

2012

Barriers to Diabetes Self-Management in African American Women

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BARRIERS TO DIABETES SELF-MANAGEMENT IN AFRICAN AMERICAN
WOMEN

by

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A thesis submitted to the faculty of
Gardner-Webb University School of Nursing
In partial fulfillment of the requirements for the
Degree of Master of Science in Nursing

Boiling Springs, North Carolina

2011-12

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Abstract

Diabetes is a global epidemic and is a leading cause of disease-related death. In the United States, diabetes is the most common chronic disease affecting 23.6 million Americans or 7.8% of the population (Centers for Disease Control, 2010a). African American women have the highest prevalence of diabetes. Health promotion in the form of diabetes self-management is the key to reducing this urgent disparity. This descriptive study sought to identify barriers to diabetes self-management and identify relationships associated with self-management in this population. This study was conducted using a convenience sampling of African American women with diabetes who were surveyed to assess their knowledge of diabetes, their perceptions of diabetes in their lives, and their self-care related to diabetes. Study findings indicate a cause for alarm for the nursing profession and the health care system as a whole. Urgent opportunities exist to improve the quality of diabetes care in this population.

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Chapter I

Introduction

Diabetes is considered a global epidemic and is now the fourth leading cause of disease-related death in the world. The number of people with diabetes is estimated at 285 million or 6.6% of the world's population. This number is expected to increase to 438 million (7.8%) by the year 2030. Type 1 diabetes represents only a small percentage of the global diabetes cases but is increasing in both poor and rich countries. Type 2 diabetes represents 85-95% of the global diabetes cases and is also increasing in worldwide prevalence. Diabetes is a major cause of premature morbidity and mortality in most countries. The complications that arise from diabetes become the cause of death in most diabetics. Complications include amputations, blindness, coronary artery disease, peripheral vascular disease, nephropathy, and stroke. For 2010, 6.8% of deaths worldwide for adults age 20-79 can be attributed to diabetes. Diabetes-related deaths occur more often in women. Diabetes is a widespread, major health concern for modern times that has developed due to social and cultural change, the ageing of populations, the spread of urbanization, changes in dietary patterns, reduction in physical activity, and unhealthy lifestyle patterns. Diabetes leads to increased disability, increased morbidity and mortality, and ever-increasing medical costs for each society. Diabetes represents a daunting global challenge [International Diabetes Federation (IDF), 2010].

In the United States, diabetes represents the most common chronic disease as 23.6 million Americans (7.8% of the population) have diabetes. If recent trends continue, diabetes will affect one in three Americans and those who develop diabetes will lose an average 10-15 years of life. The death rate for persons with diabetes is double the rate for

persons of the same age who do not have diabetes. The annual cost of diabetes is estimated at \$174 billion. Of this amount, \$116 billion is related to direct medical costs and the remaining \$58 billion is due to indirect costs such as disability and premature deaths. Those with diabetes have 2.3 times the medical spending than those who do not have diabetes [Centers for Disease Control (CDC), 2010a]. The morbidity, mortality, and costs associated with diabetes are even more prevalent in the African-American population.

African Americans are twice as prone to suffer diabetes as Caucasians. This disparity, along with many other race-related disparities, has elevated the issue to a national concern. African Americans are also more susceptible to complications associated with diabetes. In 2006, African Americans were 1.5 times more likely to be hospitalized with diabetes as Caucasians and also 2.3 times more likely to die from diabetes (CDC, 2010b). The increased incidence of diabetes and other chronic conditions in African Americans can be attributed to increased risk factors such as poor dietary habits, obesity, and hypertension further complicated by issues such as culture, environment, and education (Frank & Grubbs, 2008). African American women are more likely to have these risk factors and suffer the burden of diabetes at twice the rate of non-Hispanic whites (CDC, 2011a).

African American women have the highest prevalence of diabetes. Health promoting behavior in the form of self-management is necessary to lessen the complications and increased mortality associated with diabetes. Many studies have identified factors associated with poor or insufficient self-management in the African American population. The greatest challenge to self-management is daily management.

Daily management is especially challenging when it comes to following dietary and activity guidelines and is more difficult for minorities who frequently have multiple chronic conditions. This high rate of diabetes in African American women calls for research related to the daily management in this population. This quantitative study explores barriers to diabetes self-management in African American women by exploring the relationship among personal factors, diabetes knowledge, self-efficacy and health promoting behaviors.

Statement of the Problem

African American women are disproportionately affected by diabetes. The prevalence of diabetes in the U.S. is highest among African American women (CDC, 2011b). Complications are 50% higher in African Americans yet can be prevented with adherence to health promoting self-care activities such as proper medication administration, blood glucose monitoring, and proper diet and exercise. Inadequacies in self-management may play a large role in the disparities in diabetes outcomes. Consistent self-management is required for effective diabetes care (Trinacty et al., 2007). Even in situations where there is comparable access to high quality care and services, blacks have been found to have disparate outcomes (Adams et al., 2005). The cause of racial disparity may go beyond access to care and rest in gaining a broader understanding of unmeasured factors (Karter et al., 2002). This understanding begins with understanding the barriers to health promoting self-care in this population.

Purpose

The purpose of this study is to explore barriers to diabetes self-management in African American women. African American women diagnosed with Type 1 or Type 2

diabetes for at least six months will be surveyed using the Diabetes Empowerment Scale (DES-5), the Diabetes Knowledge Test (DKT), and the Summary of Diabetes Self-Care Activities measure (SDSCA). These tools will be used to assess the relationship between womens' attitudes, knowledge, and individual factors and diabetes self-management. The study proposes that the examination of these barriers will direct the nursing professional to the root cause of poor self-management of diabetes in this population. Once completed, the data from this study will assist in developing culturally appropriate solutions to overcoming disparities related to poor self-management in African American diabetic women.

Background & Social Significance

Minority populations continue to be in poor health as compared to the larger population and continue to be underserved by the health care system. The causes of the continuing disparities are unknown and continue to progress [American Dietetic Association (ADA), 2011]. The reduction and elimination of health disparities is a national health priority. Although the disparities are decreasing over time, the disparities continue to persist among racial groups. In African Americans, the incidence of type 2 diabetes has tripled over the last 30 years (CDC, 2009) with nearly 14.7% or 3.7 million African Americans being diagnosed with diabetes [National Institutes of Health (NIH), 2009]. African Americans also have higher incidences of diabetes-related complications. Efforts to promote self-management in African Americans must be culturally appropriate to reduce the disparities in morbidity and mortality (Casarez, Engebretson, & Ostwald, 2010). Patients with diabetes must self-manage their disease (Duru et al., 2009). Obstacles to self-management increase the likelihood of complications. Identifying these

barriers to self-management in African Americans may assist healthcare professionals in establishing plans to overcome the barriers, increase effective self-management, and thereby decrease the disparities in this population.

Theoretical Framework

The theoretical framework for this study is Pender's Health Promotion Model (HPM). The HPM is used as a guide to explore biological, psychological, and social processes that motivate African American women to perform daily diabetes self-management. The HPM is an integration of several constructs and is derived from the social learning theory (social cognitive theory) and the expectancy-value theory (McEwen & Wills, 2007, p. 225). The social learning theory is comprised of three self-beliefs: "self-attributes, self-evaluation, and self-efficacy" with self-efficacy being a central construct of the HPM (Marriner & Raille, 2006, p. 454). The expectancy-value theory suggests that individuals are rational and will persist with a given behavior as long as the behavior produces positive value to the person and is likely to result in a positive outcome (Bond, Jones, Cason, Campbell, & Hall, 2002). According to McEwen and Wills (2007, p. 225), the HPM can be used as a guide to explore the processes that motivate individuals, namely African American women, to engage in health promoting behaviors. There are three major categories of factors that influence health promoting behaviors: individual characteristics and experiences, behavior-specific cognitions and affect, and behavioral outcomes (2007). The HPM is illustrated in Figure 2.1. The model illustration reveals the concepts associated with each of the categories.

The HPM suggests that individuals have unique personal characteristics and experiences that affect subsequent behavior. The set of variables related to behavior

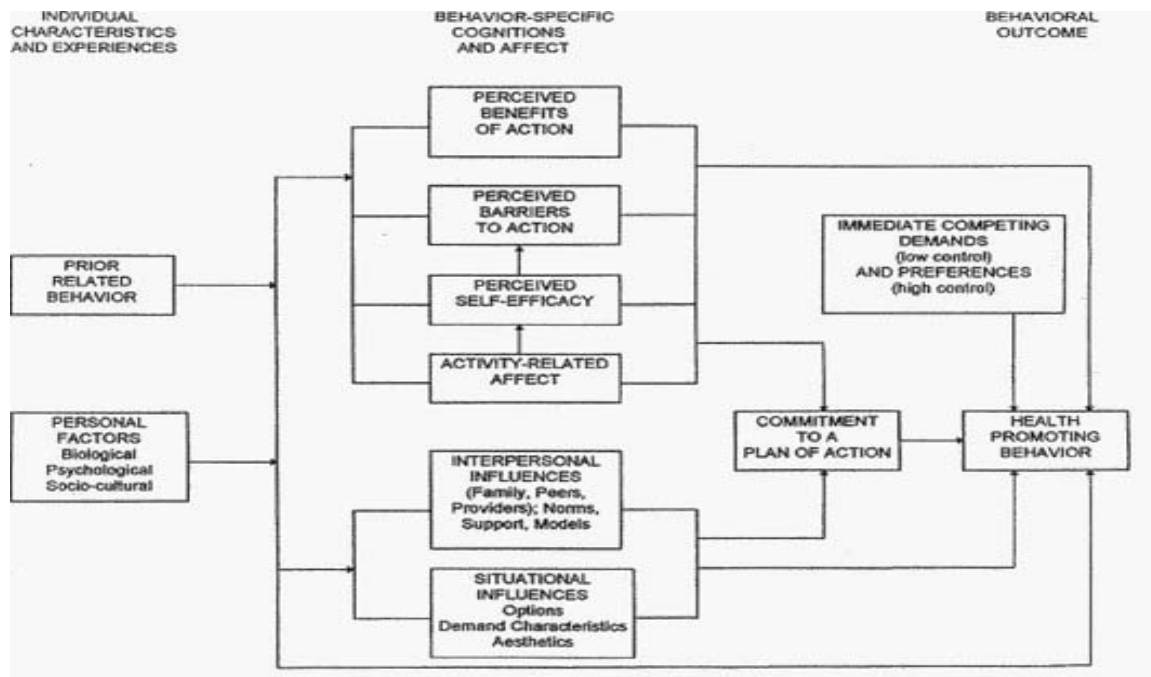


Figure 2.1. From *Health Promotion in Nursing Practice* (p. 50) by N. J. Pender, C. L. Murdaugh and M. A. Parsons, 2006 New Jersey: Pearson Prentice Hall. Copyright 2006 by Pearson Education, Inc. Reprinted with permission.

specific cognitions and affect are highly motivational to the individual (Marriner & Raille, 2006, p. 459). Health promoting behavior is the desired outcome although it can be hindered by immediate competing demands and preferences. Individual characteristics and experiences are based on “prior related behavior and personal factors” (McEwen & Wills, 2007, p. 225). Behavior-specific cognitions and affect is related to “perceived benefits of action, perceived barriers to action, perceived self-efficacy, activity-related affect, interpersonal influences, and situational influences” (p. 225). The behavioral outcomes are related to the commitment to an action plan, competing demands and preferences, and health promoting behavior (p. 225). The individual characteristics and behavior-specific cognitions are seen as predictors of health promoting behaviors while behavioral outcome is the achieved goal of the behaviors (Esperat, Feng, Zhang, & Owen, 2007).

Understanding the concepts of the model is incremental in understanding the model and utilizing the concepts as a framework for further study. Individual characteristics are subdivided into prior related behavior and personal factors – biological, psychological and sociocultural (McEwen & Wills, 2007, p. 226). Biological factors include age, gender, and BMI. Psychological factors include self-esteem, self-motivation, and perceived health status. Sociocultural factors include race, acculturation, education and socioeconomic status (Marriner & Raile, 2005, p. 457). For this study, personal factors will be the subject's demographic factors of gender, age, height, weight, time since diabetes diagnosis, diabetes type, medication regimen, and educational level and will be measured with the Diabetes Empowerment Scale (DES5). The subject's knowledge regarding diabetes is considered to be a personal factor and will be measured with the Diabetes Knowledge Test (DKT).

Behavioral-specific cognition and affect covers perceived benefits, perceived barriers, perceived self-efficacy, activity-related affect, interpersonal and situational influences (McEwen & Wills, 2007, p. 226). Perceived benefits are anticipated positive outcomes from health promoting behavior while perceived barriers are real or imagined obstacles resulting from a behavior (Marriner & Raile, 2005, p. 457). Perceived self-efficacy is a person's judgment of their own ability to execute a health promoting behavior with higher self-efficacy resulting in a reduction in perceived barriers. Activity related affect is based on emotions associated with a behavior and have an effect on self-efficacy. Interpersonal influences are thoughts related to the attitudes and beliefs of others including norms, social support, and modeling and include family members, peers, and health care providers. Situational influences are perceptions or thoughts associated

with a situation (other options, aesthetics) that can affect behavior (p. 458). In this study, the participants' behavioral-specific cognitions and affect will be measured with the DES5.

Behavioral Outcome is associated with a commitment to a plan of action, immediate competing demands/preferences, and the resulting health promoting behavior (McEwen & Wills, 2007). The commitment to a plan of action is an individual strategy leading to health promoting behavior. Immediate competing demands and preferences are alternatives to the health promoting behavior. Low control is associated with responsibilities such as work and family obligations. High control is associated with preferences and the individual's option to make choices. Health promoting behavior is the outcome (Marriner & Raile, 2005, p. 458). Commitment to a plan of action will be considered to be commitment to self-management and measured using the Summary of Diabetes Self-Care Activities tool.

Theoretical Assumptions

Based on these concepts, the HPM offers assumptions reflecting both nursing and behavioral disciplines. The assumptions suggest that individuals desire to regulate their behavior, that individuals are continuously reacting to and being transformed by the environment, that persons must change their interpersonal environment to change their behavior, and that health professionals exert influence on individuals (p. 459).

Significance to Nursing

The significance of a study is related to its importance to nursing's body of knowledge and should result in a change in processes by the nurse (Burns and Grove, 2009, p. 225). Previous studies have identified many barriers to diabetes self-

management in African American women. These barriers must be studied from the standpoint of the patient. By delving into the attitudes, beliefs and perceptions of African American women regarding the barriers to diabetes self-management, nursing interventions can be implemented that are culturally sensitive to this population.

Research Questions

The research questions for this study were:

1. Is there a relationship between the variables of age, time since diabetes diagnosis, body mass index and diabetes self-management?
2. Is there a relationship between diabetes knowledge and diabetes self-management?
3. Is there a relationship between the variables perceived effect of diabetes on activities of daily living, perceived understanding of diabetes, perceived life fit of diabetes, and perceived comfort in speaking with a primary physician and diabetes self-management?

Chapter II

Literature Review

A review of the literature to investigate barriers to diabetes self-management in African American women was performed utilizing Medline, PubMed, CINAHL, and Ovid databases. The key words “African American”, “self-management”, “self-care”, and “African American women” were used to obtain research articles related to diabetes self-management in African American women. The literature review revealed multiple factors associated with diabetes self-management in African American women including literacy, spirituality, knowledge, and culture.

Self-Management. Burns and Skelly (2005) conducted a study that described the day-to-day experience of living with type 2 diabetes for African American women. This qualitative study involved a convenience sample of nine women with a mean age of 57 and mean time since diagnosis of six years. The researchers used a descriptive design to gain an understanding of the participants’ experience of daily diabetes management in their own words. The study found the following themes arose from the interviews: the new diagnosis of diabetes and associated symptoms and reactions, education on diabetes, self-management related to food intake and things that promoted and discouraged self-management, and other concerns. The women in the study reported that diabetes presented a daily challenge. In addition, the participants reported that education regarding self-care occurred at the time of the initial diagnosis in the form of pamphlets with limited dietary instructions to reduce consumption of certain foods. The participants also stated that health care providers did not have time to provide education to them about

their diabetes. The researchers propose that strategies to enhance diabetes self-management should begin at diagnosis and continue throughout the lifespan (2005).

Montague, Nichols, and Dutta (2005) described the relationship among demographic characteristics, medical characteristics, self-efficacy, locus of control, and self-management in African American women in three age groups: 25-44, 45-64, and 65-84. Self-management was delineated by the relationship between all the variables and by functional status and glycosylated hemoglobin (HbA1c) findings. The study was a descriptive study with a convenience sample of 75 African American women obtained from community physician practices. The sample consisted of African American women age 25-84 who had been diagnosed with diabetes for at least one year and lived in the geographic area of the study. The participants completed medical and demographic forms along with questionnaires for diabetes self-efficacy, diabetes locus of control, and the Medical-Outcomes-Short Form 36. A venous blood sample was collected to measure HbA1c. The study found that although the levels of self-efficacy and internal locus of control were high, self-management was found to be inadequate, as evidenced by high HbA1c levels. The researchers found that the limitations of the study were in interpreting and generalizing the results beyond the small sample included in the study (2005).

Sarkar, Fisher, and Schillinger (2006) evaluated the relationship between diabetes self-efficacy and self-management behaviors. The sample consisted of 89 ethnically diverse participants – 18% Asian, 25% African American, 42% Latino and 15% white. The sample population also had low health literacy. The sample was obtained from two primary care clinics in San Francisco. The data was gathered via oral questionnaire using recognized instruments to measure self-efficacy, health literacy, and self-management

behaviors. Self-efficacy was measured by an adapted self-efficacy scale. Health literacy was measured using an abbreviated Test of Functional Health Literacy in Adults (s-TOFHLA). Diabetes self-management was measured using the Summary of Diabetes Self-Care Activities Questionnaire. The researchers found an association between self-efficacy and self-management across all ethnicities and literacy levels. However, the degree of the association necessitates further study of the motivators and barriers to self-management. Study limitations include the debate on the utility of disease-specific self-efficacy instruments, the validity of self-report, and the questionable reliability of the causal relationship between self-efficacy and self-management. The researchers suggest that future studies evaluate the factors that contribute to and maintain self-efficacy to increase the success of interventions aimed at improving diabetes self-management. In addition, these interventions should include ethnically diverse populations regardless of health literacy (2006).

Carthron, Johnson, Hubart, Strickland, and Nancy (2010) evaluated the self-management activities of African American primary caregiving grandmothers. The study compared self-management activities before and after initiation of caregiving and further compared self-management activities of caregiving and non-caregiving African American grandmothers. The researchers used a cross-sectional, descriptive design with a sample of 68 African American primary caregiving grandmothers age 55-75. The participants in the study were asked how frequently they performed six activities related to self-management. The results showed a statistically significant variation in self-management in the grandmothers who provided primary caregiving. The study found that African American diabetic primary caregiving grandmothers may have decreased self-

management abilities due to competing responsibilities. Study limitations included participant self-report, differences in the administration of the instruments to caregiving and non-caregiving participants, participant recall related to performing self-management, the small geographic region represented by the sample, and the lack of reliability and validity testing of the researcher-developed questionnaire. For future research, the researchers recommend evaluation of the instrument for validity and reliability. Further research is recommended to identify barriers to self-management in this population along with tailored interventions to promote diabetic health (2007).

Chesla et al. (2004) studied the effects of family life on diabetes management in African Americans with type 2 diabetes. The researchers recruited a sample of 159 African Americans through health care facility records and African American churches. Criteria for inclusion included being born in the United States, one year or greater since diagnosis, age 25-70, and no evidence of major complications. The participants also had to have an identifiable health partner such as a spouse, parent, sibling or other family member. Family life domains of structure/organization, emotion management, and world view were evaluated on the following dimensions of disease management: morale, management behaviors, and glucose regulation. Patients completed questionnaires to evaluate family life. The Togetherness Scale, the Family Coherence Scale, and the Unresolved Conflict Scale were used. Disease management measures included patient morale, diabetes care behaviors related to diet and exercise, and HbA1c results. Patient morale was measured using the General Health Subscale of the Quality of Life Assessment (SF-36). The Diabetes Quality of Life (DQOL) measures patient satisfaction with aspects of living with diabetes. Depression was assessed via the Center for

Epidemiological Studies-Depress (CED-D) Scale. Diet and exercise were measured through analysis of dietary intake and exercise. The study found that emotion management had the strongest influence on diabetes management. The study suggested that disease management is enhanced in the African American population if the family is optimistic and believes that “life has order, meaning and manageability” (p. 2853). Limitations of the study were the sample being obtained from one medical practice. In addition, the relationships examined were a snapshot, not reflective of longitudinal results. Third, examining various family relationships and structures may increase external validity. Lastly, diabetes management in African Americans is impacted by many other factors that warrant further study (2004).

Samuel-Hodge et al. (2000) conducted a study to identify “culturally relevant psychosocial issues and social context variables” (p. 928) that influence diet and exercise in African American women. This qualitative study involved 70 southern African American women who participated in focus group interviews. The participants were obtained through convenience samples enrolled from a university-based internal medicine practice and from rural and urban community centers with a high black population. Topics for the focus group interviews centered on the psychosocial topics associated with diabetes such as self-care, exercise and diet, and the suggestions for the establishment of community-based support for diabetics. The study findings suggest that influences of diabetes self-management in African American women may be “best understood from a sociocultural and family context” (p. 928). The themes identified included spirituality, the impact of diabetes, the effects of the multicaregiver role, stress, coping, and social support. The researchers suggest that the findings of the study support

the need for further study from an ecological perspective. This perspective looks at how health behavior is influenced by continuous interaction of personal, social, and cultural factors. Study limitations include cautious generalization of the study findings to populations outside of southern, rural African American women (2000).

Utz, Steeves, Wenzel, Jones, and Murphy (2006) described the experience of daily diabetes self-management. The study aimed to identify facilitators and barriers, medication and therapies, and first-hand recommendations for daily diabetes care. The researchers used a descriptive qualitative design. The sample was 73 participants recruited through local ads, flyers, churches, and community leaders. Focus group interviews were held to gather data. The interviews revealed the need for culturally appropriate education and also elevated the importance of the role of religion and spirituality in self-care. Study limitations include lack of generalization of the findings due to sample size and a single geographic region (2006).

Amoako, Skelly, and Rossen (2008) utilized an experimental design study to determine the effect of a telephone intervention on diabetes self-management and psychosocial adjustment in African American Women. The participants in the study were 68 older African American women age 49-83 recruited from clinics and physician offices in a single county in a southern state. The participants were divided into an experimental and a control group. The experimental group received education once a week for four weeks. The education was designed to address issues related to diabetes self-management and included a focus on diabetes “diagnosis and prognosis; treatment, medications, symptoms, and side effects; social, economic, and family issues; and self-care, diet exercise ad foot care” (p. 932). The Mischal Uncertainty in Illness Scale-Community

Form was used to measure uncertainty in illness. The revised Summary of Diabetes Self-Care Activities was used to measure diabetes self-management. Psychosocial adjustment to diabetes was measured by the Problem Areas in Diabetes Survey. The study found an increase in exercise participation and an improvement in psychosocial adjustment. Study limitations include the lack of HbA1c measurement post-intervention and the single post-intervention assessment. The researchers recommend future longitudinal studies to assess these results over time (2008).

McCleary-Jones (2011) performed a descriptive, correlational study to examine the relationship between health literacy and diabetes knowledge, perceived self-efficacy, and diabetes self-management in African Americans with diabetes. A random sample of 50 African American women greater than age 18 with a diagnosis of type 1 or type 2 diabetes, were recruited from a Midwestern U. S. church and community health center. The researcher used the Rapid Estimate of Adult Literacy in Medicine (REALM), Diabetes Knowledge Test (DKT), Diabetes Self-Efficacy Scale, and the Summary of Diabetes Self-Care Activities (SDSCA) for the study. The level of diabetes knowledge and self-efficacy were individual predictors for self-care related to diet. Self-efficacy was the discrete predictor for foot care. Findings suggest that health literacy, diabetes knowledge, and self-efficacy are important factors in self-management. The researchers recommend further research on identifying culturally sensitive strategies to improve health literacy and self-management. Exploration of the link between knowledge, self-efficacy, and participation in diabetes self-management was also recommended. Study limitations include the small non-random sample size and the predominantly female sample (2011).

Spirituality. Polzer (2006) explored how African Americans with type 2 diabetes perceive the spiritual role of the health care provider and how that role affected self-management activities. The researcher used a qualitative descriptive design using 29 African Americans – 19 women and 10 men with various religious affiliations. The mean age of the participants at the time of the study was 59 years. The mean age at the time of diabetes diagnosis was 13 years, and the mean years of education were 12 years. Data collection consisted of open-ended interviews with an emphasis on asking the participants about taking care of their diabetes and how their spirituality affected their self-management of the disease. The study found that the participants valued a spiritual relationship with their health care provider. The concept of the spiritual relationship with the provider ranged from the provider being a partner in health care to God working through the provider, to the provider being a spiritual partner in health care. The relationships each resulted in increased motivation and responsibility for diabetes self-management in the participants. Findings also suggest that customary diabetes care such as diabetes education and education regarding the importance and responsibility for self-management, are considered spiritual care. Study limitations relate to generalizability due to the size and single geographic location of the participants (2006).

Frank and Grubbs (2008) examined the effect of a faith-based screening and education program in reducing the risk factors for diabetes, cardiovascular disease, and stroke in African Americans. The sample consisted of 89 participants who were recruited from local African American churches. The participants were given pretests prior to a 20 minute educational program on diabetes prevention that included recognizing the symptoms of diabetes, cardiovascular disease and stroke. Following the educational

program, The participants were given a posttest, consumer satisfaction survey, and screenings for height, weight, blood pressure and blood glucose. The study found no significant increase in pre- and posttest scores, indicating a need for more than one educational session. Participants who were under age 30 or over age 60 had the least pretest knowledge. The screenings found that 50% of the participants were hypertensive and 14% had elevated blood sugars. Study limitations include possible issues with the education program and limited generalization of the findings due to the southern, rural sample (2008).

Casarez, Ostwald, and Engebretson (2010) explored the spiritual dimensions of health promoting self-management behaviors in African Americans. The spiritual orientations of African Americans with type 2 diabetes mellitus were examined for similarities between independent samples. Secondly, spiritual practices were examined for how they were integrated into spiritual orientation. Lastly, the researchers explored how spiritual practices in each orientation could be integrated into a diabetes self-management program. The researchers used a qualitative descriptive design with purposive sampling. Inclusion criteria was African American men and women age 40 years or greater with a reported diagnosis of diabetes mellitus greater than one year. The sample included 14 women and 4 men recruited from an African American church and an affordable housing complex that offered senior support services. The participants were interviewed by the principal investigator to collect demographic data and to answer long interview questions. The participants identified three orientations about diabetes self-management and spiritual practices. Spiritual practice as part of self-management, spiritual practice and self-management as healing and spiritual practice as healing were

the emergent orientations. These orientations confirm a previous study related to diabetes self-management through a relationship with God. The study also provided information on how certain spiritual practices affect self-management. A limitation of the study was the small number of participants that fell into each of two of the orientations. Self-selection is another limitation along with the lack of generalizability due to the small sample size. The researcher recommended further study to develop interventions that incorporate spiritual practices in diabetes self-management interventions in African Americans with diabetes mellitus (2010).

Instruments. Clark, Utz, and Hollen (2011) examined diabetes self-management instruments used in research with rural African Americans with diabetes. The researchers conducted a review of nursing and medical literature and examined research in the African American population using instruments to measure diabetes self-management. The instruments found in the literature were the Summary of Diabetes Self-Care Activities, Diabetes Knowledge Test, Diabetes Self-Care Practices questionnaire, Diabetes Empowerment Scale-Short Form (DES-SF), and the Spoken Knowledge in Low Literacy in Diabetes Scale (SKILLD). The study found that these instruments are culturally appropriate to accurately assess diabetes self-management in rural African Americans and to tailor educational programs for this population (2011).

Health Promotion. Newell-Withrow (2000) performed a descriptive quantitative study to describe the health protecting and health promoting behaviors of African Americans living in Appalachia. The sample consisted of 204 participants recruited from a variety of settings including churches and community activities. The Health Practice Instrument, developed by the researcher, was used to collect data that described health

promotion and practice. The study findings provided a description of health protecting and health promoting behaviors in this population that was comparative to the behaviors of African Americans in other regions. The researchers recommended further study of this population to gain broader empirical data (2000).

Meta-analysis. Ho, Berggren, and Dahlborg-Lyckhage (2010) performed a meta-ethnographic study to provide a deeper understanding of the diabetic's perception of an effective empowerment strategy for diabetes self-management. The research question for the study was, "How can persons with diabetes be empowered" (p. 261)? CINAHL and Medline databases were used with the key words "qualitative study" AND "empowerment" AND "diabetes" (p.261). Nine articles were selected after screening. The researchers performed a meta-synthesis on the findings of nine qualitative studies. The results of the study suggested four central metaphors deemed important in revealing the factors that influence effective empowerment. The metaphors are: "trust in nurses' competence and awareness, striving for control, a desire to share experiences, and nurses' attitudes and ability to personalize" (p. 260). Trust in nurses' competence and awareness was linked to the nurses' knowledge of diabetes and how well the nurse was able to deliver subject matter related to the essentials of effective diabetes self-management. The metaphor of striving for control was associated with eating habits, efforts to control blood sugar, and efforts toward the prevention of complications. The group interaction metaphor was the major element in an effective empowerment strategy. The metaphor of nurses' attitude and ability to personalize was related to the nurses' ability to establish authentic personal relationships with the client. Study limitations include the possibility of researcher bias in the completion of the meta-synthesis. The implications for practice

include assess the clients' life situation and utilizing Pender's Health Promotion Model as a framework to facilitate the client's self-efficacy and the cultural competence of health care providers. Further research is recommended to assist in diabetes empowerment and the development of strategies to facilitate diabetes self-management (2010).

Health Behavior. Dubowitz, Heron, Basurto-Davila, Bird, Lurie, and Escarce (2011) measured factors that contribute to differences in health behaviors for non-Hispanic whites, Non-Hispanic blacks, and Mexican-Americans. The National Health and Nutrition Examination Survey (NHANES III) was used for the study. This survey provided a "nationally representative, cross-sectional study of the civilian non-institutionalized population of the U.S. conducted from 1988-1994" (p.292) with an oversampling of blacks and Mexican-Americans. The researchers excluded adults less than 20 years of age and women who were pregnant. The sample size ranged from 12,648-13,187. The study used Oaxaca decomposition to examine variances in smoking, alcohol consumption, diet and sedentary lifestyle among the ethnicities in the study. The Oaxaca decomposition analysis is a statistical method for "decomposing overall group differences in an outcome of interest and quantifying the contributions from different components" (p. 291). Findings indicated individual, socioeconomic, and neighborhood socioeconomic factors had robust discrete associations with health-related behaviors. Differential responses were also significant yet a limitation of the study is the "omitted dimensions of variables" (p. 299) such as "attitudes and preferences, culture and degree of acculturation, and experience of discrimination" (p. 299-300). The researchers recommend further study of the mechanisms for these differential responses to develop community and public health campaigns that target specific groups (2011).

Siminerio, Ruppert, Emerson, Solano, and Piatt (2008) explored opportunities to meet the Healthy People 2010 goal of increasing the percentage of diabetics who have received education from 40% in 1998 to 60% in 2010. The objectives were to examine the provision of diabetes self-management education in primary care, if the provision of the education in the primary care setting increased the number of people who receive education, and to evaluate the effect of diabetes self-management education on low-density lipoprotein-cholesterol (LDL-C) and glycosylated hemoglobin (HbA1c). The researchers gathered 784 participants obtained from primary physician practices in Pittsburgh, Pennsylvania. A certified diabetes educator provided point-of-service diabetes education to 784 of 5344 diabetes patients from four primary care practices. There was not a significant group difference in HbA1c. However, the participants who received education had lower LDL-C than the control group. The researchers suggest further research to evaluate other approaches to increase access to diabetes self-management education and other factors that may improve outcomes in clients with diabetes. The limitation of the study includes the multitude of factors that could have affected HbA1c and LDL-C results in the study (2008).

New (2010) described the creation and effect of a co-created diabetes self-management education intervention as compared to the outcomes of a standard diabetes self-management program. The co-created education was based on the desires and needs of a group of adults with type 2 diabetes. The researcher used a quasi-experimental study design. The sample was obtained from Arkansas residents living in an area with a high incidence of type 2 diabetes. Participants for selection were age 40 or older with type 2 diabetes for more than one year. There were three parts of the study. The first phase was

a focus group used to develop and evaluate the collaborative education intervention. The next phase involved pre- and post-intervention collection of data for self-management activities, diabetes knowledge, and adaptation using the focus groups. The last phase involved post-diabetes self-management education data collection and program satisfaction data from both groups. Focus groups and quantitative measures were used in the study. The focus groups were used to gain information about the participants' needs and desires related to diabetes self-management education. The instruments used to obtain quantitative data were the DKT, the ATT-19, the DES-SF, the SDSCA, and the Diabetes Management and Evaluation Tool (DMET). The DKT measures diabetes-specific knowledge and the ATT-19 measures psychosocial adaptation to diabetes. The DES-SF assesses diabetes-related self-efficacy and the DSCA measures performance of four self-care activities. The DMET is a measure of program satisfaction. The researchers found no significant differences in knowledge, adaptation, or program satisfaction between the experimental and control groups. The researchers suggested an improvement in self-care in the experimental group. The study limitations were sample size and lack of generalizability due to short-term data collection from a self-selected population in one geographic area. The researchers recommend further research to identify the specific learning needs of adults with type 2 diabetes (2010).

In summary, a review of current literature identified many possible barriers or factors associated with diabetes self-management including literacy, spirituality, knowledge, and culture. However, there is a need for further study to provide a holistic view of these barriers from the client's perspective. This study provides a holistic view of

health promotion/self-management behaviors from the client's perspective based on Pender's HPM.

Chapter III

Methodology

The purpose of this chapter is to describe the methodology used in this research study to evaluate the barriers to diabetes self-management in African American women with diabetes. The methodology describes the setting, subjects, sampling, instruments, procedures, ethical considerations, data collection, and data analysis procedures.

Setting, Subjects, and Sampling

A descriptive cross-sectional design was used for this study to gather information regarding perceived barriers to diabetes self-management in African American women. Purposive sampling was used. Purposive sampling involves the selection of participants who are expected to give the most insight into the purpose of the study (Burns & Grove, 2009, p. 355). For inclusion in this study, the participants must be African American women over the age of 18, who have been diagnosed with type 1 or type 2 diabetes, who can read, write, and speak English. Participants diagnosed less than one year were excluded. This sample provided the most significant insight into the barriers to diabetes self-management in African American women. Study participants were obtained from African American churches in Western North Carolina and South Carolina. The researcher obtained permission from the pastors of two African American churches to provide their congregation with information about participating in the study to recruit 40 or more participants for survey completion. To participate in the survey, the participant must be an African American woman greater than age 18, who had been diagnosed by a physician with diabetes. The researcher collected and reviewed the surveys for completeness.

Instruments

The researcher combined three surveys into one survey questionnaire for the convenience of the survey participants. Prior to data collection, permission to use each tool was obtained. The background section of the Diabetes Attitude Test (DES5), the Diabetes Knowledge Test (DKT), and the Summary of Diabetes Self Care Activities Survey (SDSCA) were combined one 49-item survey tool. The DES5 background section was used to gather information on each participant's unique personal characteristics and each participant's perceptions related to (1) understanding diabetes and its treatment; (2) integration of diabetes into daily life; and (3) comfort in asking a personal physician questions about diabetes. Diabetes knowledge is also considered to be a unique personal characteristic and will be measured using the DKT. The DKT is a 23-item test developed to test general diabetes knowledge. The first fourteen items are appropriate for people with non-insulin dependent diabetes. Insulin-dependent participants can complete the entire survey (University of Michigan, 2011). Behavioral outcomes are considered to be diabetes self-management activities and will be measured using the SDSCA tool.

Ethical Consideration

Prior to conducting the surveys, the researcher obtained permission from the Internal Review Board (IRB) for Gardner-Webb University (See Appendix E). Prior to administering the surveys to participants who agreed to participate in the study, informed consent was obtained (See Appendix A). The informed consent form details the purpose of the study and the rights of the participants in the research study. Each participant had the opportunity to read and have explained the information on the consent form. At any

time during the study, the participant had the option to decline to participate in the study. A copy of the consent form was given to all participants at the time of the initial interview. The consent form provided the participants with contact numbers of the primary investigator (PI) and the faculty advisor at Gardner-Webb University. The detailed consent provided information concerning the potential risks and benefits of the study.

Data Collection and Analysis

The consolidated tool was distributed to forty-five participants. Of the participants, forty three returned completed surveys while two participants returned only the consent portion of the survey. These two surveys were excluded from the study. The convenience sample was obtained through an announcement in the church bulletins of two local predominantly African American churches. The participants who chose to participate in the survey were informed that their participation in the survey was strictly voluntary and that their participation and answers were strictly confidential.

Individual surveys were collected by the investigator and reviewed for completeness. Two surveys were not returned. Each of the 43 completed surveys was given an assigned number. Data was entered by the researcher into a personal computer using the Statistical Package for Social Sciences Version 19. Data analysis included descriptive statistics, using frequencies and central tendencies. Data was further examined using correlational statistics to explore the relationships between the variables.

Chapter IV

Results

Demographics. The participants consisted of 43 African American women who were age 18 or greater and diagnosed by a physician with diabetes for more than one year. A total of 43 completed surveys were collected. The ages of the participants ranged from 30 to 82 with a mean age of 55 years (N=43). The time since diagnosis ranged from one to forty years with a mean time of 9.19 years (N=43). Most of the participants had been diagnosed with type 2 diabetes (N=43; 72.1%). The BMIs ranged from 20.88 to 56.68 for the participants with a mean BMI of 37.94. The following table illustrates the demographic data for the sample.

Table 1

Mean and Variability of Age, Time Since Diagnosis with Diabetes and BMI

	M (N=43)	SD
Age	55.9	12.65
Time Since Diagnosis	9.19	7.37
BMI	37.94	8.71

The majority of the participants had not attended a diabetes education class (N=43; 51.2%). As illustrated in Table 2, the majority of the participants had attended college. The majority of the participants were taking oral hypoglycemic (N=43; 81.4%) while 27.9% (N=43) were taking insulin injections and 16.3% (N=43) had been on insulin injections since diagnosis.

Table 2

Frequency and Percentages for Educational Levels.

Educational Level	Frequency (n=43)	Percent
8 th grade or less	2	4.7
Some high school	11	25.6
high school grad only	13	30.2
college	17	39.5

Perceptions Related to Diabetes. The participants completed four questions related to their perceptions about having diabetes. Participants rated the number of days that diabetes prevented them from going about their normal daily activities on a scale of one (Never) to seven (Frequently). The participants most often ranked “never” (N=43; 44.2%) as the effect of diabetes on their normal daily activities. The participants also estimated their understanding of diabetes and its treatment from one (Poor) to seven (Excellent). The majority of subjects ranked their understanding of diabetes and its treatment as “excellent” (N=43; 32.6%). The subjects also described how they were able to positively fit diabetes into their lives from one (Not At All Able) to seven (Very Able). The majority of the participants (N=43; 32.6%) reported that they were “Very Able” to fit diabetes into their lives in a positive manner. Lastly, the subjects ranked their level of comfort in speaking with their physician about diabetes from one (Not At All Comfortable) to seven (Very Comfortable). Most participants (N=43; 55.8%) ranked themselves as “Very Comfortable” in discussing diabetes with their physician.

Table 3

Perceptions Related to Diabetes

Perception	M (N=43)	SD
Affect on ADLs	1.35	1.64
Understanding DM	4.91	1.82
Life Fit	5.23	1.55
Comfort with MD	6.26	1.13

Diabetes Knowledge and Self-Care. The Diabetes Knowledge Test (DKT) consists of 23 questions related to diabetes. Participants with type 1 diabetes were scored for all 23 items on the test. Participants with type 2 diabetes were scored for the first fourteen items. Each participant received a score based on the ratio of correct answers. Possible scores ranged from 0 – 1.0. For this study, the scores ranged from .17 to .93 with a mean score of .6291 as seen in Figure 8. This score shows that the participants had an average score of 62.91% on the DKT.

The Summary of Diabetes Self-Care Activities (SDSCA) tool is a self-reporting tool that assesses the patient's self-care activities. The tool assesses the level of self-care for the previous seven days for 10 self-care items and assesses whether the patient is a smoker. The ten self-care items instruct the patient to rate on a scale of zero to seven days the total number of days that the particular self-care activity was performed. Each participant was given a mean score of all self-care activities. The scores ranged from 0.7 to 6.3 days with a mean score of 3.66 days spent performing self-care (See Table 4).

Table 4

Diabetes Knowledge and Self-Care

Measure	M	SD
DKT Score	.63	.15
SDSCA Score	3.66	1.55

Relationships to Diabetes Self-Management. Pearson correlation was used to identify a relationship between the demographic variables of subject age, time since diagnosis, diabetes education, subject educational level, and the subject's mean score on the SDSCA. A positive correlation was reported between the variables of age and mean SDSCA score ($r = .330, p < 0.05$). A negative correlation was discovered between the variables of diabetes education class and the mean SDSCA score ($r = -.359, p < 0.05$). Table 5 details the relationships between the demographic variables and the mean SDSCA score.

Table 5

Correlations between Demographic Variables and Self-Management

Measure	1	2	3	4	M	SD
Subject Age	_____	.38*	-.16	.33	55.19	12.65
Time Since Diagnosis	.38*	_____	-.20	.127	9.19	7.37
Body Mass Index	-.16	0.20	_____	.05	37.93	8.71
SDSCA Score	.33*	.12	.06	_____	3.66	1.55

Note. The asterisk (*) indicates that correlation is significant at the 0.05 level (2-tailed).

Pearson correlation was used to identify a relationship between the variables diabetes knowledge (Score on the DKT) and diabetes self-management (Mean score on the SDSCA). As detailed in Table 6, there is not a statistically significant relationship between the two variables.

Table 6

Correlations between the DKT Score and the Mean Score on the SDSCA

Measure	1	2	M	SD
SDSCA Score	_____	.04	3.66	1.55
DKT Correct	.04	_____	.63	.15

Table 7 details the relationship between the subject’s perceptions related to diabetes and diabetes self management (SDSCA mean score). A statistically significant relationship was discovered between the variables of perceived understanding of diabetes and the SDSCA mean score ($r=.489, p<0.01$). Another statistically significant relationship was reported between the variables of perceived life fit and SDSCA mean score ($r=.523, p<0.01$).

Table 7
Correlations between Subject Perceptions and Diabetes Self-Management (SDSCA Mean Score)

Measure	1	2	3	4	5	M	SD
Affect on ADLs	_____	.07	-.20	.12	.01	2.35	1.64
Understanding of DM	.07	_____	.67**	.38*	.48**	4.91	1.82
Life Fit	-.20	.67**	_____	.43**	.52**	5.23	1.55
How Comfortable with MD	.12	.38*	.43**	_____	.14	6.26	1.13
SDSCA Score	.01	.48**	.52**	.14	_____	3.66	1.55

Note. The asterisk (*) indicates that correlation is significant at the 0.05 level (2-tailed). The asterisks (**) indicate that correlation is significant at the 0.01 level (2-tailed).

Chapter V

Discussion

African American women have the highest incidence of diabetes in the U.S. (CDC, 2011b). This population also suffers from an alarming 50% higher incidence of diabetes-related complications. This national concern beckons health care professionals to explore the causes of these disparities in an effort to improve the health of this population. Consistent self-management is required to manage diabetes (Trinacty et al., 2007). The purpose of this quantitative study was to identify barriers to diabetes self-management in African American women. Identifying these barriers will direct the nursing professional to the root causes of sub-optimal diabetes self-management in this population.

Interpretation of Findings. The majority of the participants were middle-aged women who had been diagnosed with diabetes for an average of nine years. Based on an average body mass index, most participants were obese based on CDC guidelines (CDC, 2011c). Most participants had not attended a diabetes education class and most were college-educated. According to the study findings, the participants' perceptions to diabetes management were optimistic. The study found that the participants' performance on the DKT was poor. Self-care activities reported on the SDSCA were sub-optimal.

The research questions for this study were:

1. Is there a relationship between the variables of age, time since diabetes diagnosis, body mass index and diabetes self-management?

Findings: A statistically significant relationship was identified between subject age and self-management activities reported on the SDSCA.

2. Is there a relationship between diabetes knowledge and diabetes self-management?

Findings: There was no correlation identified between the variables on diabetes knowledge (DKT score) and diabetes self-management (SDSCA score).

3. Is there a relationship between the variables perceived effect of diabetes on activities of daily living, perceived understanding of diabetes, perceived life fit of diabetes, and perceived comfort in speaking with a primary physician and diabetes self-management?

Findings: Study findings suggest that there was a positive, statistically significant relationship identified between the participants' perception of their understanding of diabetes and their performance of self-management activities (SDSCA score). There was also a positive, statistically significant relationship identified between the participants' perception of the life fit of diabetes into their lives and their performance of self-management activities (SDSCA score).

Implications for Nursing. Minority populations continue to be in poor health as compared to the larger population and continue to be underserved by the health care system (ADA, 2011). Efforts to promote self-management in African Americans must be culturally appropriate to reduce known disparities in mortality and morbidity (Casarez, Engebretson, and Ostwald, 2010). Identifying the barriers to self-management in this population will assist the nurse and the whole of the health care system to improve care and reduce disparities. The findings of this study have identified the following opportunities for nursing care:

- Education and support to reduce obesity

- Diabetes education classes
- Diabetes patient support to foster the highest patient perception of diabetes understanding and life fit of the disease.
- All efforts must be culturally appropriate for this population.

These efforts require care coordination from a health care team who is aware of the issues leading to poor self-management and aware of evidence-based practices related to diabetes education and disease management. This applies to nurses in all health care settings.

Implications for Further Research. This study explored barriers to diabetes self-management in African American women. The limitations of this study are related to small sample size, small geographic region, the validity of the self-report of the participants, and the reliability of the causal relationships identified in the study. Further study of this population's individual characteristics, behavior-specific cognitions and affect, and behavioral outcomes as defined in Pender's HPM (McEwen & Wills, 2007, p. 225), is necessary to reduce health disparities. The researcher suggests that future studies further evaluate the factors associated with diabetes self-management in this population and that the interventions be culturally appropriate. The health disparities in this population can be attributed to the failure of the current health care system to properly educate and deliver culturally appropriate care to this population.

References

- Adams, A. S., Zhang, F., Mah, C., Grant, R. W., Kleinman, K., Meigs, J. B., Ross-Degnan, D. (2005). Race differences in long-term diabetes management in an hmo. *Diabetes Care* 28(12), 2844-2849.
- American Diabetes Association. (2011). Practice paper of the American dietetic association: addressing racial and ethnic health disparities. *Journal of the American Dietetic Association*, 111, 446-456. doi: 10.1016/j.jada.2011.01.024
- Amoako, E., Skelly, A. H., Rossen, E. K. (2008). Outcomes of an intervention to reduce uncertainty among African American women with diabetes. *Western Journal of Nursing Research*, 30(8), 928-942.
- Bond, M.L., Jones, M.E., Cason, C.L., Campbell, P. & Hall, J. (2002). Acculturation effects on health promoting lifestyle behaviors among Hispanic origin pregnant women. *Journal of Multicultural Nursing and Health*, 16 (2), 83-89.
- Burns, N., & Grove, S. K. (2009). *The practice of nursing research: Appraisal, synthesis, and generation of evidence*. (6th ed.). St. Louis: Saunders.
- Casarez, R. L., Engebretson, J. C., & Ostwald, S. K. (2010). Spiritual practices in self-management of diabetes in african Americans. *Holistic Nursing Practice*, 24(4), 227-237.
- Centers for Disease Control. (2009). National diabetes fact sheet. Retrieved from: www.cdc.gov/diabetes/pubs/pdf/ndfs_2007
- Centers for Disease Control. (2010a). At a glance 2010. Retrieved from: www.cdc.gov/chronicdisease/resources/publications/aag/pdf/2010/diabetes_aag.pdf

- Centers for Disease Control. (2010b). Health united states 2009. Retrieved from www.cdc.gov/nchs/data/hus/hus09.pdf
- Centers for Disease Control. (2011a). National diabetes fact sheet: National estimates and general information on diabetes and prediabetes in the united states, 2011. Retrieved from: www.cdc.gov/diabetes/pubs/pdf/ndfs_2011.pdf
- Centers for Disease Control. (2011b). National diabetes Surveillance System. Retrieved from: <https://apps.nccd.cdc.gov/DDTSTRS/NationalSurvData.aspx>.
- Centers for Disease Control. (2011c). About BMI for Adults. Retrieved from: http://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html
- Chesla, C. A., Fisher, L., Mullan, J. T., Skaff, M. M., Gardiner, P., Chun, K., & Kanter, R. (2004). Family and disease management in african-american patients with type 2 diabetes. *Diabetes Care*, 27(12), 2850-2855.
- Clark, M. L., Utz, S. W. & Hollen, P. (2011). Use of diabetes self-management instruments among rural african American populations. *Southern Online journal of Nursing Research*, 11(1).
- Dubowitz, T., Heron, M., Basurto-Davila, R., Bird, C. E., Lurie, N., Escarce, J. J. (2011). Racial/ethnic differences in U.S. health behaviors: A decomposition analysis. *American Journal of Health Behavior*, 35(3), 290-304.
- Duru, O. K., Gerzoff, R. B., Selby, J. V., Brown, A. F., Ackermann, R. T., Karter, A. J.,...Mangione, C. M. (2009). Identifying risk factors for racial disparities in diabetes outcomes. *Medical Care*, 47(6), 700-706.

- Esperat, C., Feng, D., Zhang, Y., & Owen, D. (2007). Health behaviors of low-income pregnant minority women. *Western Journal of Nursing Research*, (29)3, 284-300. doi: 10.1177/0193945906295532.
- Evers, D. B. (2000). Insights on immunizations from caregivers of children receiving medicaid-funded services. *Journal of the Society of Pediatric Nurses*, (5)4, 154-182.
- Frank, D., & Grubbs, L. (2008). A faith-based screening/education program for diabetes, cvd, and stroke in rural african americans. *The ABNF Journal, Summer 2008*, 96-101.
- Ho, A. Y., Berggren, I., & Dahlborg-Lyckhage, E. (2010). Diabetes empowerment related to pender's health promotion model: A meta-synthesis. *Nursing and Health Sciences*, 12, 259-267.
- International Diabetes Foundation. (2010). Diabetes atlas (4th ed.). Retrieved from: <http://www.idf.org/diabetesatlas>
- Karter, A. J., Ferrara, A., Liu, J. Y., Moffet, H. H., Ackerson, L. M., & Selby, J. W. (2002). Ethnic disparities in diabetic complications in an insured population. *Journal of the American Medical Association*, 287(19), 2519-2527.
- Marriner, T. A. & Raile, A. M. (2005). *Nursing theorists and their work* (5th ed.). St. Louis: Mosby.
- McCleary-Jones, V. (2011). Health literacy and its association with diabetes knowledge, self-efficacy and disease self-management among african americans with diabetes mellitus. *The Association of Black Nursing Faculty Journal, Spring 2011*, 25-32.

- McEwen, M. & Wills, E. (2007). *Theoretical basis for nursing* (3rd ed.). Philadelphia: Lippincott, Williams, & Wilkins.
- New, N. (2010). Teaching so they hear: Using a co-created diabetes self-management education approach. *Journal of the American Academy of Nurse Practitioners*, 22(10), 316-325.
- Newell-Withrow, C. (2000). Health protecting and health promoting behaviors of african Americans living in appalachia. *Public Health Nursing*, 17(5), 392-397.
- Pender, N. J., Murdaugh, C. L., & Parsons, M. A. (2006) *Health promotion in nursing practice* (5th ed.). Upper Saddle River, NJ: Prentice Hall.
- Polzer, R. L. (2006). African Americans and diabetes: Spiritual role of the health care provider in self-management. *Research in Nursing & Health*, 30, 164-174. doi: 10.1002/nur.20179
- Samuel-Hodge, C. D., Headen, S. W., Skelly, A. H., Ingram A. F., Keyserling, T. C., Jackson, E. J., ...Elasy, T. A. (2000). Influences on day-to-day self-management of type 2 diabetes among african-american women. *Diabetes Care*, 23(7), 928-933.
- Sarkar, U., Fisher, L., & Schillinger, D. (2006). Is self-efficacy associated with diabetes self-management across race/ethnicity and health literacy? *Diabetes Care*, 29(4), 823-829.
- Siminerio, L. M., Ruppert, K., Emerson, S., Solano, F. X., & Piatt, G. A. (2008). Delivering diabetes self-management education in primary care. *Disease Management and Health Outcomes*, 16(4), 267-272.

- Trinacty, C. M., Adams, A. S., Sournerai, S. B., Zhang, F., Melgs, J. B., Piette, J. D., & Ross-Degnan, D. (2007). Racial differences in long-term self-monitoring practice among newly drug-treated diabetes patients in an hmo. *Journal of General Internal Medicine*, 22(11), 1506-1513. doi: 10.1007/s11606-007-0339-5
- University of Michigan. (2011). Michigan Diabetes Research and Training Center Survey Instruments. Retrieved from: <http://www.med.umich.edu/mdrtc/profs/survey.html>
- Utz, S. W., Steeves, R. H., Wenzel, J., Hinton, I., Jones, R. A., Andrews, D., ...Oliver, M. N. (2006). "Working hard with it": Self management of type 2 diabetes by rural african americans. *Family and Community Health*, 29(3), 495-205.
- Wilson, M. (2005). Health-promoting behaviors of sheltered homeless women. *Family and Community Health*, 28(1), 51-63.

Appendix A

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

GARDNER-WEBB UNIVERSITY (GWU)

PRINCIPAL INVESTIGATOR:

Name: Christine Gregory RN BSN MBA
Email: clg0809@gardner-webb.edu; clgregory@novanthealth.org
Telephone: Mobile: 864-425-2205; Work 864-487-1681
Department: GWU Nursing Department

INTRODUCTION:

You are being invited to volunteer as a subject in a research project being conducted in Western North Carolina and South Carolina for GWU. This consent form provides you with the information you will need when considering whether to participate. All evaluation and research studies at GWU are governed by federal and state laws regulating human subjects' research. If you decide to participate, you will be asked to sign this consent form which states that you have read the purpose, that any questions you have about the evaluation have been answered, and that you agree to participate. You will be given a copy of this form to keep for your records.

STUDY PURPOSE:

The purpose of this study is to explore barriers to diabetes self-management in African American women. African American women diagnosed with Type 1 or Type 2 diabetes are at higher risk for complications related to diabetes. The study proposes that an examination of the barriers to self management will help the nursing professional develop culturally appropriate solutions to overcoming this problem.

STUDY PROCEDURES:

The study information will be obtained by using the Diabetes Attitude Questionnaire, the Diabetes Knowledge Test, and the Summary of Diabetes Self-Care Activities. Permission has been obtained for use of these tools. General generic participant information will be obtained using a data collection form.

STUDY RISKS:

Your participation in this study involves no risk to you and your confidentiality will be maintained.

STUDY BENEFITS:

The benefits to you may include insight on your patterns of diabetes self-management.

COSTS TO THE SUBJECT:

There are no costs for participating in this evaluation.

COMPENSATION:

There is no compensation for participating in this study.

CONFIDENTIALITY:

If you consent to participate in this study, your personal information will be kept confidential.

VOLUNTARY PARTICIPATION AND WITHDRAWAL FROM THE STUDY:

The decision to participate in the study is up to you. Participation is voluntary. You can refuse to participate in the study and you can withdraw at any time and this decision will not affect your relationship with GWU. Nor will a refusal or withdrawal of participation result in the loss of any other benefits to which you are otherwise entitled. Signing this form does not waive any of your legal rights. You are welcome to ask any questions. If you have additional questions in the future or if you have any questions on your rights as a research subject, please contact Christine Gregory RN BSN MBA at 864-425-2205 or email clg0809@gardner-webb.edu. You may also contact Dr. Rebecca Little at 704-406-4358 or email rbeck-little@gardner-webb.edu.

STATEMENT OF CONSENT:

I have reviewed the evaluation design outlined above and have had any question I have about the evaluation answered to my satisfaction. I understand that my participation is voluntary and I can withdraw from the evaluation at any time without prejudice. Consent to participate is determined by return of the data collection tool.

Name

Date

Appendix B

Diabetes Attitude Questionnaire, Background, Diabetes Research and Training Center, University of Michigan, 2000

1. Sex	<input type="checkbox"/> Male <input type="checkbox"/> Female
2. How old are you?	_____ Years Old
3. How long ago were you told by a doctor that you had diabetes?	_____ Years
4. Which type of diabetes did your doctor say that you have?	<input type="checkbox"/> Insulin-dependent diabetes, also called juvenile or type 1 diabetes <input type="checkbox"/> Non-insulin dependent diabetes, also called adult onset or type 2 diabetes (some people with non insulin-dependent diabetes take insulin)
5. How often does your diabetes prevent you from doing your normal daily activities (could not work or go to school) Circle one number	Never Frequently 1 2 3 4 5 6 7
6. Have you ever attended a diabetes patient education program (a series of classes)?	<input type="checkbox"/> No <input type="checkbox"/> Yes If Yes, how many years ago? _____
7. How would you rate your understanding of diabetes and its treatment?	Poor Excellent 1 2 3 4 5 6 7
8. How much schooling have you completed?	<input type="checkbox"/> 8 th grade or less <input type="checkbox"/> Some high school <input type="checkbox"/> High school graduate <input type="checkbox"/> Some college or school
9. Are you now taking diabetes pills?	<input type="checkbox"/> Yes <input type="checkbox"/> No
10. Are you now taking insulin?	<input type="checkbox"/> Yes <input type="checkbox"/> No
11. Have you always treated your diabetes with insulin?	<input type="checkbox"/> Yes <input type="checkbox"/> No
12. What is your height?	_____ Feet _____ Inches
13. How much do you weigh?	_____ Pounds
14. Please circle the number that indicates how able you are to fit diabetes into your life in a positive manner.	Not At All Able 1 2 3 4 5 6 7 Very Able
15. Please circle the number that indicates how comfortable you feel asking your doctor questions about diabetes.	Not At All Comfortable 1 2 3 4 5 6 7 Very Comfortable

Diabetes Knowledge Test, Diabetes Research and Training Center, University of Michigan, 1998

16. The diabetes diet is:	A. The way most American people eat B. A healthy diet for most people C. Too high in carbohydrate for most people D. Too high in protein for most people
17. Which of the following is highest in carbohydrate?	A. Baked chicken B. Swiss cheese

	C. Baked potato D. Peanut butter
18. Which of the following is highest in fat?	A. Low fat milk B. Orange juice C. Corn D. honey
19. Which of the following is a "free food"?	A. Any unsweetened food B. Any dietetic food C. Any food that says "sugar free" on the label D. Any food that has less than 20 calories per serving
20. Glycosylated hemoglobin (hemoglobin A1) is a test that is a measure of your average blood glucose level for the past:	A. Day B. Week C. 6-10 weeks D. 6 months
21. Which is the best method for testing blood glucose?	A. Urine testing B. Blood testing C. Both are equally good
22. What effect does unsweetened fruit juice have on blood glucose?	A. Lowers it B. Raises it C. Has no effect
23. Which should <u>not</u> be used to treat low blood glucose?	A. 3 hard candies B. ½ cup orange juice C. 1 cup diet soft drink D. 1 cup skim milk
24. For a person in good control, what effect does exercise have on blood glucose:	A. Lowers it B. Raises it C. Has no effect
25. Infection is likely to cause:	A. An increase in blood glucose B. A decrease in blood glucose C. No change in blood glucose
26. The best way to take care of your feet is to:	A. Look at and wash them each day B. Massage them with alcohol each day C. Soak them for one hour each day D. Buy shoes a size larger than usual
27. Eating foods lower in fat decreases your risk for:	A. Nerve disease B. Kidney disease C. Heart disease D. Eye disease
28. Numbness and tingling may be symptoms of:	A. Kidney disease B. Nerve disease C. Eye disease D. Liver disease
29. Which of the following is usually <u>not</u> associated with diabetes:	A. Vision problems B. Kidney problems C. Nerve problems D. Lung problems
30. Signs of ketoacidosis include:	A. Shakiness B. Sweating

		C. Vomiting						
		D. Low blood glucose						
31. If you are sick with the flu, which of the following changes should you make?		A. Take less insulin						
		B. Drink less liquids						
		C. Eat more proteins						
		D. Test for glucose and ketones more often						
32. If you have taken intermediate-acting insulin (NPH or Lente), you are most likely to have an insulin reaction in:		A. 1-3 hours						
		B. 6-12 hours						
		C. 12-15 hours						
		D. More than 15 hours						
33. You realize just before lunch that you forgot to take your insulin before breakfast. What should you do now?		A. Skip lunch to lower your blood glucose						
		B. Take the insulin that you usually take at breakfast						
		C. Take twice as much insulin as you usually take at breakfast						
		D. Check your blood glucose level to decide how much insulin to take						
34. If you are beginning to have an insulin reaction, you should:		A. Exercise						
		B. Lie down and rest						
		C. Drink some juice						
		D. Take regular insulin						
35. Low blood glucose may be caused by:		A. Too much insulin						
		B. Too little insulin						
		C. Too much food						
		D. Too little exercise						
36. If you take your morning insulin but skip breakfast your blood glucose level will usually:		A. Increase						
		B. Decrease						
		C. Remain the same						
37. High blood glucose may be caused by:		A. Not enough insulin						
		B. Skipping meals						
		C. Delaying your snack						
		D. Large ketones in your urine						
38. Which of the following will most likely cause an insulin reaction:		A. Heavy exercise						
		B. Infection						
		C. Overeating						
		D. Not taking your insulin						
Summary of Diabetes Self-Care Activities Measure, University of Oregon, 2000								
39. How many of the last SEVEN DAYS have you followed a healthful eating plan?	0	1	2	3	4	5	6	7
40. On average, over the past month, how many DAYS PER WEEK have you followed your eating plan?	0	1	2	3	4	5	6	7
41. On how many of the last SEVEN DAYS did you eat five or more servings of fruits and vegetables?	0	1	2	3	4	5	6	7
42. On how many of the last SEVEN DAYS did you eat	0	1	2	3	4	5	6	7

		0	1	2	3	4	5	6	7
high fat foods such as red meat or full-fat dairy products?									
43. On how many of the last SEVEN DAYS did you participate in at least 30 minutes of physical activity? (Total minutes of continuous activity, including walking).		0	1	2	3	4	5	6	7
44. On how many of the last SEVEN DAYS did you participate in a specific exercise session (such as swimming, walking, biking) other than what you do around the house or as part of your work?		0	1	2	3	4	5	6	7
45. On how many of the last SEVEN DAYS did you test your blood sugar?		0	1	2	3	4	5	6	7
46. On how many of the last SEVEN DAYS did you test your blood sugar the number of times recommended by your health care provider?		0	1	2	3	4	5	6	7
47. On how many of the last SEVEN DAYS did you check your feet?		0	1	2	3	4	5	6	7
48. On how many of the last SEVEN DAYS did you inspect the inside of your shoes?		0	1	2	3	4	5	6	7
49. Have you smoked a cigarette-even one puff-during the past SEVEN DAYS?	0. No								
	1. Yes. If yes, how many cigarettes did you smoke on an average day? Number of cigarettes: _____								

Appendix C



University of Michigan Health System

Michigan Diabetes Research and Training Center

Survey Instruments

The Michigan Diabetes Research and Training Center (MDRTC) has developed several survey instruments for diabetes patients and health professionals. By downloading the forms you are agreeing to acknowledge the MDRTC as the source of the items in the survey instruments in any written instruments, reports, or publications resulting from their use or reproduction.

Please select the instruments you would like to download from the list below . These instruments are all available in both Word format and PDF format. (Adobe Acrobat Reader is required to view and print PDF files. If you don't already have Adobe Acrobat Reader, you can download it for free now.)

- Diabetes Care Profile (DCP)
- Diabetes History (DMH)
- Diabetes Knowledge Test (DKT)
- Diabetes Attitude Scale (DAS-3)
- Diabetes Empowerment Scale (DES)
- Michigan Neuropathy Screening Instrument (MNSI)
- Risk Perception Survey for Developing Diabetes (RPS-DD)

Diabetes Care Profile - (DCP)

The DCP is a self-administered questionnaire that assesses the social and psychological factors related to diabetes and its treatment. The instrument contains 234 items and sixteen scales. These scales assess the patients' diabetes attitudes, diabetes beliefs, self-reported diabetes self-care, and difficulties with diabetes self-care. The DCP also contains questions concerning demographic information and self-care practices. Respondents can complete the questionnaire in approximately 30 to 40 minutes.

- Diabetes Care Profile (DCP) [Word or PDF]
- Diabetes Care Profile Scale Formulae [Word or PDF]
- List of articles concerning or using the DCP [Word or PDF]

<http://www.med.umich.edu/mdrtc/profs/survey.html>

9/26/2011

Diabetes History - (DMH)

The Diabetes History form is used by the Michigan Diabetes Research and Training Center (MDRTC) to collect basic clinical diabetes information from community-based patients involved in a variety of MDRTC projects. The Diabetes History was revised in 1998, with the addition of sections on resource use, patient satisfaction, and potential comorbidities. The revised Diabetes History (version 2.0) consists of five sections of core questions and four sections of additional questions as appendices, which can be added to the core instrument depending upon the needs of the user. The survey instrument is designed to be self-administered.

Core questions include items on the following topics:

- Section 1 - Resource Use
- Section 2 - Medication Use and Medication Changes
- Section 3 - Satisfaction with Diabetes
- Section 4 - Potential Comorbidities
- Section 5 - Demographic / Background Information

Questions included in the DMH appendices, which can be added to the core instrument (as a new section), include items on the following topics:

- Section 6 - Reasons for coming to the clinic
- Section 7 - Diabetes and pregnancy
- Section 8 - Reasons for changing the timing and/or dose of medication
- Section 9 - Diet / nutrition counseling

There are also a few additional questions included in the DMH appendices, which can be added to an existing section of the core instrument.

- [Download the Diabetes History form \(DMH\) \[Word or PDF\]](#)

Diabetes Knowledge Test - (DKT)

The Diabetes Knowledge Test consists of 23 knowledge test items developed by the Michigan Diabetes Research Training Center (MDRTC). These 23 items represent a test of general knowledge of diabetes. The first 14 items are appropriate for people who do not use insulin. The entire 23 items can be administered to people who do use insulin. The psychometric properties provide information regarding the reliability of the various groups of items, as well as a difficulty index (percent of patients who scored this item correctly), and an item to group total correlation for each item. These data can be reported when describing the use of the test. This test is not recommended for the evaluation of self-management education programs because the items have not been matched to the particular educational content of the program. Educators wishing to do program evaluation may use some of the items on this test, but they should be certain that there is a good item-to-program content match. The 23-item test takes approximately 15 minutes to complete.

Select the document pertaining to the DKT you would like to download by clicking on the link:

- [DKT with answers \[Word or PDF\]](#)
- [DKT without answers \[Word or PDF\]](#)

<http://www.med.umich.edu/mdrtc/profs/survey.html>

9/26/2011

- List of articles concerning or using the DKT [Word or PDF]
- Table of Test Reliabilities for the DKT [Word or PDF]

Diabetes Attitude Scale - (DAS-3)

The Diabetes Attitude Scale can be used with both people with diabetes and health care professionals as a measure of general diabetes related attitudes. Information about the scoring and psychometric properties of this scale is also available here.

Select the document pertaining to the DKT you would like to download by clicking on the link:

- Diabetes Attitude Scale (DAS-3) [Word or PDF]
- Diabetes Attitude Scale - 3 Formulae [Word or PDF]
- List of articles using the DAS [Word or PDF]

Diabetes Empowerment Scale (DES and DES-SF)

In 2000 we developed the Diabetes Empowerment Scale (DES) to measure the psychosocial self-efficacy of people with diabetes. The original questionnaire contained 37 items representing 8 conceptual dimensions (i.e. assessing the need for change; developing a plan; overcoming barriers; asking for support; supporting oneself; coping with emotion; motivating oneself; and making diabetes care choices appropriate for one's priorities and circumstances). Using factor analyses the questionnaire was reduced to the current 28-item DES $\alpha = 0.96$ containing three subscales. (1) The three subscales are: 1) managing the psychosocial aspects of diabetes with 9 items, $\alpha = 0.93$; 2) assessing dissatisfaction and readiness to change with 9 items $\alpha = 0.81$; and 3) setting and achieving goals with 10 items, $\alpha = 0.91$. In addition to providing an overall assessment of diabetes related psychosocial self-efficacy the three subscales of the DES allow for an examination of its underlying components.

In order to allow for a brief overall assessment of diabetes related psychosocial self-efficacy, we developed an eight item short form of the DES (the DES-SF). The DES-SF was created by choosing the item from the (remaining 28 items appeared in the published article but it is an error. It should say the original 37 items. This is a typographical error (ours) but it does not affect any of the psychometric data found in this article) items with highest item to subscale correlation from each of the original eight conceptual domains. The reliability of the DES-SF using the original data set was $\alpha = 0.85$. We have subsequently administered the DES-SF to 229 subjects in a new study. The reliability of the DES-SF using the data from the new sample was $\alpha = 0.84$. The content validity of the DES-SF was supported in the new study by the fact that both DES-SF scores and HbA1c levels changed in a positive direction after the 229 subjects completed a six-week problem based patient education program (2). The change in DES-SF scores and HbA1c levels were not correlated suggesting that these two measures vary independently.

These data provide preliminary evidence that the DES-SF is a valid and reliable measure of overall diabetes-related psychosocial self-efficacy.

References

1) Anderson RM, Funnell MM, Fitzgerald JT, Marrero DG: The diabetes empowerment scale: a measure of psychosocial self-efficacy. *Diabetes Care* 23:739-743, 2000

<http://www.med.umich.edu/mdrtc/profs/survey.html>

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2) Anderson RM, Funnell MM, Nwankwo R, Gillard ML, Fitzgerald JT, Oh M: Evaluation of a problem-based, culturally specific, patient education program for African Americans with diabetes. *Diabetes* 50(Suppl. 2): A195, 2001

3) Anderson RM, Fitzgerald JT, Gruppen LD, Funnell MM, Oh MS: The diabetes empowerment scale-short form (DES-SF). *Diabetes Care* 26:1641-1643, 2003

Select the document pertaining to the DES you would like to download by clicking on the link:

- DES - Long Form in English [Word or PDF]
- DES - Long Form in Spanish [Word or PDF]
- DES - Short Form in English [Word or PDF]
- DES - Short Form in Spanish [Word or PDF]
- Diabetes Empowerment Scale (DES) Scoring Key [Word or PDF]
- List of articles concerning or using the DES [Word or PDF]

Michigan Neuropathy Screening Instrument (MNSI)

The Michigan Neuropathy Screening Instrument (MNSI) is designed to screen for the presence of diabetic neuropathy. The MNSI is designed to be used in an outpatient setting by primary care or other providers. The first part of the screening instrument consists of 15 self-administered "yes or no" questions on foot sensation including pain, numbness and temperature sensitivity. A higher score (out of a maximum of 13 points) indicates more neuropathic symptoms.

The questions were chosen from among those in the Neuropathy Screening Profile of Peter Dyck that showed the highest degree of specificity and sensitivity for diabetic neuropathy among normal subjects and those with a variety of neuromuscular disorders (*Neurology*, 36:1300-1308, 1986).

The second part of the MNSI is a brief physical examination involving 1) inspection of the feet for deformities, dry skin, hair or nail abnormalities, callous or infection, 2) semi-quantitative assessment of vibration sensation at the dorsum of the great toe, 3) grading of ankle reflexes and 4) monofilament testing. Patients screening positive on the clinical portion of the MNSI (greater than 2 points on a 10 point scale) are considered neuropathic and referred for further evaluation.

Select the document pertaining to the MNSI you would like to download by clicking on the link:

- MNSI Patient version [Word or PDF]
- MNSI Scoring version [Word or PDF]
- How to use the MNSI [Word or PDF]
- List of articles concerning or using the MNSI [Word or PDF]

Risk Perception Survey for Developing Diabetes (RPS-DD), adapted for women with histories of gestational diabetes

A self-administered OR telephone interview questionnaire that assesses risk perception and modifiers of risk perception among women with histories of GDM who have not developed postpartum diabetes. The instrument contains 4 scales assessing modifiers of risk perception.

<http://www.med.umich.edu/mdrtc/profs/survey.html>

9/26/2011

These scales assess the patients' knowledge of diabetes risk factors, perceptions of personal control, optimism about developing diabetes and other diseases, and perceptions of the benefits and barriers of preventive behaviors. Respondents can answer these questions in approximately 5 minutes. The instrument also contains 2 scales assessing actual risk perception.

Select the document pertaining to the RPS-DD you would like to download by clicking on the link:

- [RPS-DD \[Word or PDF\]](#)
- [Scoring for the RPS-DD \[Word or PDF\]](#)

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Sincerely,

Celia Traverso,
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Appendix E

Are You an African American Woman?

Have You Been Diagnosed with Diabetes by a
Doctor?

Are you Age 18 or greater?

I REALLY NEED YOUR HELP!!

You are invited to participate in a study about

Diabetes in African American Women



Surveys are available in the church lobby. If you have any
questions, please contact Christine Gregory RN

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