

cost in the US. Cawley and Meyerhoofer (2010) research estimates the medical cost related to obesity is much higher than approximated in previous literature. The calculated medical cost will approach $209.7 billion based on medical expenditure panel survey (MEPS) data conveyed in 2008 dollars. Data was gathered over a two-year period from the individual, their provider, and pharmacist related to their medical expenses. Based on this data, 20.6% of the US healthcare dollars are allocated to treat comorbidities associated with obesity (Cawley & Meyerhoefer, 2012). The obesity rate in Texas could reach as high as 57.2% based on this forecast increasing the obesity related healthcare cost by 17.1 %. Based on this analysis US healthcare cost could increase from $147 billion to $210 billion annually (Trust for America's Health and Robert Wood Johnson Foundation, 2103).

The Healthy People 2010 initiative considered obesity and nutrition a priority goal but fell short of meeting the outcome measure (CDC, 2012). A healthy life style and helping individuals maintain that life style is the focus of Healthy People 2020. The strategy is to develop policies and environments that support behavioral changes to achieve a healthy weight by improving nutrition (United States Department of Health and Human Services [HHS], Healthy People 2020, 2013). Changing the behavior of obese individuals through modification in dietary habits should demonstrate a decrease in weight.

Purpose Statement and Project Objectives

The purpose of this project was to examine if teaching nutritious food choices by demonstrating healthy cooking to obese African American and Hispanic females would

have an effect on dietary habits and behavior. The expected behavior change was a decrease in visits to fast food or take out restaurants, red meat intake, desserts, foods with high sugar content, carbonated beverages, and fried food. There was also an expectation there would be an increase in fruit and vegetable consumption. In addition, the participants were asked to provide a 24 hour diet journal pre and post cooking demonstration classes to ascertain if there was a changes in food selections. These behavior changes were measured using the Mediterranean Diet Tool questionnaire to compare pre- and post-survey results. BMI was also re-evaluated but because of the short time interval of four weeks no significant change occurred as expected. If the project participants continue to incorporate these dietary habits into their lifestyle, a reduction in weight may occur, thereby causing a decrease in comorbidities associated with obesity. A reduction in risk factors linked to obesity can have a positive influence on health outcomes (Lazarou & Kouta, 2010).

The objective for this project was accomplished by initiating a cooking demonstration program in a local faith-based community over a four-week period that provided obese African American and Hispanic women with a better understanding of how to cook and make healthy dietary selections. The individuals who participated in the cooking demonstrations not only gain a clearer understanding of how to make these choices, but were also made aware that healthy food choices can be tasty and satisfying. The major emphasis of this life style pilot program was on healthy food preparation, healthy eating habits, and obesity reduction. The anticipated outcome of the project was after four weeks of healthy cooking demonstrations the post survey results will indicate

that 30% of the participants would make at least one healthy behavioral dietary life style change. In addition, it was anticipated that this pilot project would assist the participants in sustaining their dietary behavioral life style changes throughout their life span.

Significance and Relevance to Practice

The literature supports a disproportionate disparity in obesity based on race and ethnicity. The National Health and Nutrition Examination Survey reports that African American and Hispanic females over the age of 19 have a higher rate of obesity when compared to Caucasian females of the same age group (CDC: National Health and Nutrition Examination Survey, 2008). In addition, the rise in healthcare cost due to obesity demonstrates how important it is to develop interventions to manage this epidemic. Research supports traditional methods such as dieting, exercise, and medication have not been successful with permanent weight reduction and behavioral changes (Miller, 1999, Popkess-Vawter, 2009). This has proven true for African American and Hispanic females. Incorporating cultural differences may be a significant variable with weight loss. Providing cooking demonstrations that are culturally sensitive may benefit these population groups.

In June 2013 the American Medical Association labeled obesity a disease calling it a multi-metabolic and hormonal disease state. The American Nurses Association (ANA) have written position statement on multiple issues, but currently has no position statement addressing the issue of obesity (Tao & Glazer, 2005; American Nurses Association, 2015). Comorbidities related to obesity, such as type 2 diabetes, hypertension, and coronary artery disease, can affect the individual's physical well-being.

The benefit of modest weight loss with as little as 5 to10% of body weight can decrease these comorbidities associated with obesity (Webber, & Lee, 2011). Weight loss will improve the quality of the individual's health and dietary changes play an important role in this process. Certain dietary modifications such as decreasing red meat and fat intake have proven to be protective against heart disease and certain cancers (Webber, & Lee, 2011). Likewise, poor health can be associated with excess weight and unhealthy food choices (Webber, & Lee, 2011). Management of these health issues for an individual can equate to improved health outcomes (Lazarou & Kouta, 2010). The need for change in dietary habits regarding weight loss has been well documented in healthcare literature.

Reduction in obesity risk factors will have an impact on the individual's health outcome (Lazarou & Kouta, 2010). This project can play a significant role in how healthcare workers initiate and develop interventions for obese African American and Hispanic females. A person's culture plays a key role in food choices thus, understanding the cultural differences and how it impacts the individual's life style can provide healthcare workers with another avenue to assist African Americans and Hispanics in making healthy food choices (Cowart et al., 2010). Healthcare workers and obese individuals can benefit from the knowledge gained from the data analysis and project findings. This information can be utilized to improve programs designed for obese African American and Hispanic individuals.

Project Question

San Antonio, Texas, located in Bexar County, has a population of 1,382,951 (United States Census Bureau: Statement and County Quick Facts, 2012). Obesity rates

among African American and Hispanic reflects obesity is more prevalent among African American and Hispanic females than Caucasian females. National data indicates 56.6 % of African American and 44.4% of Hispanic women are obese (Ogden et al., 2013). When compared to other population groups African American and Hispanic females are at greater risk for comorbidities associated with obesity. Four out of five African American females are obese and three out of four Hispanic women are overweight or obese (Minority Women's Health, 2010). The doctorate of nursing project question for this study was: What was the effect of healthy food cooking demonstrations presented by a home chef, that is a registered nurses, on change in dietary habits among African American and Hispanic women ages 25 to 64 in San Antonio, Texas?

Evidence-based Significance of the Project

Evidence supports that African American and Hispanic females have a higher obesity rate when compared to Caucasian females. The need to provide education and interventions for these minority groups can prove culturally challenging. For example, African American women tend to be more accepting of an obese body habitus, and continue to consider themselves attractive even with a larger body size (Befort, Thomas, Daley, Rhode, & Ahluwalia, 2008). Researchers have speculated that the favorable reception African Americans have for larger females may play a role in increased obesity among this group (Befort et al., 2008).

Socioeconomics also play a factor in obesity. Low income families make food purchases based on finance, neighborhood retailers, selection choices, and cooking preparation time. Middle class individuals may also be affected by food selection and

preparation time. Parents may want to reward their child with food and therefore allow them to select poor nutrition items. In additional, both parents may have employment outside the home and have limited time to prepare meals thus giving in to the child's request to purchase fast food meals (Adamo & Brett, 2014). Food preferences are developed during the formative years and associated with dietary affinities established as an adult (Salvo, Frediani, Ziegler, & Cole, 2012).

It has been determined that African American children, in low income homes during childhood, tend to have an early onset of obesity due to dietary lifestyle (Salsberry & Reagan, 2009). Quality nutritional consumption has declined in the US being replaced by high caloric and high fat foods. Monsivais et al (2011) revealed in order to meet the recommended federal dietary guidelines for potassium alone raised the average shopper's food cost by $380 annually. The data also indicated when individuals consumed more of their caloric intake from saturated fats and sugar, food cost declined.

The recommended requirement of fruits and vegetables are consumed by less than 25% of the adult population (Berry, Turner, Biederman, & Flanagan, 2009). This data demonstrates the need for life style changes within the African American and Hispanic community. Childhood dietary habits are transferred to dietary life style as an adult (Salvo, Frediani, Ziegler, & Cole, 2012). Poor nutritional habits can cause obesity, which may lead to hypertension, coronary disease, type 2 diabetes, certain cancers, and several other comorbidities.

Nutrition and dietary habits portray a prominent role in management of obesity. Individuals who are obese must be constantly mindful of their behavior in regards to

dietary habits. To be successful with weight loss, new behaviors such as changes in nutritional habits must be adopted (Berry et al., 2009). The cooking demonstration classes will show African American and Hispanic females how to plan and prepare healthy meals that are tasteful on a limited budget. Because dietary habits are developed during childhood, it is hopeful that information and skills taught in this project will not only impact the participants of the class and their family, but also future generations.

Implications for Social Change in Practice

If the obese individual makes the needed behavioral changes in their life style it is anticipated that comorbidities will also improve. In addition, the potential is there to have an impact on family members. Obesity rates in children has risen in San Antonio, Texas and Bexar County. Data for Bexar County indicates that 27% of African American and Hispanic children are obese, but only 12% of Caucasian children met this criteria (CDC: National Health and Nutrition Examination Survey, 2008). Children typically adopt the behavior of the adults in their household. Adults' dietary and exercise habits can have a significant impact on children's lifestyle. The expectation is that a healthy lifestyle demonstrated by the adults will be modeled by children in the family. A positive impact on future generations by this cooking demonstration project could potentially decrease the comorbidities associated with obesity, and thereby improve the quality of life for these African Americans and Hispanics families. Improvement in health status can also have a positive effect on healthcare costs.

Obesity is also affecting national security and recruitment for the military. The Washington Post published an article in 2010 that active duty personnel were being

discharged because they did not meet military fitness standard. In 2010, 5.3% of military personnel were considered obese which equated to 86,163 individuals (Londono, 2012). Females were found to be more obese than their male counterparts, especially those over the age of forty. Not only has obesity increased within the military, but one fourth of the applications submitted for military service are rejected due to the applicant's weight. Some of the most qualified candidates have to be turned away due to their weight (Mission Readiness, 2010; Cawley & Maclean, 2010).

Minorities, especially African American enlistment has declined because they are unable to meet the military weight and body fat standards (Asch, Heaton, & Savych, 2009). Military research showed that African American females have a greater propensity than either Hispanics or Caucasian females of not meeting the weight and body fat standards of the military services (Asch, Heaton, & Savych, 2009). These disparities represent a significant challenge for all branches of the military. The obesity epidemic has made it more difficult to acquire military recruits that are representative of the nation. If our pool of qualified military recruits diminishes due to obesity, the US may have a crisis on their hands in the near future.

The potential positive social change impacted by this study is a decrease in obesity rate among African American and Hispanic children. While the focus of this project was on adult females in these population groups their dietary habits impact the children in their household. If a change occur in the participant's dietary behavior they are more likely to make variations in food selections and cooking methods for their families. Healthy lifestyle changes can impact health status thus having the potential to

decrease co-morbidities such diabetes, hypertension, and coronary artery disease associated with obesity. There is also the potential to decrease healthcare cost associated with the obesity epidemic in the US.

Definition of Terms

African American: Individuals who live in the US and consider themselves to be of American African ancestry.

Balance from the Inside Out (BIO) Strategies: spiritually based, cognitive strategies designed to expand and maximize people's ability to manage healthy weight with long term results (Popkess-Vawter, 2009, p. 415).

Body Mass Index (BMI): weight in kilograms divided by the height squared.

Hispanic: A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish Culture.

Obesity: Body mass greater than or equal to 30; class one (low-risk) obesity a BMI 30-34.9, class two (moderate-risk) obesity a BMI is 35.0 - 39.9, class three (high-risk) obesity is when BMI is equal to or greater than 40.0.

Assumptions and Limitations

For the purpose of this pilot project it was assumed that all participants in the cooking demonstration classes would complete the Mediterranean Diet Assessment Tool (Appendix A) pre-survey before the class starts and the post-survey at the last demonstration. It was assumed that the participants will attend three out of the four sessions, and it was assumed they would cook healthier meals at home based on their newly acquired knowledge. Due to healthier meal preparations at home it was assumed

that the children would be exposed to more desirable eating habits. It was the assumption that individuals will allow the researcher to measure their pre- and post-weight at the beginning and end of the cooking demonstration classes to accurately evaluate their BMI.

There were several limitations to this pilot project. The sample size was small, targeted for 20 individuals but only 10 fulfilled all criteria. During the four-week cooking demonstrations, conducted by a registered nurse, some individuals did not complete the program or attend all required classes. There was also the potential that either more African Americans or Hispanics could attend the cooking demonstration classes creating biased results. This assumption was proven correct only 1 Hispanic met the criteria and took part in the cooking demonstration classes.

To calculate the BMI the participants were weighed at the first and last cooking demonstration class on a scale provided by the researcher. Most women do not like to share their weight but all participants consented to be weighed. The majority of the Hispanic population in San Antonio, TX is of Mexican American descent, and therefore, findings may not apply to other Hispanic cultures.

Summary

Obesity is affecting the health of Americans. In the US approximately one-third of the adult population is obese (CDC, 2011). Obesity plays a key role in comorbidities for medical conditions such as diabetes, coronary artery disease, and hypertension. These chronic diseases cost the patient and the healthcare system millions of dollars annually. Individuals who are obese must be constantly mindful of their behavior in regards to

dietary habits. To be successful with weight loss new behaviors such as changes in dietary habits must be adopted (Berry et al., 2009).

The Healthy People 2020 goal is to help individuals maintain a healthy weight status by developing policies and environments that support behavioral changes to achieve a healthy weight by improving nutrition (HHS, Healthy People 2020, 2013). To assist these minority populations in developing a healthy life style, this pilot study focused on demonstrating cooking techniques to highlight healthier alternatives of food choices. The information provided in the cooking demonstrations can help African American and Hispanic women make better food choices for themselves and their entire family.

Section 2: Review of Scholarly Evidence

There has been a plethora of research done on potential causes of obesity and the comorbidities associated with this disease such as hypertension and diabetes. African Americans and Hispanics have a greater propensity toward obesity and its related comorbidities than Caucasians (Nassir et al., 2012). Culture, socio-economics, dietary habits and life-style all play a role in the dynamics that cause obesity. Although culture plays an important role in dietary choices, economic, time management, and nutrition can be the driving force in dietary selections and habits. This section will focus on the scientific literature and research published in peer reviewed journals, and reputable websites that discuss possible causes of obesity and its effect on African American and Hispanic females.

Specific Literature

A systematic literature review was conducted using CINAHL & MEDLINE, Ovid, PsycINFO, and the Centers for Disease and Prevention (CDC) website. The exploration in CINAHL & MEDLINE and Psych INFO was accomplished using key words and phrases such as obesity, obese, African American and Hispanic, obese minority, faith-based obesity programs, healthy life style interventions, health disparities, ethnic or race differences, behavior changes, and change theory using the Boolean terms AND OR. An advance search was done using Ovid entering key words or phrases as those listed into their search engine. Websites such as the CDC, US Department of Health and Human Services, US Census Bureau, and Minority Women's Health were

used to gather statistical data on obesity. Articles were also identified from the references listed on reviewed items.

Obesity has continued to increase at an alarming rate over the last decade (CDC: Chronic disease and health promotion, 2011). Obesity plays a critical role in relations to an individual's morbidity and mortality. This preventable disease is the second leading cause of death in the US (Wee et al., 2005), and is a major cause of disability in Hispanics and African Americans. These minority women are at an increased risk of acquiring a comorbidity associated with obesity than other population groups.

San Antonio, Texas, has a population of 1,382,952 with and obesity prevalence of 28.5% in 2012 (U.S. Census Bureau: Statement and County Quick Facts, 2012). African Americans comprise a total of 6.9% of the population with 46, 401 females and Hispanic 63.2% with 430,408 females in 2012 (U.S. Census Bureau: Statement and County Quick Facts, 2012). Four out of five African American females and three out of four Hispanic females are overweight or obese (Minority Women's Health: Overweight and obesity, 2010).

Obese individuals look for avenues that will be supportive in their weight loss journey. Interventions such as change in dietary life style, exercise, and positive reinforcement have been helpful. Finding an environment that is supportive and provides the necessary assistance with weight loss can be difficult. Helping individuals implement healthy lifestyle choices plays an integral role in improving the physical condition of minorities in the US. Cowart et al (2010) argues that standard weight loss programs have not been successful in helping African American weight loss. Looking for an alternative

method weight loss led to a pilot program implemented by The Genesis Health Project. It was designed and implemented within faith-based organizations located in the African American community.

The twelve-week program targeted families to develop and sustain a healthy lifestyle across the lifespan. Fifty-five people were enrolled to participate in fitness classes, nutritional information, cooking demonstrations, and sharing their success tips. Data was obtained from the participants using a pre-and post-surveys; however, only 22 people completed and returned the post survey. Not all participants attended the entire twelve week program and only eleven of the post surveys were able to be linked to the participants in the pre-surveys.

Those participants who attended at least nine weeks of the pilot program showed an improvement in healthier food selection and preparation. Healthier cooking methods were documented in the post-survey results. They also reported an increase in exercise. This pilot study showed that community involvement can be beneficial but involved considerable time and financial commitment.

A similar twelve-week program was implemented with Latinos and African Americans in New York City incorporating multiple churches in the Bronx and Harlem areas (Guiterrez et al., 2014). The program incorporated the use of Spanish for those individuals who had difficulty understanding English or were more comfortable speaking Spanish. Fifteen churches participated in the study with a sample size of 253. The program data showed a retention rate of 76% or 183 participants. Fifty-nine individuals either did not complete the program or were lost to follow up, leaving. Pre- and post-

surveys was obtained from participants which included nutritional testing and weight journals. The surveys also evaluated knowledge, attitude and behaviors toward dietary habits and exercise.

Although both males and females were included in the study, the majority of the participants were female. The focus was on increasing physical activity, portion control, healthy cooking techniques, and nutrition. Motivation was also provided during church services by the pastors of the churches that took part in the project. African Americans and Hispanics not only used the church for spiritual fulfilment but also for socialization. The pastoral support can have a major impact on the success or failure of the project. Participants lost an average of 4.38 pounds or 2% of their original weight. No significant improvement was recognized in health or mobility due to the time frame which would be difficult to ascertain over a 12-week period.

The most effective means of weight loss for African Americans and Hispanics has been difficult to ascertain. Several weight management interventions have been utilized such as group involvement, diet modification, and increase in physical activity. Berry et al (2009) implemented a community based weight loss program incorporating both the parent and child to decrease obesity in both groups. The study recruited African Americans, Hispanics, and Caucasians to participate in a 12-week community weight loss program. The participants were provided with nutrition, exercise, and coping skill classes to make them more cognitive of the roles these activities played in weight loss. The researchers discovered at the six-month interval no significant difference was seen in any of the ethnic groups in weight, dietary knowledge and exercise behavior. The data

suggested that culturally based nutritional and exercise education was more beneficial with weight loss. The study indicated that Latino parents felt a greater need to improve the health of their family when compared to the African American and Caucasian participants. These studies show culture is important, but dietary knowledge, demonstrations on how to prepare nutritionist meal, and simple exercise should be incorporated in community weight loss programs.

Obesity is a disease that has serious implications on the health of all individuals especially those of African American and Hispanic heritage. Childhood obesity is usually carried forward into adulthood prolonging the effect obesity has on the body. Hispanic and African American women tend to have a greater propensity towards obesity than Caucasian females. A prolonged history of obesity can lead to comorbidities such as diabetes, coronary artery disease and hypertension. Chronic diseases can increase the morbidity and mortality rate for these population groups.

It is important to establish methods of interventions that are culturally acceptable and beneficial to assist in the battle against obesity. This cooking demonstration project will be informative, providing tips on how to shop for low cost healthy foods, and in-season fruit and vegetables. Humor will be incorporated into the class by sharing stories with the participants of kitchen mishaps from the home chefs. These stories may encourage participants to continue to cook a new dish even if unsuccessful the first time. The classes will also provide weekly support for the participants and answer concerns they have with planning healthy menus.

General Literature

African American and Hispanics have difficulty providing self-reported information with regard to obesity and their overall health condition. Sivalingam et al., 2011 surveyed 1,031 obese Caucasian, Hispanic, and African American females to determine if there was self-awareness of obesity. The survey results indicated that race and ethnicity did have an impact on the individual's awareness of their own weight status.

Self-reported obesity occurs more frequently among Caucasians when compared to African Americans, or Hispanics. When the incidence of obesity is greater in a racial population, individuals within the group are less likely to identify with what other groups may perceive as obesity. African Americans and Hispanics tend to not view obesity as a health issues. They also do not associate their weight as a causal factor for diabetes, hypertension, and coronary artery disease. Ninety percent of Caucasian felt there was a connection between their weight and comorbidities associated with obesity. Based on the survey results, the study showed African Americans and Hispanics are much less likely to self-report obesity and health status (Sivalingam et al., 2011). An underlying assumption of the study was Caucasians had a greater concern than African Americans and Hispanics regarding the comorbidities associated with obesity.

Befort et al (2008) explored the perceptions and beliefs of African American females in relation to their concept of body habitus, weight, and weight loss. The author showed that African American women were interested in weight loss to improve their health. Over half of the participants had some type of co-morbidity associated with

obesity. One factor that stood out was African American women were more amenable to support from other individuals who are battling weight issues than from family members. The researchers used the term collectivism in describing this process which identifies the social group as the family structure. African American females focused more on the needs of the family rather than their own personal health.

Individual socio-economic standing can influence obesity. Salvo et al (2012) did a cross sectional study of 105 low income Hispanic and African American children in Atlanta that investigated dietary habits. Caregivers provided dietary information by completing a daily food diary for the child based on what the child actually ate. Researchers showed that obese children notably ingested more calories than non-obese children. In addition, based on ethnicity, African American children's caloric intake was greater than Hispanic children. The dietary habits developed during childhood have been associated with eating choices made as an adult (Salvo et al, 2012).

Kershaw, Albrecht, and Carnethon's (2013) addressed how socioeconomics affected African Americans and Hispanics in regard to obesity. Using the Health and Nutritional Examination Survey (NHANES) from 1999 thru 2006 they "tested whether metropolitan-level racial/ethnic residential segregation was associated with obesity among non-Hispanic Black and Mexican-American adult men and women" (Kershaw, Albrecht, & Carnethon, 2013, p. 300). The researchers also attempted to ascertain if neighborhood poverty and income level affected obesity when compared to Caucasians in the same income bracket. There was a correlation between obesity and African American females associated with increased residential segregation. One factor that could account

for this is that women tend to use food as a coping mechanism to help combat life stressors. The reverse connection was observed with Mexican-American women (Kershaw et al., 2013).

Salsberry and Regan (2009) examined data from the NHANES from the perspective of the influence of socioeconomic status during childhood and adulthood. They wanted to determine how this affected obesity for middle age Mexican American, Caucasian and African American women. They calculated the BMI of women ages 35 to 44 based on the most recent height and weight from their latest data collection. To determine childhood socioeconomic factors, information was gathered from data submitted by the parents regarding their completed educational level. Indicators for adult economic status were determined based on information regarding the highest level of education documented at the last midlife interview.

African Americans showed an obese rate of 42% while Mexican Americans rate was 34% and Caucasians 23%. Data suggested that economic influence did not have a major effect on obesity for African American women during midlife but suggested that childhood and adult economic status did have an effect on obesity among both Mexican Americans and Caucasians.

Theoretical Framework

Permanent weight loss has been difficult for the majority of obese individuals to sustain. Numerous factors play a role in this process such as culture, physical activity, and dietary choices. Though culture is a factor, dietary choice and behavior is the focus

of this project. The overall goal was to promote better weight control "for a long-term pursuit of healthier and happier lifestyles" (Popkess-Vawter, 2009, p. 423).

A negative thought process can induce self-talk which in turn can produce negative behavior such as eating comfort food to provide a sense of wellbeing. The Holistic Self-Care Model, based on Apter's reversal theory, describes influences associated with over indulgence of food and lack of motivation to exercise as it relates to the obese individual. The Holistic Self-Care Model combines nutritional support, exercise, psycho-social, and spiritual strategies as healthy approaches for weight reduction and as a means of stopping weight cycling (Popkess-Vawter, 2009).

The Holistic Self-Care Model proposes that traditional weight loss programs have not been successful because the individual's personal choices, life styles and "humanness" are not incorporated into the program (Popkess-Vawter, 2009). Cognitive restructuring called BIO Strategies (**B**alance from the **I**nside **O**ut) is used as a guide to assist the individual in sustaining permanent weight loss (Popkess-Vawter, 2009).

BIO strategies provide an inter perspective which focus on the individual's mind, body, and spiritual needs. Emphasis is placed on eating when the body feels hunger, daily exercise, and increasing self-esteem. Three types of BIO strategies identified are EAT for hunger, exercise for LIFE, and ESTEEM for self and others. The BIO strategies were designed to assist the overweight person to individualize their weight loss program for long term effectiveness (Popkess-Vawter, 2009).

EAT for hunger triggers the individual to eat only as a response to the hunger sensation and not emotions. Exercise for LIFE spotlights the need for physical activity

such as daily exercise to support a healthy body. ESTEEM for self and others directs the individual to utilize daily meditation, spiritual reading and their own creative ability to build self-esteem and a coping mechanism for life stressors (Popkess-Vawter, 2009).

The healthy cooking demonstration classes were designed not only to provide nutritional knowledge and encouragement, but also to assist the participants in making dietary life style changes. Techniques on how to incorporate the BIO strategies in the participants' life style was incorporated in the lecture portion of the cooking demonstrations. Participants were shown how to identify negative self-talk which can lead to negative feelings and unhealthy actions. Negative thinking and self-talk can produce undesirable emotions leading to unhealthy behaviors such as overeating, decreased exercise, and poor self-esteem (Popkess-Vawter, 2009). Demonstrations and handouts were provided on how to identify true hunger cues and the use of positive self-talk in regards to eating, exercise, and personal esteem. Aiding the individual in promoting positive self-talk can help bring a balance to the mind, body, and spirit (Popkess-Vawter, 2009).

Summary

Obesity plays a critical role in relations to an individual's morbidity and mortality. Hispanic and African American women tend to have a greater propensity towards obesity than Caucasian females. If obesity starts as a child it is usually carried forward into adulthood compounding the effect obesity has on the body. A prolonged history of obesity can lead to comorbidities such as diabetes, coronary artery disease and hypertension. The most effective means of weight loss for African Americans and

Hispanics has been difficult to ascertain. Some statistical data suggest that culturally based nutritional and exercise education is more beneficial with weight loss. Obese individuals look for avenues that will be supportive in their weight loss journey. Interventions such as change in dietary life style, exercise, and positive reinforcement have been helpful.

The Holistic Self-Care Model centers on the whole person. It combines nutritional support, exercise, psycho-social, and spiritual strategies as healthy approaches for weight reduction and as a means of stopping weight cycling (Popkess-Vawter, 2009). Cognitive restructuring called BIO Strategies is used as a guide to assist the individual in sustaining permanent weight loss (Popkess-Vawter, 2009). These BIO Strategies focus on the development and reinforcement of positive attitudes and beliefs. Strategies such as listening to physical cues for hunger and positive self-talk will be incorporated in the lecture portion of the cooking demonstration classes each week.

Section 3: Approach

The program design considered all possible interventions which could have a positive effect on the program's objectives. Program design requires thoughtful deliberation on use of resources and the best means to address the needs of the clients (Kettner, Moroney, & Martin, 2013). This section will discuss the project design, methodology, population sample, implementation, and evaluation of a community-based program demonstrating healthy cooking to obese African American and Hispanic women in San Antonio, Texas.

Project Design and Method

This pilot project used a one-group pre- and post-test quantitative design. This design is frequently used when a single group is both the experimental and comparison group. Preliminary information using the Mediterranean Diet assessment tool as a pre-test took place before the participants began the program. The data measured the subject's characteristics, attitudes, behaviors, and conditions the program is designed to change (Kettner, Moroney, & Martin, 2013). This information, used as the baseline measurement, was compared to the post-test data collected after participants completed the cooking demonstration classes. The pre-and post-test were exactly the same. This design is appropriate for this undertaking. The goal of the pilot project was to determine how the healthy cooking demonstrations and nutritional knowledge effected the behavior of the participants.

Population and Sampling

The sample population consisted of African American and Hispanic females between the ages of 25 to 64 who meet the BMI criteria for obesity. The goal was to recruit a minimum of thirty-two subjects to account for a 10% attrition rate during the course of the project. Only those participants with a BMI thirty or greater were included in the pilot project. The BMI was calculated utilizing the height and weight from the pre-test demographic survey (Appendix B). Incorporating a larger population size within the selected time frame was not feasible for this pilot due to the four week time constraint. The minimum sample size for this project is ten which was based on the accepted limit of ten for a pilot project. Walk-ins were allowed to observe but not participate in the actual study.

Subjects were solicited from a faith-based organization known to have a large African American and Hispanic population. Advertisement for project participants were placed in their weekly bulletins. In addition, flyers describing the project were posted on their communication boards. Interested participants were given a number to call for additional information and enrollment in the project. Enrollments was completed at least one weeks before the first cooking demonstration class.

Data Collection

The data collection for this cooking demonstration project consisted of information obtained from demographic data, the pre- and post-24 hour food journal, and Mediterranean diet pre- and post-survey information. A simple demographic questionnaire was developed for this project (Appendix B), which consisted of inquiries

with regards to ethnicity, gender, age, height, weight, BMI, household shopper and cook. The Mediterranean diet pre-survey was given to participants one week prior to the initial cooking demonstration class. The participants were asked to select any day one week before the start of the class to complete their 24 hour food journal. This information was used to determine the participant's dietary habits before participating in the cooking demonstration classes. The survey was either mailed or given to all individuals who enroll in the project. The participants also received a self-addressed return envelope for the survey and 24 hour food journal to be mailed or given sealed to the project leader . All participants were asked to choose identification (ID) names known only to the subjects to provide anonymity. Participants were instructed to use the same ID name for the pre - post surveys, 24 hour food journal, and demographic questionnaire. This ensured the subjects remain anonymous and encouraged them to answer the surveys honestly. Ethnicity, gender, age, and BMI were selection criteria for the participants. An official weigh-in was done the first and last day of the classes by the project leader

The four cooking demonstration classes were held once a week, for approximately two hours, at a local church that donated the use of their commercial kitchen and fellowship hall. One home chef, a registered nurse, volunteered her time and cooking expertise for the pilot project. Each week a different meal was featured and demonstrated for the participants. The classes were categorized as breakfast, lunch, dinner, and desserts. Nutritional information was provided focusing on the meal category. The home chef and the project leader planned the menu based on the category selected for the week.

The Mediterranean diet post-survey was given at the end of the four weeks cooking demonstration classes and compared to the pre-survey to determine what effect the cooking demonstrations and nutritional information had on dietary habits. The participants were also asked to complete another 24 hour food journal for comparison to their initial journal. Comparison was made between dietary habits prior to and after the cooking demonstration classes.

Instruments

The project used the Mediterranean Diet Assessment Tool (Appendix A) as the pre-and post-survey for the participants. The survey was used to determine the participant's food choices and eating habits prior to the first cooking demonstration. The survey is a tool designed to ask specific questions regarding the subject's dietary life style and type of food consumption (Martinez-Gonzalez et al, 2012). The questions are geared toward the individual's daily and weekly intake of specific food items. One additional question was added to ascertain how frequently the subjects eat fast food. This question was "How many times per week do you eat fast food?"

Validity and reliability are two fundamental elements used in the evaluation of a measurement instrument. Validity determines if the instrument measures what it is intended to measure and reliability determines if it is consistent in its measurement (Burns & Grove, 2009, p. 43). I emailed the lead researcher, Dr. Martinez-Gonzales, requesting data on the Cronbach alpha score for the Mediterranean diet assessment tool used in the "Prevencion con Dieta Mediterranea" PREDIMED trial conducted in Spain. He responded back on November 13, 2014 stating "I'm sorry; unfortunately, we have

never published a Cronbach alpha on this tool". The tool has been used in multiple studies and has been slightly modified at times to address certain aspects of different cultures. Dr. Martinez-Gonzales has given written permission to use the Mediterranean diet assessment tool as the survey instrument for the cooking demonstration classes. Additional food frequency questionnaire tools were evaluated that measured dietary intake and behavior such as the Short Form Food Frequency Questionnaire (SFFQ), Food Frequency Questionnaire (FFQ) and Fruit and Vegetable Intake Assessment Tool (FVIAT) (Roberts & Flaherty, 2010). These tools did not have a Cronbach alpha score and did not capture the data the researcher desired for the project. It was determined the Mediterranean Diet Assessment Tool provided the preferred data for this pilot and is easy to comprehend.

A simple demographic survey (Appendix B) was given to all subjects prior to attending the cooking demonstration classes that provided descriptive data on the subjects. The demographic questionnaire collected information on race, age, gender, height, primary grocery shopper, and primary meal preparer. The height and weight was used to calculate the BMI. Both were measured at the initial cooking demonstration class.

Data Analysis

Demographic data was to be analyzed based on the pre-survey questionnaire for comparison between Hispanics and African Americans on age and BMI. Only one Hispanic enrolled in the project so a comparison was feasible. The data was used to compare pre- and post-test BMI for any changes in the participants score. The primary grocery shopper and meal preparer were identified based on information provided by the

demographic survey. The data was reviewed to determine if the primary grocery shopper and meal preparer was the same individual among the participants.

Each question from the Mediterranean diet survey was assigned a numeric value of one for a combined total of 14 points if the criteria is met. The results of each participant's response was tallied based on the pre- and post-survey tool. The mean value was determined for each question and a total mean response was established for both the pre-and post-surveys. The means was used to described and summarize the participants response to the Mediterranean Diet Assessment Tool. The Statistical Package for the Social Sciences (SPSS) software was used to analyze statistical data.

The statistical data was used to evaluate dietary habits such as a decrease in sugar consumption, alcohol beverages, fast food, and eating red meat. In addition, the mean data was also used to determine if there was an increase in eating vegetables, legumes, white meat, and use of healthy fats for food preparations. Descriptive statistics was used to compare the demographic data of the age groups. Descriptive analysis permits the scholar to organize informational data from different perspectives that can allow insight from a "variety of angles" (Burns & Grove, 2009, p. 470).

Data collected was kept in a locked file cabinet until analyzed to protect participants' personal information. Only the researcher had access to the subjects' sensitive information. The results was analyzed by the researcher and it was not necessary to collaborate with a statistician. The computer used to store data is password-protected and all written information is kept secured and data will be destroyed after the

five year time frame required by Walden's Institutional Review Board (IRB). Walden's IRB was solicited for approval prior to project implementation.

The expected behavior was a decrease in visits to fast food or take out restaurants, red meat intake, sweet desserts, foods with high sugar content, carbonated beverages, and fried food. There was also an expectation there would be an increase in fruit and vegetable consumption. These behavior changes were measured using the Mediterranean diet questionnaire by comparing pre- and post-survey results and reviewing the pre- and post-24 hour food journals.

Project Evaluation Plan

The evaluation plan outlines the goals, objectives, and questions associated with the project implementation. The plan is the roadmap used to guide the development and procedures that will measure the outcomes ("U.S. Department of Housing and Urban Development," n.d.). The impact program evaluation was used to guide the evaluation process. The impact program evaluation focuses on changes in the individual and attempts to show that the outcome is the result of the program (Kettner et al., 2013).

Based on the result of the pre-and post-survey the impact of the program on the participants was determined. The impact of the cooking demonstrations classes was measured by comparing pre and post surveys of the participants. The project was designed to evaluate if nutritional knowledge and cooking demonstration classes changed the dietary habits of the participants. The focus of this project evaluation was on outcome. Outcome can be defined as something that is "specific, observable, and

measurable characteristic or change that will represent achievement of the outcome" (White & Dudley-Brown, 2012, p. 238).

Summary

Research has shown that dietary habits developed in childhood are linked to food choices as an adult (Salvo et al., 2012). The intent of this project was that the individuals who participate in the cooking demonstration will gain a better understanding regarding healthy food choices. They will also become aware that healthy food choices can be tasty. Changing dietary habits will have the most impact on reducing obesity. Weight loss can have an impact on comorbidities such as hypertension, type 2 diabetes, and coronary heart disease. Obesity among Hispanic and African American minority women not only affects the individual, but also their families. By reducing the obesity rate in minority women there is the potential to impact the health of the next generation.

Section 4: Discussion and Implications

The development and implementation of healthy cooking class demonstrations for obese African American and Hispanic women was the objective of this DNP scholarly project. The cooking demonstration classes were implemented at the Ephesus Seventh-Day Adventist church in San Antonio, TX whose congregation consisted of both Hispanic and African American members. The proposal was presented to the church board and because of their desire to improve the health of their congregation and the community surrounding the church, they approved the use of their commercial kitchen and fellowship hall for implementation of the project. The focus of this section will be on the projects findings, implications for practice, outcomes, strengths and limitations, and a personal self-analysis in regards to the project.

Summary and Evaluation of Findings

The purpose of this project was to examine if teaching nutritious food choices through healthy cooking demonstrating classes to obese African American and Hispanic females would have an effect on their dietary habits and behavior. Participants between the ages of 25 to 64 in San Antonio, Texas were recruited from a local faith-based community church to take part in the project. Cooking demonstrations along with nutritional information were provided to the participants over a four-week period to help these individuals better understand how to cook and make healthy dietary selections.

The project incorporated a descriptive design which was observational and nonexperimental. The outcome variables that were used to measure or compare statistical analyses were the demographic data, 24-hour dietary journal, and pre- and post-

Mediterranean diet assessment tool. No group comparison or causality were evaluated, thus independent and dependent variables were not incorporated in this descriptive project. The statistical analyses were performed using SPSS. Descriptive statistics were used for the primary variables for this project.

Twenty participants registered to take part in the cooking demonstration classes. Eighteen were African American and two were Hispanic. Of the twenty, fifteen qualified to participate in the project, as five participants did not meet either the BMI or age criteria. Two participants were over the age of 64 so did not meet the age criteria. Three did not meet the obese category because they had a BMI of less than 30. All participants completed a pre- and post- 24-hour dietary journal, a pre- and post-survey, and attended three out of four cooking demonstration classes. There were a total of ten participants who met the full criteria.

Nine African Americans and one Hispanic female were eligible to be included in the data collection. All participants completed a demographic survey (Appendix B) that included race, age, gender, height, and a pre- and post-survey weight. The mean age of the participants was 54.3 years of age, with the youngest participant being 42 and the oldest 61 (Table 1). Height and weight were used to calculate the pre- and post-survey BMI (Figure 1). The mean BMI for the pre-survey was 37.92 and the post-survey was 37.80 (Table 2). There was no significant difference in pre- and post-survey BMI results. Participants also identified the main grocery shopper and meal preparer for the family. All ten participants selected themselves as the primary grocery shopper for the family.

Two of the ten participants identified another individual within the household as the primary meal preparer.

Table 1

Mean age of participants (N=10)

	Minimum	Maximum	Mean
Age of Participants	42	61	54.3

Note: *N* is number of participants

Figure 1 Pre- and Post-BMI of Participants

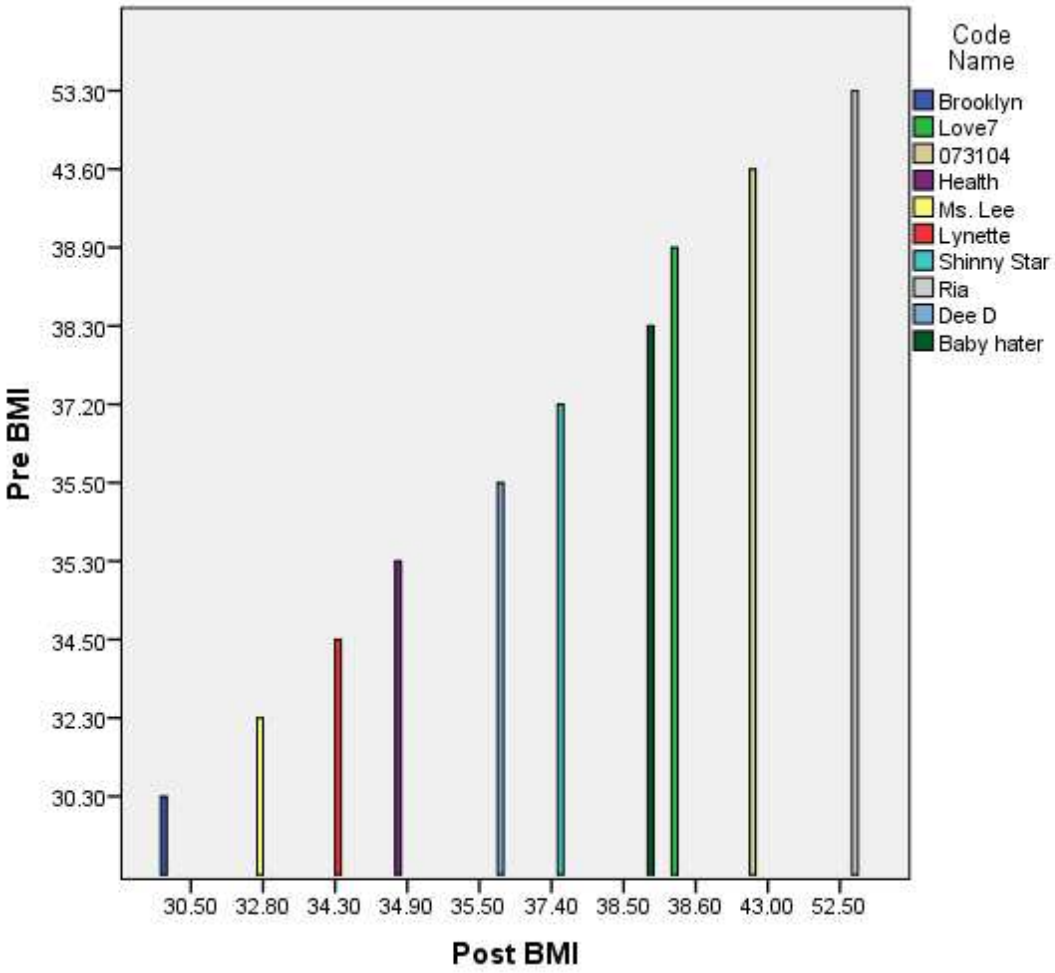

Table 2

Pre- and Post-BMI Means Results

	Mean
Pre-BMI	37.92
Post-BMI	37.80

The 24-hour pre- and post-dietary journal focused on food selection evaluating the type of protein, serving of vegetables or fruits, desserts, and type of beverage. The pre- 24-hour dietary journal identified the proteins selected by the participants as either beef or chicken. All nine participants listed one or both of these proteins daily. One participant was vegetarian and identified soy protein analogs as her source of protein (Table 3). Six of the ten participants indicated they ate at least two fruits servings daily. Desserts were selected by all ten participants for at least one or more servings. The post survey results showed no significant difference in categories (Table 4).

Table 3

24-hour pre-dietary journal logged result of participants (N=10)

Frequency	Fruit	Vegetables	Desserts	Sugar drinks	Preferred protein	Other (soy)
1 serving	3	5	4	4	6 (chicken)	
2 servings	4	3	4	3	3 (beef)	1
3 servings or more	2	1	2	3		
None	1	1			1 none	
Total	10	10	10	10	10	1

Table 4

24-hour post-dietary journal logged results (N=10)

Frequency	Fruits	Vegetables	Desserts	Sugar drinks	Preferred protein	Other (soy)
1 serving		2	4	4	7 (chicken)	
2 servings	5	6	5	2	1 (fish)	1
3 servings or more	4	1	1		1 (beef)	
None	1	1		4	1 none	
Total		10	10	10	10	1

The Mediterranean Diet Assessment tool was used as the pre- and post-survey to evaluate the dietary habits of the participants. The survey solicited either a yes or no response to every question. Each yes response to the 14 item questionnaire was assigned a numeric value of one no had a value of zero. The maximum points for a completed survey was 14 (Appendix A). All ten participants completed both the pre- and post-Mediterranean Diet Assessment tool.

The result of the participants' responses was totaled and a percentage value was determined for each question. These percentages were used to describe and summarize the participants' responses to the dietary questions. Table 5 shows the responses of the participants to the pre- and post-survey for adherence to the diet. The post-survey results were obtained after participants completed the requirements for attending the cooking demonstration classes. Comparison of the percentages between the two surveys show no significant change in the individuals' dietary habits, except in the area of red meat consumption after completing the cooking class demonstrations (Table 5).

The cooking demonstration classes were well received by all participants. Several requests were made by the participants to extend the class for another month. The intended aim of this project was to determine if cooking demonstration classes would effect a change in the participants' dietary habits. The participants were able to sample all prepared dishes and were given recipes to duplicate the dish. The data collected showed minor changes in dietary behavior as a result of the cooking demonstration classes.

Table 5

Adherence to the Mediterranean diet (N=10)

	Pre-survey % of Yeses	Post-survey % of Yeses	Comparison of pre- and post-survey yes %
1. Olive oil as main fat	80	80	unchanged
2. Use >/= 4 TB olive oil daily	40	70	post survey increased 30%
3. Use olive oil sauces >/= 2 weekly	50	50	unchanged
4. Fruit servings >/= 3 daily	50	70	post-survey increased 20%
5. Vegetable servings >/= 2 daily	60	80	post-survey increased 20%
6. Red meat serving </= 1 daily	70	30	post-survey decreased 40%
7. Daily butter, margarine, cream </= 1serving daily	50	50	unchanged
8. Sugar or carbonated beverages daily </= 1 daily	60	40	Post-survey decreased by 20%
9. Glasses of wine weekly >/= 7	0	0	unchanged
10. Weekly servings of legumes >/= 3	20	20	unchanged
11. Nuts serving per week >/= 4	50	60	Post-survey increased 10%
12. Weekly desserts </= 3	50	50	unchanged
13. Prefer Chicken/turkey to veal, pork, beef, or sausage	100	10	unchanged

14. Fish/seafood weekly >/=4	20	30	Post-survey increased 10%

Discussion of Findings in the Context of Literature and Frameworks

The literature strongly supports the need for interventions that are culturally sensitive and considerate of socio-economic factors associated with minority populations such as African American and Hispanic females. The literature demonstrates that African Americans and Hispanics have a greater propensity toward obesity and comorbidities associated with this diagnosis than Caucasians (Nassir et al., 2012). Although the sample size for the project was small, the BMI of the individuals who participated in the project was consistent with the Minority Women's Health Report (2010) which indicated that four out of five African American and three out of four Hispanic females are overweight or obese.

The meals prepared for the participants were low cost and nutritious, and focused on products that were culturally familiar to both African Americans and Hispanics. New food items, such as spaghetti squash that are readily available at the local grocery stores, were introduced to participants. In season vegetables and fruits were discussed, along with cost of in season produce compared to produce not in season. The participants were given the opportunity to try certain products in a healthy dish before purchasing the items. Humor was incorporated into the class by the home chef who shared stories with the participants of kitchen mishaps she had had when cooking a dish she was demonstrating. These stories encouraged participants to continue to try cooking a new dish even if unsuccessful the first time.

The theoretical framework used to present the behavioral changes aspect of the cooking demonstration classes was the Holistic Self-Care Model based on Apter's reversal theory. The Holistic Self-Care Model combines nutritional support, exercise, psycho-social, and spiritual strategies as healthy approaches for weight reduction and as a means of stopping weight cycling (Popkess-Vawter, 2009). During the cooking class demonstrations, the participants were introduced to the three types of BIO strategies which are an integral part of this model. They are EAT for hunger, exercise for LIFE, and ESTEEM for self and others. Emphasis was placed on eating when the body feels hunger, daily exercise, and increasing self-esteem. Ways to decrease negative self-talk through the individual's negative thought process was demonstrated each week during the cooking class demonstration. A negative thought process can induce negative self-talk which in turn can produce negative behaviors such as eating comfort foods to provide a sense of wellbeing. The expected outcome was that all participants would use the tools and information provided in the cooking demonstration classed to work toward a healthier lifestyle regarding dietary habits.

Implications

Obesity is associated with multiple medical co-morbidities such as diabetes, hypertension, coronary artery disease and certain cancers. Lifestyle modifications such as dietary changes have the potential to decrease the obesity rate among African American and Hispanic females. Discussion among the participants during the classes demonstrated a desire to make healthy changes not only in their diet, but also in their family eating habits. Healthy lifestyle changes not only impact the individual's health;

they also impact the health of the healthcare industry. Obesity costs healthcare millions of dollars annually. The financial impact on medical cost could be minimized if obese individuals make a consorted effort to modify their eating habits even slightly. Healthy dietary modifications usually lead to weight loss but the main goal was to help the participants maintain these changes through their lifespan. Projects such as this one have the potential to allow researchers to follow the participants over a longer period to monitor if they are able to maintain the changes. It is also possible to provide follow-up programs to reinforce what was taught during the cooking class experience.

The project allowed the Ephesus Seventh-Day Adventist church to reach out to their surrounding community to help combat the obesity rate in San Antonio, TX. The project has the potential to have an impact on families' dietary habits in this community. Obesity rates in African American and Hispanic children in San Antonio is much higher than Caucasian children. Childhood obesity rate in Bexar County is 27% for African American and Hispanic children, but only 12% for Caucasian children (CDC: National Health and Nutrition Examination Survey, 2008). The positive impact on future generations from theses cooking demonstrations classes could potentially decrease the comorbidities associated with obesity, and thereby improve the quality of life for these African American and Hispanic families. A healthy future for these population groups will depend on the health of their children. Social change can occur if children adopt the healthy lifestyle behaviors of the adults in their household. The expectation is that a healthy lifestyle demonstrated by the adults will be modeled by children in the family.

Project Strengths and Limitations

The strengths of the project were the selection of the Mediterranean Diet Assessment Tool and the Holistic Self-Care Model BIO strategies. These tools simplified the data collection process for the participants and provided simple strategies to assist them in meeting the challenge given at the end of each class. An additional strength was having one home chef do all the cooking demonstration classes. The participants were able to bond with the chef and felt comfortable interacting with her during the cooking demonstration classes.

There were several limitations to this project. Generalizability of the findings were limited by sample size. Twenty individuals enrolled in the classes, but five did not show up for the classes. Only ten completed the 24 hour pre- and post-food journal, pre- and post-survey, and attended three out of the four cooking demonstration classes, meeting all criteria. Also, there were more African American in attendance than Hispanic females. Additional research is needed using a larger sample size inclusive of equal numbers of Hispanic females to see if results are more generalizable and when comparing the two groups. Nine African American females met the project inclusion criteria, however, only one Hispanic female qualified. Data was collected from one church in the community so may not be representative of the community at large. Additional study is needed to included more participants from other churches in the same community.

Analysis of Self

As Scholar

Zaccagnini and White (2011) conveys that a DNP exemplifies advance nursing practice based on the science of nursing. The role of the DNP has many facets; it allows the nurse seeking a terminal degree to improve his/her skills as a clinician, scholar, healthcare policy maker, and leader (AANC, 2006). Expert skills in these areas allows the DNP to be a formidable change agent in the advancement of nursing practice. DNP Essential III focuses on translating research into practice (AANC, 2006). Utilizing evidence based data helps the scholar to design and develop programs geared towards improving patient and community outcomes.

The knowledge I gained in the process of translating research into evidence based practice has been a remarkable journey. I have learned advance research techniques and strategies that will help me develop future projects. These advanced skills will allow me to locate up to date information using search engines such as CINAHL & MEDLINE. I am now able to select a topic, evaluate the current literature to determine if additional research will add to the body of nursing knowledge or provide additional information on a specific problem.

Working in an environment that focuses on the use of evidence base practice to improve chronic illnesses has allowed me to incorporate evidence based care in my clinical practice to improve patient outcomes. DNP Essential III (2006) notes that DNP graduate plays a leadership role in the expanse of evidence based practice. I have been able to share this knowledge with co-workers and have encouraged them to do literature

reviews and research evidence based practice articles to identify feasible solutions to problems in clinical practice.

As Practitioner

As a practitioner my clinical experience in the community has broadened my horizon. I have worked at the same facility for over thirty years and became complacent in familiar surroundings. My clinical practicum took me to multiple facilities in the area during my preceptorship with a DNP working for a large hospitalist group. I observed how implementing electronic medical records in an organization impacted the employees and facility. The impact on both can be frustrating and costly if not well planned and implemented. DNPs can play a critical role in helping organizations analyze and select user friendly technology to share healthcare information among professionals to improve patient outcomes (ANCC, 2006).

As Project Developer

As a project developer there were several hurdles to overcome. The implementation phase was slow, and caused frustration and delay. Difficulty with the IRB process can cause a significant delay with the approval phase of a project. As a new project developer, my unfamiliarity with the expected research process impacted the timeline I developed for completion of the project. It is important to be able to identify barriers before and after implementation of the project to decrease frustration and delays during all phases. Obtaining feedback from the participants who were the major stakeholders in the project was also important. Their feedback is invaluable in planning future projects of this nature. Developing programs for specific target populations can be

challenging but also rewarding. As the project developer I was able identify my strengths and weaknesses. One strength I have developed through this process is how to use advanced search techniques and strategies that will help me develop future projects. These advanced skills allow me to obtain up to date information using multiple search engines.

What does this project mean for future professional development?

As a project developer a new level of skills has been cultivated which can assist me in several areas. I was able to foster relationships with community leaders and discovered ways to acquire resources for program implementation. As an NP student I co-authored an article on obesity twenty years ago. This has been an area of interest for several decades. I am considering applying for a research grant to increase the number of participants and expand the time frame over a period of twelve weeks.

Summary and Conclusions

The development and implementation of healthy cooking class demonstrations for obese African American and Hispanic women was the objective of this DNP scholarly project. The purpose of the project was to examine if teaching nutritious food choices through healthy cooking demonstrating classes to obese African American and Hispanic females will have an effect on their dietary habits and behavior. Selected participants were between the ages of 25 to 64, lived San Antonio, Texas, and had a BMI of 30 or greater. Subject were recruited from a local faith-based community church to take part in the project.

The project incorporated a descriptive design which was observational and nonexperimental. There were a total of ten participants who met the full criteria. The 14 item Mediterranean Diet Assessment tool was used as the pre- and post-survey to evaluate the dietary habits of the participants. Comparison of the percentages between the two surveys show one significant change in the individuals' dietary habits, in the area of red meat consumption which showed a 40% decrease after completing the cooking class demonstrations.

I was able to carry out the project and identify the strengths and weaknesses of the program design. The DNP program provided me with the knowledge and aptitude to advance my professional career. I now have the ability to think beyond the familiar and look forward to where this new road will lead.

Section 5: Dissemination Plan

Introduction

Obesity has had a negative impact on African American and Hispanic females in the US. Diabetes, cardiovascular, and certain cancers are directly linked to obesity affecting the morbidity and mortality rate of African American and Hispanic females (Sivalingam et al., 2011; Forster, Veerman, Barendregt, & Vos, 2011). The project, "Effect of Healthy Food Demonstration on Minority Women's Dietary Habits in San Antonio, Texas" was implemented to determine if this type of program would have an influence on the dietary habits of these individuals. Project data demonstrated minimum change in dietary habits over a four-week timeframe.

Manuscript

A manuscript for publication consideration will be submitted to The American Journal of Nurse Practitioner (AJN), a peer reviewed journal that is widely circulated among advance practice nurses in the US. The number of NPs in primary care continues to increase due to a decline in physician entering into the primary care role. It is the intent of this author to increase the awareness of NPs in primary care of a creative way to encourage African American and Hispanic females to make healthy changes in dietary habits. The manuscript below is formatted based on AJN recommendations for authors submission and is currently in the beginning outline format.

Introduction

The prevalence of obesity has soared in the United States (US). Approximately one-third of adults in North America have health problems associated with being obese

(Centers for Disease Control and Prevention [CDC], 2011). As reported by the National Health and Nutrition Examination Survey 2011-2012, there is a disproportionate disparity in obesity based on race and ethnicity. African American and Hispanic females over the age of 19 years have higher rates of obesity when compared to Caucasian females of the same age group (Ogden, Carroll, Kit, & Flegal, 2013). These minority women are at a greater risk for developing comorbidities associated with obesity than other minority groups.

Diabetes, cardiovascular, and certain cancers are directly linked to obesity affecting the morbidity and mortality rate of African American and Hispanic females (Sivalingam et al., 2011; Forster, Veerman, Barendregt, & Vos, 2011). Reducing the risk of obesity impacts the overall population health (Lazarou & Kouta, 2010). Changing the behavior of the obese individual's dietary habits could reduce comorbidities associated with obesity.

Interventions such as a reduced caloric diet, physical activity, behavior modification, pharmaceuticals, and surgery have not been successful with respect to long term weight loss (Popkess-Vawter, 2009). A dearth of research exists in the area on how food demonstration impact life style habits. Therefore the purpose of this pilot project is to determine what is the effect of healthy food demonstrations on change in dietary habits among obese minority women ages 25 to 64 in San Antonio, Texas.

Purpose

Obesity has been defined as a body mass index (BMI) of 30 or greater (Ward-Smith, 2010). Statistical data captured by the CDC between 1980 and 2008 indicates that

the adult obesity rate increased by 50% classifying 72 million adults as obese in the US (CDC, 2011). The US had eighteen states that met the obesity criteria in 2013 with a prevalence range of 30% or greater. The eleven southern states were Alabama, Arkansas, Georgia, Kentucky, Louisiana, Mississippi, Oklahoma, South Carolina, Tennessee, Texas, and West Virginia. The five Midwest states were Iowa, Indiana, Kansas, Michigan, and Ohio. The northern state included in the statistics was North Dakota and Delaware was the only eastern state (CDC, 2013). Irrespective of demographic or geographic standing, obesity rates have escalated in the last few decades among all ethnic groups (CDC, 2103).

As the obesity rate continues to rise financial cost will also increase. Treatment for obesity and related comorbidities in 2008 has been estimated at $147 billion (CDC, 2014). Management of healthcare for obese individuals can cost several thousands of dollars over a life span (Schroeder, Garrison, & Johnson, 2011). The obesity cost for both public and private payers is $1,429 more annually than the amount associated with an individual with a normal BMI (Finkelstein, Trogdon, Cohen, & Dietz, 2009).

Finkelstein et al (2012) forecast the rate of obesity will increase 33% by 2030 and the prevalence of morbid obesity by 13 % impacting the effort to diminish health care cost in the US. Cawley and Meyerhoofer (2010) research estimates the medical cost related to obesity is much higher than approximated in previous literature. The calculated medical cost will approach $209.7 billion based on medical expenditure panel survey (MEPS) data conveyed in 2008 dollars. Data was gathered over a two-year period from the individual, their provider, and pharmacist related to their medical expenses. Based on

this data, 20.6% of the US healthcare dollars are allocated to treat comorbidities associated with obesity (Cawley & Meyerhoefer, 2012). The obesity rate in Texas could reach as high as 57.2% based on this forecast increasing the obesity related healthcare cost by 17.1 %. Based on this analysis US healthcare cost could increase from $147 billion to $210 billion annually (Trust for America's Health and Robert Wood Johnson Foundation, 2103).

The Healthy People 2010 initiative considered obesity and nutrition a priority goal but fell short of meeting the outcome measure (CDC, 2012). A healthy life style and helping individuals maintain that life style is the focus of Healthy People 2020. The strategy is to develop policies and environments that support behavioral changes to achieve a healthy weight by improving nutrition (United States Department of Health and Human Services [HHS], Healthy People 2020, 2013). Changing the behavior of obese individuals through modification in dietary habits should demonstrate a decrease in weight.

Research Question and Objectives

San Antonio, Texas, located in Bexar County, has a population of 1,382,951 (United States Census Bureau: Statement and County Quick Facts, 2012). Obesity rates among African American and Hispanic reflects obesity is more prevalent among African American and Hispanic females than Caucasian females. National data indicates 56.6 % of African American and 44.4% of Hispanic women are obese (Ogden et al., 2013). When compared to other population groups African American and Hispanic females are at greater risk for comorbidities associated with obesity. Four out of five African

American females are obese and three out of four Hispanic women are overweight or obese (Minority Women's Health, 2010). The doctorate of nursing project question for this study was: What is the effect of healthy food cooking demonstrations presented by four home chefs, that are registered nurses, on change in dietary habits among African American and Hispanic women ages 25 to 64 in San Antonio, Texas?

The objective for this project was to initiate a program in a local faith-based community over a four-week period that will provide obese African American and Hispanic women with a better understanding of how to cook and make healthy dietary selections. It was predicted that the individuals who participate in the cooking demonstrations would not only gain a clearer understanding of how to make these choices, they would also become aware that healthy food choices can be tasty and satisfying. The major emphasis of this healthy life style pilot program will be on healthy food preparation, healthy eating habits, and obesity reduction. The anticipated outcome of the project was after four weeks of healthy cooking demonstrations the post survey results will indicate that 30% of the participants would make at least one healthy behavioral dietary life style change. In addition, it is anticipated that this pilot project would assist the participants in sustaining their dietary behavioral life style changes throughout their life span.

Designs

Based on the research question a one-group pre- and post-test quantitative design method was used. This design is frequently used when a single group is both the experimental and comparison group. Approval for conducting the project was obtained

was Walden University institutional review board and the board of a local faith-based community center where the project was implemented. There was no conflict of interest to disclose and no financial gain for either the researcher or the participants. The research question focused on the behavior of the participants as it relates to dietary habits. The questions was "What is the effect of healthy food cooking demonstrations on change in dietary habits among African American and Hispanic women ages 25 to 64 in San Antonio, Texas?

A convenience sample was recruited from a local faith-based church. In order to take part in the cooking demonstration classes all participants had to have a BMI of 30 or greater and be between the ages of 25 to 64. Ten of the 20 participants who registered met the full criteria for participation. Nine were African American and one was Hispanic. The BMI was calculated utilizing the height and weight from the pre-test demographic survey.

Methods

Data Collection and Instruments

The data collection consisted of information obtained from the demographic information, pre- and post-24 hour food journal, and Mediterranean diet pre- and post-survey. Data was collected from the participants one week before the cooking demonstration classes. A simple demographic questionnaire was developed obtaining information on ethnicity, gender, age, height, weight, BMI, the household shopper and cook. The 14 item Mediterranean Diet Assessment tool was given to participants at the beginning and end of the cooking demonstration classes to ask specific questions

regarding the subject's dietary life style and type of food consumption (Martinez-Gonzalez et al, 2012. One additional question was added to ascertain how frequently the subjects ate fast food. This question is "How many times per week do you eat fast food?"

The participants were also asked to select a day one week before the start of the class to provide a 24-hour food journal. This information was used to determine the participant's daily dietary habits before participating in the cooking demonstration classes. The survey was either mailed or given to all individuals who enroll in the project. The participants also received a self-addressed return envelope for the survey and 24-hour food journal to be mailed or given sealed to the project leader . All participants were asked to choose identification (ID) names known only to the subjects to provide anonymity. Participants were instructed to use the same ID name for the pre- and post-surveys, 24-hour food journal, and demographic questionnaire. This ensured the subjects remain anonymous and encouraged them to answer the surveys honestly. Ethnicity, gender, age, and BMI were selection criteria for the participants. An official weigh-in was done the first and last day of the classes by the project leader.

Data collected was kept in a locked file cabinet until analyzed to protect participants' personal information. Only the researcher had access to the subjects' sensitive information. The results were analyzed by the researcher and no collaboration was done with a statistician. The computer used to store data is password-protected and all written information will be kept secured and data will be destroyed after the five year time frame required by Walden's Institutional Review Board (IRB). Walden's IRB was solicited for approval prior to project implementation.

Data Analysis

The data was used to compare pre- and post-test BMI for any changes in the participants score. The primary grocery shopper and meal preparer was identified based on information provided by the demographic survey. The data was reviewed to determine if the primary grocery shopper and meal preparer is the same individual among the participants.

Each question from the Mediterranean diet survey was assigned a numeric value of one for a combined total of 14 points if the criteria is met. The results of each participant's response was tallied based on the pre- and post-survey tool. The mean value was determined for each question and a total mean response was established for both the pre-and post-surveys. The means was used to described and summarize the participants response to the Mediterranean Diet Assessment Tool. The Statistical Package for the Social Sciences (SPSS) software was used to analyze statistical data.

The statistical data was used to evaluate dietary habits such as a decrease in sugar consumption, alcohol beverages, fast food, and eating red meat. In addition, the mean data was also used to determine if there was an increase in eating vegetables, legumes, white meat, and use of healthy fats for food preparations. Descriptive statistics was used to compare the demographic data of the age groups. Descriptive analysis permits the scholar to organize informational data from different perspectives that can allow insight from a "variety of angles" (Burns & Grove, 2009, p. 470).

The expected behaviors were a decrease in visits to fast food or take out restaurants, red meat intake, sweet desserts, foods with high sugar content, carbonated

beverages, and fried food. There was also an expectation there would be an increase in fruit and vegetable consumption. These behavior changes was measured using the Mediterranean diet questionnaire by comparing pre- and post-survey results and reviewing the 24 hour food journal.

Results

Twenty participants registered to take part in the cooking demonstration classes. Eighteen were African American and two were Hispanic. Of the twenty, fifteen qualified to participate in the project, as five participants did not meet either the BMI or age criteria. Two participants were over the age of 64 so did not meet the age criteria. Three did not meet the obese category because they had a BMI of less than 30. All participants completed a pre- and post- 24-hour dietary journal, a pre- and post-survey, and attended three out of four cooking demonstration classes. There were a total of ten participants who met the full criteria.

Nine African Americans and one Hispanic female were eligible to be included in the data collection. All participants completed a demographic survey that included race, age, gender, height, and a pre- and post-survey weight. The mean age of the participants was 54.3 years of age, with the youngest participant being 42 and the oldest 61 (Table 1). The mean BMI for the pre-survey was 37.92 and the post-survey was 37.80 (Table 2). There was no significant difference in pre- and post-survey BMI results. Participants also identified the main grocery shopper and meal preparer for the family. All ten participants selected themselves as the primary grocery shopper for the family. Two of the ten

participants identified another individual within the household as the primary meal preparer.

Table 1
Mean age of participants (N=10)

	Minimum	Maximum	Mean
Age of Participants	42	61	54.3

Note: *N* is number of participants

Table 2
Pre- and Post-BMI Means Results

	Mean
Pre-BMI	37.92
Post-BMI	37.80

The 24-hour pre- and post-dietary journal focused on food selection evaluating the type of protein, serving of vegetables or fruits, desserts, and type of beverage. The pre- 24-hour dietary journal identified the proteins selected by the participants as either beef or chicken. All nine participants listed one or both of these proteins daily. One participant was vegetarian and identified soy protein analogs as her source of protein (Table 3). Six of the ten participants indicated they ate at least two fruits servings daily. Desserts were selected by all ten participants for at least one or more servings. The post survey results showed no significant difference in categories (Table 4).

Table 3
24-hour pre-dietary journal logged result of participants (N=10)

Frequency	Fruit	Vegetables	Desserts	Sugar drinks	Preferred protein	Other (soy)
1 serving	3	5	4	4	6 (chicken)	
2 servings	4	3	4	3	3 (beef)	1
3 servings or more	2	1	2	3		
None	1	1			1 none	
Total	10	10	10	10	10	1

Table 4
24-hour post-dietary journal logged results (N=10)

Frequency	Fruits	Vegetables	Desserts	Sugar drinks	Preferred protein	Other (soy)
1 serving		2	4	4	7 (chicken)	
2 servings	5	6	5	2	1 (fish)	1
3 servings or more	4	1	1		1 (beef)	
None	1	1		4	1 none	
Total		10	10	10	10	1

The Mediterranean Diet Assessment tool was used as the pre- and post-survey to evaluate the dietary habits of the participants. The survey solicited either a yes or no response to every question. Each yes response to the 14 item questionnaire was assigned a numeric value of one no had a value of zero. The maximum points for a completed survey was 14. All ten participants completed both the pre- and post-Mediterranean Diet Assessment tool.

The result of the participants' responses was totaled and a percentage value was determined for each question. These percentages were used to describe and summarize the participants' responses to the dietary questions. Table 5 shows the responses of the participants to the pre- and post-survey for adherence to the diet. The post-survey results were obtained after participants completed the requirements for attending the cooking demonstration classes. Comparison of the percentages between the two surveys show no significant change in the individuals' dietary habits, except in the area of red meat consumption after completing the cooking class demonstrations (Table 5). The data

collected showed minor changes in dietary behavior as a result of the cooking demonstration classes.

Table 5
Adherence to the Mediterranean diet (N=10)

	Pre-survey % of Yeses	Post-survey % of Yeses	Comparison of pre- and post-survey yes %
1. Olive oil as main fat	80	80	unchanged
2. Use >/= 4 TB olive oil daily	40	70	post survey increased 30%
3. Use olive oil sauces >/= 2 weekly	50	50	unchanged
4. Fruit servings >/= 3 daily	50	70	post-survey increased 20%
5. Vegetable servings >/= 2 daily	60	80	post-survey increased 20%
6. Red meat serving </= 1 daily	70	30	post-survey decreased 40%
7. Daily butter, margarine, cream </= 1serving daily	50	50	unchanged
8. Sugar or carbonated beverages daily </= 1 daily	60	40	Post-survey decreased by 20%
9. Glasses of wine weekly >/= 7	0	0	unchanged
10. Weekly servings of legumes >/= 3	20	20	unchanged
11. Nuts serving per week >/= 4	50	60	Post-survey increased 10%
12. Weekly desserts </= 3	50	50	unchanged
13. Prefer Chicken/turkey to veal, pork, beef, or sausage	100	10	unchanged
14. Fish/seafood weekly >/=4	20	30	Post-survey increased 10%

Limitations

There were several limitations to this project. Generalizability of the findings were limited by sample size. Twenty individuals enrolled in the classes, but five did not show up for the classes. Only ten completed the 24 hour pre- and post-food journal, pre-

and post-survey, and attended three out of the four cooking demonstration classes, meeting all criteria. Also, there were more African American in attendance than Hispanic females. Additional research is needed using a larger sample size inclusive of equal numbers of Hispanic females to see if results are more generalizable and when comparing the two groups. Nine African American females met the project inclusion criteria, however, only one Hispanic female qualified. Data was collected from one church in the community so may not be representative of the community at large. Additional study is needed to included more participants from other churches in the same community.

Implications for Practice

Obesity is associated with multiple medical co-morbidities such as diabetes, hypertension, coronary artery disease and certain cancers. Lifestyle modifications such as dietary changes have the potential to decrease the obesity rate among African American and Hispanic females. Discussion among the participants during the classes demonstrated a desire to make healthy changes not only in their diet, but also in their family eating habits. Healthy lifestyle changes not only impact the individual's health; they also impact the health of the healthcare industry. Obesity costs healthcare millions of dollars annually. The financial impact on medical cost could be minimized if obese individuals make a consorted effort to modify their eating habits even slightly. Healthy dietary modifications usually lead to weight loss but the main goal was to help the participants maintain these changes through their lifespan. Projects such as this one have the potential to allow researchers to follow the participants over a longer period to

monitor if they are able to maintain the changes. It is also possible to provide follow-up programs to reinforce what was taught during the cooking class experience.

The project has the potential to have an impact on families' dietary habits in this community. Obesity rates in African American and Hispanic children in San Antonio is much higher than Caucasian children. Childhood obesity rate in Bexar County is 27% for African American and Hispanic children, but only 12% for Caucasian children (CDC: National Health and Nutrition Examination Survey, 2008). The positive impact on future generations from theses cooking demonstrations classes could potentially decrease the comorbidities associated with obesity, and thereby improve the quality of life for these African American and Hispanic families. A healthy future for these population groups will depend on the health of their children. The expectation is that a healthy lifestyle demonstrated by the adults will be modeled by children in the family.

Conclusions

Research has shown that dietary habits developed in childhood are linked to food choices as an adult (Salvo et al., 2012). The intent of this project was that the individuals who participate in the cooking demonstration will gain a better understanding regarding healthy food choices. They will also become aware that healthy food choices can be tasty. Changing dietary habits will have the most impact on reducing obesity. Weight loss can have an impact on comorbidities such as hypertension, type 2 diabetes, and coronary heart disease. Obesity among Hispanic and African American minority women not only affects the individual, but also their families. By reducing the obesity rate in minority women there is the potential to impact the health of the next generation.

References

Adamo, K. B., & Brett, K. E. (2014). Parental perceptions and childhood dietary quality. *Maternal Child Health*, *18*(3), 978-995. http://dx.doi.org/ 10.1007/s10995-013-1326-6

American Nurses Association. (2015). http://www.nursingworld.org/positionstatements

Asch, B. J., Heaton, P., & Savych, B. (2009). *Recruiting minorities: What explains recent trends in the Army and Navy?* Retrieved from http://www.rand.org/pubs/monographs/MG861.html

Befort, C. A., Thomas, J. L., Daley, C. M., Rhode, P. C., & Ahluwalia, J. S. (2008). Perceptions and beliefs about body size, weight, and weight loss among obese African American women: A qualitative inquiry. *Health Education & Behavior*, *35*(3), 410-426. http://dx.doi.org/10.1177/1090198106290398

Berry, D., Turner, M., Biederman, D., & Flanagan, O. (2009). Benefits for Latino, African American and White children and parents taught together in the same community-based weight management intervention. *Hispanic Health Care International*, *7*(4), 203-212. http://dx.doi.org/10.1891/1540-4153.7.4.203

Burns, N., & Grove, S. K. (2009). *The practice of nursing research: Appraisal synthesis and generation of evidence* (6th ed.). St. Louis Missouri: Saunders.

Centers for Disease Control and Prevention [CDC]. (2013). Division of Nutrition, Physical Activity and Obesity. Retrieved from http://www.cdc.gov/obesity/data/table-adults.html

Cawley, J., & Maclean, J. C. (2010). *Unfit for service: The implications of rising obesity for U.S. military recruitment* (NBER Working Paper Series 16408). Retrieved from www.nber.org/papers/w16408:

Cawley, J., & Meyerhoefer, C. (2012). The medical care costs of obesity: An instrumental variables approach. *Journal of Health Economics*, *31*(1), 219-230. http://dx.doi.org/10.1016/j.jhealeco.2011.10.003

CDC: Adult Obesity Facts. (2014). Retrieved from http://www.cdc.gov/obesity/data/adult.html

CDC: National Health and Nutrition Examination Survey. (2013). Retrieved from www.cdc.gov/nchs/data/databriefs/db131.pdf

CDC: Vital Signs and Adult Obesity. (2010). Retrieved from http://www.cdc.gov/vitalsigns/pdf/2010-08-vitalsigns.pdf

CDC: Overweight and Obesity. (2012). Retrieved from http://www.cdc.gov/obesity/data/adult.html

Cowart, L. W., Biro, D. J., Wasserman, T., Stein, R. F., Reider, L. R., & Brown, B. (2010). Designing and pilot-testing a church-based community program to reduce obesity among African Americans. *ABNF Journal*, 4-10. Retrieved from http://www.ncbi.nlm.nih.gov/

Finkelstein, E. A., Khavjou, O. A., Thompson, H., Trogdon, J. G., Pan, L., Sherry, B., & Dietz, W. (2012). Obesity and Severe Obesity Forecasts Through 2030. *American Journal Preventive Medicine*, *42*(6), 563-570. http://dx.doi.org/10.1016/j.amepre.2011.10.026

Finkelstein, E. A., Trogdon, J. G., Cohen, J. W., & Dietz, W. (2009). Annual medical spending attributable to obesity: Payer-and-service-specific estimates. *Health Affairs*, *25*(5), 822-831. http://dx.doi.org/10.1377/hlthaff.28.5.w822

Forster, M., Veerman, J. L., Barendregt, J. J., & Vos, T. (2011, January 11). Cost-effectiveness of diet and exercise interventions to reduce overweight and obesity. *International Journal of Obesity*, *35*, 1071-1078. Retrieved from www.nature.com/ijo

Gutierrez, J., Devia, C., Weiss, L., Chantart, T., Ruddock, C., Linnell, J., ... Calaman, N. (2014). Health, community, and spirituality: Evaluation of a multicultural faith-based diabetes prevention program. *The Diabetes Educator*, *40*(2), 214-222. http://dx.doi.org/10.1177/0145721714521872.

Healthy People 2010 website, Nutrition and Overweight. (2011). http://www.cdc.gov/nchs/data/hpdata2010/hp2010_final_review_focus_area_19.pdf

Hicks, M., McDermott, L. L., Rouhana, N., Schmidt, M., Seymour, M. W., & Sullivan, T. (2008). Nurses' body size and public confidence in ability to provide health education. *Journal of Nursing Scholarship*, *40*(4), 349-354. Retrieved from http://www.nursingsociety.org/publications/Pages/default.aspx

Kershaw, K. N., Albrecht, S. S., & Carnethon, M. R. (2013, January 20). Racial and ethnic residential segregation, the neighborhood socioeconomic environment and obesity among Blacks and Mexican Americans. *American Journal of Epidemiology*, *177*(4), 299-309. http://dx.doi.org/10.1093/aje/kws372

Kettner, P. M., Moroney, R. M., & Martin, L. L. (2013). *Designing and managing programs: An effectiveness-based approach* (4th ed.). Thousand Oaks, CA: Sage.

Lazarou, C., & Kouta, C. (2010). The role of nurses in prevention and management of obesity. *British Journal of Nursing*, *19*(10), 641-647. Retrieved from http://info.britishjournalofnursing.com/

Londono, E. (2012, December 10). Rising number of soldiers being dismissed for failing fitness tests. *The Washington Post*. Retrieved from http://www.washingtonpost.com/world/national-security/rising-number-of-soldiers-being-dismissed-for-failing-fitness-tests/2012/12/08/13d2e444-40b8-11e2-ae43-cf491b837f7b_story.html

Martinez-Gonzalez, M. A., Garcia-Arellano, A., Toledo, E., Salas-Salvado, J., Buil-Cosiales, P., Corella, D., & Estruch, R. (2012). A 14-item Mediterranean diet assessment tool and obesity indexes among high-risk subjects: the PREDIMED trial. *Plos One*, *7*(8), 431-434. http://dx.doi.org/10.1371/journal.pone.0043134

Miller, W. C. (1999). Fitness and fatness in relation to health: Implications for a paradigm shift. *Journal of Social Issues*, *55*(2), 209-219. http://dx.doi.org/10.1111/00224537.00113

Minority Women's Health website: Overweight and obesity. (2010). Retrieved from http://www.womenshealth.gov/publications/our-publications/fact-sheet/overweight-weight-loss.html

Mission Readiness: Too fat to fight. (2010). Retrieved from http://www.missionreadiness.org/2010/too-fat-to-fight/

Monsivais, P., Aggarwal, A., & Drewnowski, A. (2011). Following federal guidelines to increase nutrient consumption may lead to higher food costs for consumers. *Health Affairs*, *30* (8), 1-7. http://dx.doi.org/10.1377/hlthaff.2010.1273

Nassir, R., Qi, L., Kosoy, R., Garcia, L., Allison, M., Ochs-Balcom, H. M., ... Seldin, M. F. (2012). Relationship between adiposity and admixture in African-American and Hispanic-American women. *International Journal of Obesity*, *36*, 304-313. Retrieved from www.nature.com/ijo

Nassir, R., Qi, L., Kosoy, R., Garcia, L., Allison, M., Ochs-Galcom, H. M., ... Seldin, M. F. (2012). Relationship between adiposity and admixture in African-American and Hispanic-American women. *International Journal of Obesity*, *36*, 304-313. Retrieved from www.nature.com/ijo

Ogden, C. L., Carroll, M. D., Kit, B. K., & Flegal, K. M. (2012). *Prevalence of obesity among adults: United States 2009-2010* [Issue brief No. 82]. Retrieved from http://www.cdc.gov/nchs/data/databriefs/db82.pdf

Ogden, C. L., Carroll, M. D., Kit, B. K., & Flegal, K. M. (2013). *Prevalence of obesity among adults: United States 2011-2012* [Issue brief No. 131]. Retrieved from http://www.cdc.gov/nchs/data/databriefs/db131.htm

Popkess-Vawter, S. (2009). Weight Management Counseling. In *Holistic nursing: A handbook for practice* (5th ed., pp. 415-442). Sudbury, MA: Jones and Bartlett.

Popkess-Vawter, S., Brandau, C., & Straub, J. (1998). Triggers of overeating and related intervention strategies for women who weight cycle. *Applied Nursing Research*, *11*(2), 69-78. Retrieved from http://www.appliednursingresearch.org/

Roberts, K., & Flaherty, S. J. (2010). *Review of dietary assessment methods in public health* [Issue brief]. Retrieved from The Public Health England Obesity website : http://www.noo.org.uk/

Salsberry, P. J., & Reagan, P. B. (2009). Comparing the influence of childhood and adult economic status on midlife obesity in Mexican American, White, and African American women. *Public Health Nursing*, *26*(1), 14-22. http://dx.doi.org/10.1111/j.1525-1446.2008.00751.x

Salvo, D., Frediani, J. K., Ziegler, T. R., & Cole, C. R. (2012). Food group intake patterns and nutrient intake vary across low-income Hispanic and African American preschool children in Atlanta: a cross sectional study. *Nutrition Journal*, *11*(62), 1-9. Retrieved from www.nutritionj.com/content/11/1/62

Schroeder, R., Garrison, Jr., J. M., & Johnson, M. S. (2011). Treatment of adult obesity with bariatric surgery. *American Family Physician*, *84*(7), 805-814. Retrieved from www.aafp.org/afp

Sivalingam, S. K., Ashraf, J., Vallurupalli, N., Friderici, J., Cook, J., & Rothberg, M. B. (2011). Ethnic differences in the self-recognition of obesity and obesity-related comorbidities: A cross-sectional analysis. *Society of General Internal Medicine*, *26(6)*, 616-620. http://dx.doi.org/10.1007/s11606-010-1623-3

Sivalingam, S. K., Ashrat, J., Vallurupalli, N., Friderici, J., Cook, J., & Rothberg, M. B. (2011, January 11). Ethnic differences in the self-recognition of obesity and obesity-related comorbidities: A cross-sectional analysis. *Journal of General Internal Medicine*, *26(6*), 616-620. http://dx.doi.org/10.1007/s11606-010-1623-3

Sullivan-Bentz, M., Humbert, J., Cragg, B., Legault, F., Lamflamme, C., Bailey, P. H., & Doucette, S. (2010). Supporting primary health care nurse practitioners' transition to practice. *Canadian Family Physician, 56*(11), 1176-1182. Retrieved from http://www.cfp.ca/

Tao, H., & Glazer, G. (2005). Legislative: Obesity: From a health issue to a political and policy issue. *The Online Journal of Issues in Nursing*, *10*(2). http://dx.doi.org/10.3912/OJIN.Vol10No02LegCol01

Trust for America's Health and Robert Wood Johnson Foundation. (2103). *F as in fat: How obesity threatens American's future* [Issue report]. Retrieved from http://www.healthyamericans.org/report/108

U.S. Department of Health & Human Services. The Office of Minority Health. (n.d.). Retrieved from http://minorityhealth.hhs.gov/templates/content.aspx?ID=6459

United States Census Bureau: Statement and County Quick Facts. (2012). Retrieved from http://quickfacts.census.gov/qfd/states/48/4865000.html

United States Department of Health and Human Services, Healthy People 2020. (2013). Nutrition and weight status. Retrieved from http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=29

Ward-Smith, P. (2010). Obesity - America's health crisis. *Urologic Nursing*, *30*(4), 242-245. Retrieved from https://www.suna.org/unj

Webber, K. H., & Lee, E. E. (2011). The diet quality of adult women participating in a behavioural weight loss programme. *Journal of Human Nutrition and Dietetics*, *24*(4), 360-369. http://dx.doi.org/10.1111/j.1365-277X.2011.01159.x

Wee, C. C., Phillips, R. S., Legedza, A. T., Davis, R. B., Soukup, J. R., Colditzm, G. A., & Hamel, M. B. (2005). Healthcare expenditures associated with overweight and obesity among U.S. adults: Importance of age and race. *American Journal of Public Health*, *95*(1), 159-165. Retrieved from http://ajph.aphapublications.org/

White, K. M., & Dudley-Brown, S. (2012). Change theory and models: Framework for Translation. In K. M. White (Ed.), *Translation of Evidence into nursing and health care practice* (pp. 49-60). New York, NY: Springer Publishing Company.

World Health Organization website. Obesity and overweight. (2013). Retrieved from http://www.who.int/mediacentre/factsheets/fs311/en/index.html

Appendix A: Mediterranean Diet: Healthy Cooking Demonstration Participant Survey

Questions	Criteria for 1 point
1. Do you use olive oil as a main culinary fat?	Yes No
2. How much olive oil do you consume in a given day (including oil use for flying, salads, out-of house meals, etc.)? (1 tablespoon = 15 ml)	≥ 4 tbsp. Yes No
3. How many time per week do you use an olive oil based sauce (made with tomato and onion, leek, or garlic, simmered with olive oil) on vegetables, pasta, rice, or other dishes?	≥ 2 Yes No
4. How many fruit serving do you consume per day (including natural fruit juices)?	≥ 3 Yes No
5. How many vegetable serving do you eat per day (1 serving = tennis ball size or 200g).	≥ 2 (≥ 1 portion raw or as a salad) Yes No
6. How many servings of red meat, hamburger, or meat products (ham, sausage, etc.) do you eat per day? (1 serving = 3 oz. deck of cards)	< 1 Yes No
7. How many servings of butter, margarine, or cream do you eat per day? (1 serving = pad of butter or 12g)	< 1 Yes No
8. How many sweet or carbonated beverages do you drink per day?	< 1 Yes No
9. How much wine do you drink per week?	≥ 7 glasses Yes No
10. How many serving of legumes do you eat per week? (1 serving = tennis ball=150g or approximately ½ cup).	≥ 3 Yes No
11. How many serving of nuts (including peanuts) do you eat per week? 1 serving =30g which is approximately 30 almonds or ¼ cup).	≥ 4 Yes No
12. How many times per week do you eat commercial sweets (not homemade), such as cakes, cookies, biscuits or custard?	< 3 Yes No
13. Do you prefer to eat chicken, turkey (white meat, no skin) instead of veal, pork, hamburger, or sausage?	Yes No
14. How many servings of fish or shellfish do you eat per week? 1 serving = 3-5 ounces fish, or 6-7 ounces shellfish)	≥ 4 Yes No

doi: 10.1371/journal.pone.0043134.t001

Appendix B:Demographic Survey

Demographic Survey

Race	African American or Hispanic
Age	_____
Gender	_____
Height	_____
Weight	_____
Primary individual who shop for grocery.	_____
Primary individual who prepare meals.	_____

Select a name one word to identify you. This will be known only to you to provide to provide confidentiality for your information. Please remember this word because you will use the same word on the post survey so we can compare the information.

Thank you for helping with this me complete my scholarly project.