

MANAGEMENT OF TYPE 2 DIABETES: THE EXPERIENCES OF BLACK MEN
LIVING IN GEORGIA

by

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(Under the Direction of JESSICA L. MUILENBURG)

ABSTRACT

Type 2 diabetes is a chronic and complex disease that affects US adults 18 and older. Blacks are disproportionately burdened by type 2 diabetes compared to their White counterparts. Black men in particular face a number of factors that impact their health behavior. Limited research however has focused on the experiences of Black men managing type 2 diabetes. The purpose of this study was to examine and understand the experiences of managing type 2 diabetes among Black men: the barriers they encounter and how they cope with living with type 2 diabetes. Using in-depth interviews data was collected on 25 Black men from a clinic in Atlanta, Georgia. Some of the barriers identified were lack motivation, lack of support from family and friends, lack of time, and side effects of taking medication. Some of the coping mechanisms identified were acceptance, support from healthcare professionals, religion, and support from family. The findings from this study have implications for healthcare providers and researchers developing and implementing health interventions targeting Black men with type 2 diabetes and their families.

INDEX WORDS: Type 2 Diabetes, Black Men, Diabetes Management, Barriers, Coping

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DEDICATION

This dissertation is dedicated to
people with type 2 diabetes, their families,
and those working to address the prevention and control of type 2 diabetes

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CHAPTER 1

INTRODUCTION

Diabetes is a metabolic condition in which an individual's blood has a high amount of glucose as a result of low or no insulin production or insulin inactivity (Centers for Disease Control and Prevention, 2011a; Medical News Today, 2011). The level of insulin production results in three types of diabetes that occur among individuals Type 1 diabetes, Type 2 diabetes and gestational diabetes.

Gestational diabetes and prevalence

Gestational diabetes arises because there is an increased need for insulin by the body during pregnancy (National Institute of Health, 2011). Gestational diabetes is observed in less than 5% of the cases of diabetes in the United States (U.S.) (Centers for Disease Control and Prevention, 2011a). It occurs particularly among women who are obese or have a family history of diabetes (Centers for Disease Control and Prevention, 2011a; Medical News Today, 2011).

Type 1 diabetes and prevalence

Type 1 diabetes, also known as juvenile diabetes or insulin-dependent diabetes mellitus (IDDM), develops when the body produces no insulin. Type 1 diabetes accounts for more cases than gestational diabetes with approximately 5% of the cases of diabetes in the U.S. (Centers for Disease Control and Prevention, 2011a). Type 1 diabetes occurs mainly in children although it also develops in some adults. Recent data show that the

prevalence of type 1 diabetes among children and adolescents younger than 20 years in the U.S. is 1.7 per 1000 (Centers for Disease Control and Prevention, 2010c).

Type 2 diabetes and prevalence

Type 2 diabetes, also known as adult-onset diabetes or noninsulin-dependent diabetes mellitus (NIDDM), develops when low levels of insulin are produced or the body does not use the insulin produced. Unlike type 1 diabetes which accounts for approximately 5% of the cases of diabetes in the U.S., type 2 diabetes accounts for the majority of the cases of diabetes in the U.S. with a rate of approximately 90 to 95% of cases (Centers for Disease Control and Prevention, 2011a). Type 2 diabetes occurs mainly in adults although it is starting to occur more among children and adolescents of certain racial and ethnic groups (Centers for Disease Control and Prevention, 2011a; Medical News Today, 2011). Among U.S. adults 20 years and older, the prevalence of type 2 diabetes is 25.8 million with 18.8 million confirmed diagnosed cases and the 7.0 million undiagnosed cases (Centers for Disease Control and Prevention, 2011a). Among men and women, the prevalence of type 2 diabetes is about equal with approximately 13.0 million men with type 2 diabetes and 12.6 million women with type 2 diabetes (Centers for Disease Control and Prevention, 2011a). Among different racial groups the prevalence of diagnosed type 2 diabetes is higher among Non Hispanic Blacks at a rate of 12.6 % compared to Non-Hispanic Whites at a rate of 7.1% (Centers for Disease Control and Prevention, 2011a). Unlike type 1 diabetes, type 2 diabetes is preventable.

Risk factors of type 2 diabetes

Given type 2 diabetes is preventable, efforts to prevent individuals from developing type 2 diabetes target increasing individuals' knowledge or awareness of the

risk factors for the disease. The risk factors for the development of type 2 diabetes can be either modifiable risk factors (easily changed by an individual) or non-modifiable risk factors (cannot be changed by an individual). The modifiable risk factors of type 2 diabetes are described in detail in Table 1 and include obesity/overweight, diet, physical inactivity, smoking, high blood pressure, high glucose levels, excessive alcohol consumption, and abnormal lipid metabolism (American Diabetes Association, 2011a; American Heart Association, 2011). The non-modifiable risk factors of type 2 diabetes are described in detail in the Table 2 and include age, race, family history, and a history of gestational diabetes.

Problem statement and significance

Although type 2 diabetes is preventable, it is a significant public health problem of concern in the U.S. The prevalence of type 2 diabetes in the U.S. today (25.8 million) has doubled since 2000 when the rate was approximately 12 million (Centers for Disease Control and Prevention, 2010e, 2011a). The prevalence of type 2 diabetes is expected to increase with estimates predicting one third of the U.S. population to have type 2 diabetes in the year 2050 a huge difference than the current data which show 1 in 10 individuals in the U.S. with type 2 diabetes (Boyle, Thompson, Gregg, Barker, & Williamson, 2010). This estimated increase in prevalence is of concern because having type 2 diabetes results in decreased life expectancy, declining health status, decreased quality of life, and increased costs for individuals with type 2 diabetes, their families, and society.

Type 2 diabetes continues to remain one of the top ten leading causes of death in the U.S. Currently type 2 diabetes is ranked as the 7th leading cause of death in the United States (National Institute of Diabetes and Digestive and Kidney Diseases, 2008).

Table 1. Modifiable risk factors for type 2 diabetes

(American Diabetes Association, 2011a, 2011b; American Heart Association, 2011)

Risk factor	Description
Obesity/overweight	Being obese or overweight increases an individual's risk for developing type 2 diabetes. A person is underweight if their BMI is below 18.5, normal if their BMI is 18.5-24.9, overweight if their BMI is 25-29, and obese if their BMI is 30 and above.
Physical inactivity	Being inactive increases an individual's risk for developing type 2 diabetes.
Diet	Individuals who consume foods high in cholesterol, fats, and carbohydrates are at high risk of developing type 2 diabetes.
High blood pressure or hypertension	Having high blood pressure or hypertension increases the risk of developing type 2 diabetes. The blood pressure for a normal individual is less than 120mmHg for systolic and less than 80mmHg for diastolic, a prehypertensive individual is between 120-139mmHg for systolic and between 80-89mmHg for diastolic, and a hypertensive individual is more than 140mmHg for systolic and more than 90mmHg for diastolic.

Risk factor	Description
Excessive alcohol consumption	Individuals who consume more than 2 drinks of alcohol per day are at increased risk of developing type 2 diabetes. One drink equals a 12-ounce beer, a 4-ounce glass of wine, 1.5 ounces of 80-proof liquor, or one ounce of hard liquor (100-proof).
Smoking	Individuals who smoke more than 16 cigarettes per day are at increased risk of developing type 2 diabetes.
Abnormal lipid metabolism	Individuals with abnormal lipid metabolism are at risk of developing type 2 diabetes. A normal lipid metabolism includes triglyceride levels below 150mg/dl and total cholesterol levels of less than 200mg/dl.
Prediabetes or high glucose levels	Having high blood glucose levels increases your risk of developing type 2 diabetes. The glucose levels for a normal individual is less than 100 mg/dl, the glucose levels for an individual with prediabetes is between 100 and 125 mg/dl, and the glucose levels for an individual with type 2 diabetes is more than 125 mg/dl.

Table 2. Non-modifiable risk factors for type 2 diabetes

(American Diabetes Association, 2011a, 2011b; American Heart Association, 2011)

Risk factor	Description
Family history	Having a family member with type 2 diabetes increases your risk of developing type 2 diabetes in the future. A family member could be a parent or grandparent
Race and ethnicity	An individual is at risk of developing type 2 diabetes if they are of African-American, Asian-American, Latino/Hispanic-American, Native American or Pacific Islander descent
Age	As an individual gets older, they are at increased risk of developing type 2 diabetes. Trend data show that individuals are now developing type 2 diabetes at younger ages including adolescents
History of gestational diabetes	Having gestational diabetes during pregnancy increases the risk of a woman and her baby developing type 2 diabetes in the future.

According to the CDC, individuals with type 2 diabetes are twice as likely to die as individuals without type 2 diabetes of the same age (Centers for Disease Control and Prevention, 2011a). Furthermore at every age, individuals with type 2 diabetes have a lower life expectancy than individuals without type 2 diabetes, with an individual 50 years and older expected to live 8.5 years less than an individual without type 2 diabetes (Science Daily, 2010).

Type 2 diabetes also increases the risk of developing infections, other diseases, and complications related to type 2 diabetes. Compared to individuals without type 2 diabetes,

individuals with type 2 diabetes are more likely to develop cardiovascular disease (Agency for Healthcare Research and Quality, 2005), twice as likely to have depression, and 2 to 4 times at risk of getting a stroke (Centers for Disease Control and Prevention, 2011a). Type 2 diabetes is also the leading cause of kidney failure and blindness in the United States (Centers for Disease Control and Prevention, 2011a). Furthermore of the lower extremity amputations that are reported in the United States, 66% are related to type 2 diabetes (Agency for Healthcare Research and Quality, 2005; Centers for Disease Control and Prevention, 2011a).

Managing type 2 diabetes and its associated complications decreases the quality of life for individuals with type 2 diabetes (Hornquist, Wikby, Stenstrom, Andersson, & Akerlind, 1995; Rubin & Peyrot, 1999). Among individuals with type 2 diabetes men are reported as experiencing a better quality of life than women (Rubin & Peyrot, 1999). Furthermore among individuals with type 2 diabetes a better quality of life is experienced by those without comorbid conditions compared to those with comorbid conditions (de Visser, Bilo, Groenier, de Visser, & Jong Meyboom-de, 2002) those without depression compared to those with depression (Schram, Baan, & Pouwer, 2009) and among those without complications compared to those with complications (Wexler et al., 2006).

Having type 2 diabetes also impacts the financial costs incurred by an individual. Since 2002, the cost of type 2 diabetes in the US has increased from 132 billion dollars (Hogan, Dall, Nikolov, & American Diabetes, 2003) to 174 billion dollars in 2007, with indirect costs being \$58 billion dollars and direct costs at \$116 billion dollars (American Diabetes, 2008). Furthermore, the healthcare costs for individuals with type 2 diabetes are twice the healthcare costs for individuals without type 2 diabetes (Centers for Disease Control and Prevention, 2011a). Among individuals who received care for cardiovascular health-related issues, those

with type 2 diabetes had higher costs compared to those without type 2 diabetes (Straka, Liu, Girase, DeLorenzo, & Chapman, 2009). Even among individuals with type 2 diabetes, those who had comorbid conditions experienced higher health-related costs than those who did not have comorbid conditions (Gilmer, O'Connor, Manning, & Rush, 1997).

Aside from the concerns highlighted in the previous paragraphs, type 2 diabetes is also of special concern to Blacks. The prevalence of type 2 diabetes is higher among Non Hispanic Blacks than Non Hispanic Whites with rates of 18.7 % and 10.2% respectively (Centers for Disease Control and Prevention, 2011a). Among Non Hispanic Blacks the prevalence of type 2 diabetes is somewhat higher among Non Hispanic Black women compared to Non Hispanic Black men with rates of 9.0% and 8.2% respectively (Centers for Disease Control and Prevention, 2010b). Although Non Hispanic Black men are doing better than Non Hispanic Black women in prevalence of the condition, Non Hispanic Black men are worse off in other ways than Non Hispanic Black women, Non Hispanic White men and Non Hispanic White women.

In 2006, the death rate among individuals with type 2 diabetes was higher among Black men compared to Black women, White men, and White women (Centers for Disease Control and Prevention, 2008). Hospitalization data and diabetes related complications data show similar results. National data on hospitalizations due to type 2 diabetes in Table 3 show that Non Hispanic Black men have more type 2 diabetes-related hospitalizations than Non Hispanic Black women, Non Hispanic White men, and Non Hispanic White women among all conditions: without complications, with short-term complications, and with long-term complications.

Table 3. Rates of hospital admissions per 100,000 of adults with type 2 diabetes 18 and over by race and sex in 2006 (Agency for Healthcare Research and Quality, 2010)

Type of admission	Black men	Black women	White men	White women
Uncontrolled type 2 diabetes without complications	67.9	63.1	13.0	11.4
Type 2 diabetes with short-term complications	170.2	132.9	47.0	46.7
Type 2 diabetes with long-term complications	330.0	319.0	108.5	73.6

Limited data on type 2 diabetes complications show that in 2005 the age-adjusted death rates for hyperglycemic crises was higher among Black men (45.8%) than White men (25.7%), White women (13.7%), and Black women (19.5%) (Centers for Disease Control and Prevention, 2010a). In 2006 the age-adjusted incidence of treatment of end-stage renal disease related to type 2 diabetes was higher among Black men (417.3 per 100,000) than White men (196.8 per 100,000), White women (134.2 per 100,000), and Black women (322.3 per 100,000) (Centers for Disease Control and Prevention, 2009a). Possible reasons for these high rates of hospital admissions and complications among Black men could be a lack of follow-up in type 2 diabetes related preventive care practices as part of self-management of type 2 diabetes.

National data, in Table 4, show that Black men over the age of 40 are not doing as well as White women, White men, and Black women when it comes to type 2 diabetes related preventive care practices such as getting an annual flu shot, receiving a dilated eye exam, and

receiving all 3 required practices (A1c, eye exam, and flu shot). No data were available for receiving an annual hemoglobin A1c test among Black men however based on the trend of the other preventive care practices, we can hypothesize that Black men are doing as well as Black women over the age of 40. The data for receipt of all preventive care practices including an annual hemoglobin A1c test also showed that Black men still lag behind however, Black men were at least better at receiving one of the preventive care practices than at receiving all 3 required practices (Agency for Healthcare Research and Quality, 2010).

Table 4. Preventive care practices: Percentage of adults over 40 with type 2 diabetes by race and sex in 2006 (Agency for Healthcare Research and Quality, 2010)

Preventive care practice	Black men	Black women	White men	White women
A flu shot in the last 12 months	46.3	51.8	57.0	65.4
Receive a dilated eye examination	48.0	56.5	58.3	62.1
Receive a hemoglobin A1c examination	DSU*	89.2	89.2	90.8
Check feet for sores or irritation	74.8	80.3	67.5	68.7
All 3 (A1c, eye exam, flu shot) practices	32.1	40.0	41.2	43.1

*DSU - data do not meet the criteria for statistical reliability, data quality, or confidentiality.

The data above not only highlights how Black men with type 2 diabetes are burdened with the disease, but also raises questions about the possible barriers Black men face and how they cope with the management of type 2 diabetes. Few studies however have focused specifically on challenges Black men face when living with type 2 diabetes (Liburd, Namageyo-Funa, & Jack,

2007). No studies have focused on the coping mechanisms used by Black men to cope with type 2 diabetes. Understanding the barriers and coping strategies used by Black men can guide the development of interventions to help them manage type 2 diabetes. This dissertation sought to use qualitative research methods to address this highlighted gap in the literature.

Purpose and research questions

The purpose of this study was to use qualitative research methods to explore and understand the experiences of living with and managing type 2 diabetes among Black men living in Atlanta Georgia. The research questions for this study were:

Research question one: What barriers do Black men experience when managing type 2 diabetes?

Research question two: What coping mechanisms do Black men use to manage type 2 diabetes and what do they report about their experiences with these mechanisms?

Research question three: For Black men who say they engage in spirituality or religion as a coping mechanism to manage type 2 diabetes, what are the approaches?

Conclusion

Type 2 diabetes is a chronic and complex disease that affects U.S. adults 18 and older. Having type 2 diabetes results in decreased life expectancy, declining health status, decreased quality of life, and increased costs for individuals, their families, and society. Epidemiological data show that Blacks are disproportionately affected by type 2 diabetes. In particular Black men with type 2 diabetes die earlier and experience numerous hospitalizations. Effective management of the disease among individuals with type 2 diabetes delays the development of complications and mortality that arises due to type 2 diabetes. Few studies however have looked at the experiences of Black men managing type 2 diabetes in particular the barriers they encounter and how they cope with managing type 2 diabetes. Understanding the barriers encountered and the

coping mechanisms used by Black men with type 2 diabetes is crucial for developing and implementing health interventions that target Black men and their families. The purpose of this study was to identify the barriers and coping strategies used by Black men with type 2 diabetes. For the purpose of this study Black was defined as men who identify as African, African American, and African Caribbean descent.

CHAPTER 2

LITERATURE REVIEW

The purpose of this chapter of the dissertation is to provide a critical review of the literature on the management of type 2 diabetes among Blacks and in particular among Black men. As highlighted in chapter 1, the research questions of this dissertation study sought to explore and understand the barriers encountered and the coping mechanisms used by Black men living with and managing type 2 diabetes. This chapter starts out with an overview of the health status of men generally and the factors that influence their health behaviors. The overview provides a foundation for understanding some of the factors that may impact the health behavior practices of men in particular Black men living with and managing type 2 diabetes. The overview is followed by a review of the not only factors or barriers that impact the health behavior practices of Blacks with type 2 diabetes, but also a review of the coping mechanisms used to live with and manage type 2 diabetes. Where available, data on Black men with type 2 diabetes is highlighted. The chapter concludes with the theoretical framework that was used to guide the dissertation study.

The health of men in the United States

Although men have been studied extensively over the decades, the health of men is poor compared to the health of women (Brott, n.d; Garfield, Isacco, & Rogers, 2008). The life expectancy at birth is lower for men compared to women. In 1980 the life expectancy was 70 years in men and 77.4 years in women. More than 23 years later the life expectancy of both men and women has increased however the life expectancy is still lower in men compared to women,

74.8 years and 80.1 years respectively (Pinkhasov, Shteynshlyuger, et al., 2010). Furthermore despite the improved health of individuals, the life expectancy for men in 2003 (74.8 years) was still not at the same level as it was for women in 1980 (77.4 years). More recent data show similar findings with the life expectancy of men at a value of 75.3 years compared to that of women at a value of 80.4 years (Miniño, Xu, Kochanek, & Tejada-Vera). Even with the grim statistics on life expectancy of men compared to women, the statistics on the death rates are not any better. According to the Centers for Disease Control and Prevention, men die earlier than women for a number of the top causes of death which include heart disease, cancer, and type 2 diabetes (2008). The death rate for heart disease was 1.5 times higher in men than in women, the death rate for cancer was 1.4 times higher in men than in women, and the death rate for type 2 diabetes was 1.3 times higher in men than in women (Pinkhasov, Shteynshlyuger, et al., 2010).

The health behavior of men in relation to women offers a possible explanation for the disparity of life expectancy and death rates between men and women. Compared to women, men are more likely to engage in risky behaviors which compromise their health (Brott, n.d; Garfield, et al., 2008). Risky behaviors that men engage in include not seeking health care when needed, smoking, drinking, substance abuse, not eating right, and not getting enough physical activity (Gadson, 2006; Garfield, et al., 2008). Research on the preventive care visits to healthcare settings among adults in the U.S. in 2005 show a low value of 44.8 visits per 100 persons among men compared to the high value of 74.4 visits per 100 persons among women (Pinkhasov, Wong, et al., 2010). In 2006 the percent of cigarette smokers in the U.S. was higher among men with value of 22.9% compared to women with a value of 17.9% and in 2007 the percent of adults likely to use drugs was higher among men with a value of 50.6% compared to women with a value of 41.8% (Pinkhasov, Wong, et al., 2010). In relation to physical activity the research

shows that although the rates of physical activity among men are better than among women, this rate changes when men get to be between the ages of 45 and 54 years (Garfield, et al., 2008) possibly because of life events that become a priority such as marriage, having a family, and employment (Corder, Ogilvie, & van Sluijs, 2009). National data however highlights the prevalence of overweight adults as higher among men with a value of 70.7% compared to women with a value of 61.4% women (Pinkhasov, Wong, et al., 2010).

The health of Black men in the United States

A review of the life expectancy and death rate trends above from a racial perspective show that compared to other races, the health of Black men is considered poor and a national crisis (Garfield, et al., 2008). The life expectancy of African American men is 70.2 years compared to White men at the age of 75.8 years (Miniño, Xu, Kochanek, & Tejada-Vera, 2009). The life expectancy for African American men is also lower than that of men from other minority groups in the U.S. (National Center for Health Statistics, 2005). Compared to women, the life expectancy of Black men in 2007 was 70.0 years compared to Black women at the age of 76.8 years and White women at 80.8 years (Centers for Disease Control and Prevention, 2010d). Similar statistics are observed for death rates of Black men. The age-adjusted death rate of Black men (1210.9 per 100,000) in 2007 was higher than the death rate among White men (906.8 per 100,000), White women (647.7 per 100,000), and Black women (810.4 per 100,000) (Centers for Disease Control and Prevention, 2010f). Similar to the argument for why the low life expectancy among men compared to women, the low life expectancy and the high death rates of Black men compared to White men, can be attributed to the health behaviors of Black men. These health behaviors that are influenced by social environmental factors or barriers to health such as socioeconomic status, masculinity, distrust in the healthcare system, and racism (Jack, 2010).

The social economic status of an individual impacts how they interact with and benefit from the healthcare system (Brown et al., 2004). Health seeking behaviors such as going to the doctor to receive routine care or adhering to the recommended medication routine costs money. Data on health insurance and access to care show that African American men lack health insurance with a rate of more than 25% compared to 16% among non Hispanic Whites (Kaiser Family Foundation, 2007). The same trend is observed in access to a usual source of care with African American men at a rate of 20% for no usual source of care compared to 16% among non Hispanic White men (Kaiser Family Foundation, 2007). These observations in lack of health insurance and access to care have contributed and continue to contribute to the demise of the health of Black men in the U.S. (Rich, 2000). As a result African American men are less likely than their White men to be screened and subsequently die early from preventable diseases such as prostate cancer (Brott, n.d). A more recent review on barriers to health among Black men highlighted qualitative studies in which Black men reported that their social economic status impacted health behaviors such as medication usage, compliance with care regimen, or needed follow up care with their doctor (Cheatham, Barksdale, & Rodgers, 2008).

Even when Blacks have access to healthcare, factors such as the past experiences of African Americans with the health care system and other systems in the U.S. have resulted in distrust of the healthcare system (Griffith, Schulz, Johnson, & Ellis, 2010). Events such as the Tuskegee Syphilis study at which 399 Black men in their late stages of syphilis were experimented on from 1932 to 1972 has had an impact on the trust levels that Blacks have of the healthcare system (Centers for Disease Control and Prevention, 2011b). Musa, Schulz, Harris, et al. in their study on trust in the health care system by race looked at 1681 older adults of Black and White race and found a similar trend of Blacks (both men and women) having less trust in

the health care system in particular their healthcare provider (2009) which consequently impacts their interaction in the healthcare system. In a study focused only on men and mental health among 180 men (34% Black), trust was a factor that influenced the health seeking behaviors among the Black men (Whaley, 2004). A review on barriers faced by Black men highlighted mistrust as a barrier to health experiences of Black men (Cheatham, et al., 2008). More recent data on a larger sample of Black men (n=610), continue to show that mistrust of the health care system is still a concern for Black men and contributes to delayed health seeking behavior of Black men (Hammond, Matthews, Mohottige, Agyemang, & Corbie-Smith, 2010).

Research on masculinity and health among Black men has found that masculinity impacts the health of Black men in the U.S. (Scott, 2009). Black men compared to other men are more likely to endorse traditional attitudes about masculinity (Courtenay, 2001; Wade 2008). Generally, men are reported to be masculine if they rarely seek health (Addis & Mahalik, 2003; Plowden & Miller, 2000) and engage in risky behavior such as smoking, drinking excessively, promiscuous sex activity, reckless driving, and not seeking healthcare (Gadson, 2006; Garfield, et al., 2008). Black men may engage at a higher level of these risky behaviors in an effort to demonstrate their masculinity among both Black and White men and to women. A review on barriers faced by Black men highlighted engaging in health behaviors such as seeking health care signaled that men are weak or not in control over their lives (Cheatham, et al., 2008). This was also observed in a qualitative study among Black men seeking care for prostate cancer. Beliefs about what it is to be a man influenced their experiences with the healthcare system, with men feeling their masculinity was compromised when they engaged in health behaviors to prevent or care for prostate cancer (Blocker et al., 2006). Another qualitative study by Ornelas et al. (2009) found that being responsible for one's family as part of being a man meant spending less time for

the men to focus on themselves consequently impacting their health. In a more recent study with 610 Black men, the researchers found that although masculinity delays health-screening behaviors of men other factors such as lack of trust in the healthcare system play a bigger role (Hammond, et al., 2010).

Racism has also been found to impact the health of Blacks in the U.S. A systematic review on racism and self-reported health status showed that racism has a negative impact on health and in particular mental health among African Americans (Paradies, 2006). Studies focused on African American men only show similar results. Research on 3694 individuals (1,261 Blacks) found racial barriers to health care were perceived by Black men (58.4%) compared to Black women (50.4%), White women (21.5%) and White men (24.9%) (Fowler-Brown, Ashkin, Corbie-Smith, Thaker, & Pathman, 2006). In a study examining the wellbeing of 399 well educated middle class African American men, the researchers found that discrimination based on a race had a negative effect on mental health and not physical health (Sellers, Bonham, Neighbors, & Amell, 2009). In a qualitative study on 12 African American men 45 years and older, the authors reported that African American men encounter structured environments that limit access to resources and negative interactions with healthcare professionals, which prevent and delay help seeking among the men (Ornelas et al., 2009).

Managing type 2 diabetes occurs not in isolation but with influences from the social environment, which influences the health behavior of individuals in either positive or negative ways (Berkman & Glass, 2000). The review of the social environmental factors or barriers and how they affect the health behaviors of Black men in general provides insight and understanding into the possible barriers that may be experienced by Black men managing type 2 diabetes.

Management of type 2 diabetes among Blacks

Effective management of type 2 diabetes involves engaging in healthy behaviors to prevent or delay the development of complications associated with the disease. The management of type 2 diabetes includes managing the disease through treatment and education (Centers for Disease Control and Prevention, 2011a). Treatment of type 2 diabetes is done with healthy eating, physical activity, and the use oral medication and insulin (Centers for Disease Control and Prevention, 2011a). Education on type 2 diabetes involves empowering and building self-efficacy of individuals to carry out self-care behaviors related to the treatment of type 2 diabetes (Mayo Foundation for Medical Education and Research, 2011) through participation in diabetes self-management education programs (Funnell et al., 2009; Norris, Lau, Smith, Schmid, & Engelgau, 2002). The self-care behaviors include healthy eating, physical activity, taking medication, monitoring of blood glucose, reducing risks, problem solving, and healthy coping (American Association of Diabetes Educators, 2011). Although effective management of type 2 diabetes is critical to increasing the life expectancy, improving the quality of life, delaying the development of complications, and decreasing the healthcare costs of type 2 diabetes, individuals still face challenges and barriers with adhering to the self-care behaviors that lead to the successful management of type 2 diabetes.

Barriers to the management of type 2 diabetes among Blacks

Healthy eating

Healthy eating is a critical component of the management of type 2 diabetes and is recommended as the first line of treatment before medication is to be provided to an individual with type 2 diabetes (Mayo Foundation for Medical Education and Research, 2011). Healthy eating involves engaging in behaviors such as the selection of healthy food choices and food

portion sizes. It also involves the preparation of food and the counting of carbohydrates for some individuals (American Association of Diabetes Educators, 2011). It is recommended that a mix of protein, starches, fats, fruits and vegetables be included in one's diet and that healthy eating be coordinated with medication because medications also have an effect on the blood glucose levels (Mayo Foundation for Medical Education and Research, 2011). National data from the National Health and Nutrition Examination Survey (NHANES) III survey (n= 1480), showed that among adults 17 years and older, there were no differences between Whites (n=592) and Blacks (n=408) in the consumption of >30% of daily calories from fats, >10% of total calories from saturated fats, and <5 servings of fruits or vegetables a day (Nelson, Reiber, & Boyko, 2002). In a study of 6035 type 2 diabetes enrollees in a managed care organization, 65.9% of Blacks (n = 984) monitored their diet compared to 73.7 % of Whites (n= 4623) (Oster et al., 2006). No data was specific to Black men with type 2 diabetes. Among African Americans, the availability of healthy foods such fruits and vegetables has been identified as a barrier to eating healthy (Yeh et al., 2008). In a study on 939 African American adults with type 2 diabetes barriers to eating well were a result of financial reasons which impacted the ability to maintain their diet or forced them to skip meals, 40% of adults and 28% of adults respectively (Horowitz, Colson, Hebert, & Lancaster, 2004). No studies focused specifically on barriers related to healthy eating among Black men with type 2 diabetes however studies on Black men showed that relying on Black women to purchase and prepare their food (James, 2004) limited how involved Black men can be in monitoring their diet. Furthermore the convenience and availability of fruits and vegetables was another barrier faced by Black men (Lucan, Barg, & Long, 2010).

Physical activity

Being physically active involves engaging in self-care behaviors that promote the recommended physical activity for individuals with type 2 diabetes (American Association of Diabetes Educators, 2011). Similar to diet, physical activity is recommended along with diet as the initial steps to treatment before medication is to be provided to an individual with type 2 diabetes (Mayo Foundation for Medical Education and Research, 2011). Physical activity helps lower the blood glucose levels (Korkiakangas, Alahuhta, & Laitinen, 2009) and thus the blood glucose levels should be monitored when exercising and the physical activity routine adjusted accordingly (Mayo Foundation for Medical Education and Research, 2011). National data from the NHANES III survey (n= 1480), showed that among adults 17 years and older, 39% of Blacks (n=408) reported not engaging in physical activity compared to 30% of Whites (n=592) (Nelson, et al., 2002). In a study of 6035 type 2 diabetes enrollees of a managed care organization, 46.4% of Blacks (n = 984) engaged in exercise compared to 52.8 % of Whites (n= 4623) (Oster, et al., 2006). Another study looking at national data from the 2003 BRFSS found that Blacks (n = 2738) were less likely to meet the physical activity recommendations of type 2 diabetes management compared to Whites (n=15, 495) an odds ratio of 0.63 (95% CI 0.51, 0.79) (Nwasuruba, Khan, & Egede, 2007). No data was specific to Black men with type 2 diabetes. Barriers to engaging physical activity among individuals with type 2 diabetes can be either internal and within the control of the individual or external and outside of the control of the individual (Korkiakangas, et al., 2009). In a qualitative study among an older population with type 2 diabetes internal barriers such as having arthritis or complications of the feet was highlighted as impacting physical activity levels of individuals (Dye, Haley-Zitlin, & Willoughby, 2003). Among 105 African American adults with type 2 diabetes the internal

barriers to physical activity included lack of time while the external barriers included lack of support, lack of access to exercise facilities, and bad weather (Dutton, Johnson, Whitehead, Bodenlos, & Brantley, 2005). No studies focused specifically on Black men with type 2 diabetes however studies on men generally show that they are more physical active than women but this changes when the men get to be between the ages of 45 and 54 (Garfield, et al., 2008) possibly because of life events that become a priority such as marriage, having a family, and employment (Corder, et al., 2009).

Taking medication

Taking medication involves engaging in behaviors such as adhering and complying to the medication as recommended by the healthcare provider and sharing the benefits and any side effects with your healthcare provider (American Association of Diabetes Educators, 2011). The use of oral medication in the management of type 2 diabetes occurs when an individual needs more than diet and exercise to control their blood glucose levels (Mayo Foundation for Medical Education and Research, 2011). Although the use of insulin in diabetes management is mainly for individuals with type 1 diabetes, some individuals with type 2 diabetes use insulin to manage their type 2 diabetes (Centers for Disease Control and Prevention, 2011a). In a study on Medicare enrollees with type 2 diabetes, African Americans (n=1527) were reported as adhering less to type 2 diabetes medication by 12% compared to their White counterparts (n= 1128) (Shenolikar, Balkrishnan, Camacho, Whitmire, & Anderson, 2006). No data was specific to Black men with type 2 diabetes. The major barrier with taking medication is the side effects experienced by an individual with type 2 diabetes. In a study of 676 individuals with type 2 diabetes, 49% of African Americans (n= 277) compared to 39% of Whites (n = 229) reported that they did not want to take type 2 diabetes medications because of the impact they believed it

had on their quality of life (Huang et al., 2009). In a study on 939 adults with type 2 diabetes (93% African American and the rest Hispanic) barriers to taking medication included the cost with 25% of the African Americans skipping their medication compared to 16% Hispanics (Horowitz, Williams, & Bickell, 2003). In a qualitative study on a sample of African American men with type 2 diabetes, the cost associated with purchase of medications and the side effects of the medications were identified as barriers to effective management of type 2 diabetes which resulted in the men skipping or changing their medication dose (Liburd, et al., 2007). In a report on overcoming the barriers to glycemic control among African Americans with type 2 diabetes, the authors report that barriers such as the misconceptions about the use of insulin and socioeconomic status get in the way of insulin therapy among African Americans (Marshall, 2007).

Monitoring of blood glucose

Monitoring of blood glucose involves frequently checking your blood sugar levels and adjusting your self-care behaviors as appropriate if the blood sugar is not in control (American Association of Diabetes Educators, 2011). Among U.S. adults with type 2 diabetes, the blood glucose monitoring is reported to be low especially among minority groups with the rates of monitoring blood glucose between 29% and 76% among Blacks (Kirk, Graves, Bell, Hildebrandt, & Narayan, 2007). Among adults with insulin treated type 2 diabetes, monitoring of blood glucose levels is lower among Blacks compared to Whites (Levine et al., 2009). No data was specific to Black men with type 2 diabetes. In a qualitative study using focus groups on 31 African Americans, participants reported not knowing the required target or goal for blood glucose monitoring so although they monitored their blood sugar, the participants were not sure if it was the required target (Onwudiwe et al., 2011). The strips needed to measure the blood

sugar levels are costly. The high costs deter individuals from checking their blood sugar levels as needed (Brown, et al., 2004). In a study on 939 adults with type 2 diabetes (93% African American and the rest Hispanic) barriers to monitoring blood glucose included the cost associated with the self-care behavior with 27% of the African Americans not checking their blood sugar compared to 21% Hispanics (Horowitz, et al., 2003). No data was available that focused specifically on Black men with type 2 diabetes.

Reducing risks

Reducing risks involves engaging in self-care behaviors such as routine doctor visits, having your eyes checked annually, having your feet checked regularly, that promote effective management of type 2 diabetes (American Association of Diabetes Educators, 2011). Data from 2003 BRFSS data show that individuals with type 2 diabetes are not effectively managing the disease as has been recommended with about 6% (n= 21,459) performing all 4 recommended self-care behaviors of blood glucose monitoring, eating the right diet, engaging in physical activity, and checking their feet (Nwasuruba, et al., 2007). Even in managed care organizations where care is provided, individuals are not effectively managing type 2 diabetes. Although the mean number of type 2 diabetes related health care visits was higher among Blacks (n = 984, N =6035) with a mean value of 7.0 compared to Whites (n= 4623, N=6035) with a mean value of 5.7, Blacks had lower values when it came to utilization of preventive care services (Oster, et al., 2006). Data on preventive care practices and race show mixed results among individuals with type 2 diabetes. Using BRFSS data, researchers found that compared to Whites, Blacks visited the doctor, smoked less, and checked their feet for sores (Oladele & Barnett, 2006). A review on the preventive care practices among minorities found that Blacks were less likely to check their eyes annually, get a flu shot annually, and have their cholesterol tested (Kirk et al., 2005).

Regardless of race, individuals with type 2 diabetes who drank moderately were less likely to engage in effective management of type 2 diabetes compared to those who did not drink (Chew, Nelson, Young, & Bradley, 2005). No data was specific to Black men with type 2 diabetes aside from the data reported in Chapter 1 on the preventive care practices among Black men with diabetes who are over 40 years of age. Additionally individuals with type 2 diabetes who lack income and health insurance are less likely to engage in preventive care practices (Oladele & Barnett, 2006). Data on individuals with type 2 diabetes showed that cost was a factor to seeing a doctor among Blacks compared to Whites (19.5% and 8.2 % respectively) (Gary, Narayan, Gregg, Beckles, & Saaddine, 2003). Among a convenience sample of Black men with type 2 diabetes in a qualitative study, masculinity was reported as defining the health behaviors of the men with the fear of losing their limbs an area of concern because they will no longer be in control of their body and the fear of seeking care or appearing sickly as compromising their masculinity (Liburd, et al., 2007).

Problem solving

Problem solving is a self-care behavior that involves the identification of the barriers and ways to address the barriers faced by individuals in the management of type 2 diabetes (American Association of Diabetes Educators, 2011). Problem solving requires skill and confidence, which individuals with type 2 diabetes may not have or be able to carry out once they have been taught or once they leave the healthcare provider (Mulvaney, 2009). In a multi ethnic study on problem solving among 506 individuals with type 2 diabetes, there were no racial differences in the problem solving skills for exercise and diet in the management of type 2 diabetes among Asian Americans, African Americans, Hispanics and non Hispanics Whites (Glasgow, Fisher, Skaff, Mullan, & Toobert, 2007). In a study focused on 65 urban Americans

with type 2 diabetes, effective problem solving was not linked with glycemic control while ineffective problem solving was linked to poor glycemic control (Hill-Briggs et al., 2006). A number of barriers to problem solving have been identified in the literature. Having depression (Glasgow, et al., 2007; Hill-Briggs, et al., 2006; Mulvaney, 2009) and a lack of knowledge are barriers to effective problem solving (Mulvaney, 2009). In a qualitative study using focus groups on 31 African Americans, participants reported not knowing the required target or goal for blood glucose monitoring so although they monitored their blood sugar, the participants were not sure if it was at the required target (Onwudiwe, et al., 2011). Even in the absence of depression and the presence of knowledge, an individual with type 2 diabetes may be able to set plans and goals but may not have the available resources and support to carry out the plans and goals (Mulvaney, 2009). In a study on 939 African American adults with type 2 diabetes cost was identified as a barrier to maintaining a healthy diet (Horowitz, et al., 2003). Among low income African Americans with type 2 diabetes the taste and cost of the healthy food was a barrier in their efforts to eat a healthy diet as part of the management of type 2 diabetes (Lucan, et al., 2010). Others may want to engage in physical activity and set goals but will not have access to resources or time (Dutton, et al., 2005). The literature on problem solving and type 2 diabetes has measurement related issues (Hill-Briggs & Gemmell, 2007) with limited research focused on African Americans with type 2 diabetes (Glasgow, et al., 2007; Hill-Briggs, et al., 2006).

Healthy coping

While problem solving involves the identification of a barriers to the management of type 2 diabetes, healthy coping involves engaging in supportive behaviors and receiving support to help address the barriers to managing type 2 diabetes (American Association of Diabetes Educators, 2011). If individuals do not receive the support they need, they resort to risky

behaviors and unhealthy coping mechanisms such as not eating the proper diet, consuming more alcoholic beverages, not exercising, not being compliant with taking medications, and not monitoring their blood glucose (American Diabetes Association, 2010). Numerous studies have been conducted on the role of social support as it relates to the management of type 2 diabetes (Ford, Tilley, & McDonald, 1998a, 1998b; Gallant, 2003). The research has highlighted the importance of social support among Blacks compared to Whites when it comes to management of type 2 diabetes (Rees, Karter, & Young, 2010). For example using NHANES data, Blacks who received support were observed to control their weight, control their diet, and exercise as part of managing type 2 diabetes compared to Whites (Rees, et al., 2010). In a study of 159 African Americans with type 2 diabetes, conflict within families was seen as a barrier to provision of social support among individuals with type 2 diabetes who were receiving family social support (Chesla et al., 2004). In a study of 200 older and rural African Americans with type 2 diabetes having low self esteem or depression in either the provider of support or the person with type 2 diabetes, was found to be a barrier to receipt of social support to promote the management of type 2 diabetes (Brody, Kogan, Murry, Chen, & Brown, 2008). In a qualitative study of 12 African American women with type 2 diabetes, the women reported that a lack of understanding of the needs of an individual with type 2 diabetes was a barrier to provision of support from family and friends (Carter-Edwards, Skelly, Cagle, & Appel, 2004). In a mixed methods study on 46 African American women with type 2 diabetes who were receiving peer support, the women reported barriers such as other family obligations that limited them from participating in the peer support provided (Murrock, Higgins, & Killion, 2009). Although studies have been conducted among African Americans with type 2 diabetes (Carter-Edwards, et al., 2004; Chesla, et al., 2004; Collins-McNeil, Holston, Edwards, Benbow, & Ford, 2009), no

studies have been reported on social support and the management of type 2 diabetes solely among African American men. Studies have been conducted on women with type 2 diabetes and both men and women with type 2 diabetes however the findings did not breakdown the results by sex or gender (Carter-Edwards, et al., 2004; Chesla, et al., 2004; Collins-McNeil, et al., 2009).

In summary, managing type 2 diabetes can be complex and challenging. Data on Blacks with type 2 diabetes show that Blacks are falling behind Whites in adhering to the self-care behaviors required for the effective management of type 2 diabetes. Cost and access to resources appear to be a barrier for all the self-care behaviors for the management of type 2 diabetes among Blacks. From the research studies that have been reported limited research has focused on problem solving among Blacks with type 2 diabetes. Furthermore, although most of the studies included both men and women and in some cases only women, few studies focused on Black men with type 2 diabetes. The studies on Black men with type 2 diabetes focused only on 2 self-care behaviors, taking medication and reducing risks. The presence of barriers when managing type 2 diabetes requires individuals to develop coping mechanisms to help them through their experiences.

Coping with the management of type 2 diabetes among Blacks

Coping is defined as “constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus & Folkman, 1984a). Examples of coping include seeking social support from family, turning to God, prayer, substance abuse, acceptance of a situation, worrying, and being depressed. Some forms of coping such as seeking social support are considered healthy where as some forms of coping such as drinking are considered risky to one’s health. Among individuals with type 2 diabetes healthy coping has been recommended as part of effective

diabetes self-management and involves engaging in supportive behaviors and receiving support to help manage type 2 diabetes (American Association of Diabetes Educators, 2011). This recommendation is supported by numerous studies on coping and the management of type 2 diabetes (Peyrot & McMurry, 1992; Peyrot, McMurry, & Kruger, 1999; White, Richter, & Fry, 1992). These studies have highlighted the importance of coping not only in the management of type 2 diabetes, but also in the improvement of the health related outcomes and quality of life for individuals with type 2 diabetes.

Although a number of studies have looked at coping and the management of type 2 diabetes, few have looked at coping and the management of type 2 diabetes among Blacks. In their study on coping and diabetes management among 124 Black older adults (60 years and older) with type 2 diabetes, Degazon looked at how the coping strategies used varied by origin of birth (1995). Some of the most used coping strategies identified included praying, maintaining control over the situation, hope, acceptance, seeking comfort from friends and family while some of the least used coping strategies identified included taking drugs, drinking alcohol, letting someone else solve the problem, put the problem out of your mind (Degazon, 1995). Given the sample was recruited from health care settings, the sample was less likely to engage in unhealthy coping strategies.

In 2000 researchers conducted 10 focus groups with 70 African American women to examine the factors that help them manage the diet and physical activity aspects of living with type 2 diabetes (Samuel-Hodge et al., 2000). The study found that prayer and depending on oneself was critical to the management of type 2 diabetes. Although the study was limited to only women with type 2 diabetes the researchers recommended that future research on coping

among Blacks with type 2 diabetes focus on the social and cultural context of the individuals with type 2 diabetes (Samuel-Hodge, et al., 2000).

A few years later a correlational study built upon the prior studies by looking at how factors such as coping contribute to the variation in self-care behaviors among Black men (n=50) and Black women (n=83) with both type 1 and type 2 diabetes (Montague, 2002). The study found that Black men were able to cope better with diabetes than Black women with women perceiving more barriers to adherence to diabetes than men and possessing a negative attitude towards managing diabetes (Montague, 2002). Although this study used a convenient sample and did not highlight specific coping mechanisms, it provided information on how men and women differ when coping with type 2 diabetes.

This study was followed by a qualitative study that used in-depth interviews to identify the coping strategies used when managing type 2 diabetes among 10 men and 24 women (DeCoster & Cummings, 2004). The study aimed at examining how the coping strategies used varied by race and gender among 34 participants. The results of the study showed that Whites used more coping methods such as determination, seeking diabetes education, and self-discipline as compared to Blacks. Furthermore the results by sex showed that men used more coping methods such as determination, seeking diabetes education, and self-discipline compared to women who used coping strategies such as prayer, faith in God, and preoccupying the mind. As with the study conducted earlier, spirituality and religion were cited as elements of the coping process for African Americans with type 2 diabetes (Samuel-Hodge, et al., 2000). Although this study built on other studies by include both men and women, the authors did not provide results by both race and sex possibly due to the small sample size (DeCoster & Cummings, 2004).

Building further on this research, another study used 10 focus groups to explore coping among rural African Americans in 3 rural communities (Utz et al., 2006). The researchers aimed at adding to the literature by looking at African Americans in rural areas and African American men. The study comprised 42 women and 31 men with focus groups being all male or all female groups. The results showed that participating in diabetes education, learning from each other's experiences, seeking information, seeking support from families, avoiding temptations, seeking religious support, and learning techniques to release stress were cited as a coping mechanism. Although this study included a larger sample of both men and women, the researcher did not separate the findings according to the experiences of either men only or women only.

Another study a year later looked at Blacks with type 2 diabetes who are of other origin aside from African Americans. The study focused on coping with type 2 diabetes among 212 older Black adults (Degazon & Parker, 2007). Unlike the earlier study, the authors reported the results according to the experiences of men only or women only. The findings showed that men and women did not differ in the coping strategies used to manage type 2 diabetes.

More recently a quantitative study was conducted on 185 African Americans (64.9% women) church attendees who have had type 2 diabetes for an average of 9 years (Samuel-Hodge, Watkins, Rowell, & Hooten, 2008). The coping strategies utilized more included passive coping which is the use of acceptance of one's situation to cope while the strategies utilized less were emotive coping which is the use of emotions to cope and active coping which is the use of goal setting to cope. Older adults and those with less education tended to use passive coping strategies. Use of active style coping was related to low church attendance and passive coping was related to participants' views that their health was in the hands of God.

The studies on coping and type 2 diabetes show that Blacks use a number of coping mechanisms such as diabetes education, seeking support, learning from others experiences, seeking spiritual support, prayer, etc to manage type 2 diabetes. Highlighted across most of the articles also was the importance of spirituality and religion as a coping mechanism among Blacks especially among women. Findings on how Black men and women differ in coping mechanisms related to type 2 diabetes were mixed. One study found differences between men and women however the study was focused on both type 1 and type 2 diabetes while another that found differences was focused on both Blacks and Whites. For the studies that did not find any differences, the researchers studied Black men and women of other origin aside from African American origin while another looked at Blacks that attended church.

Few studies focused on coping and type 2 diabetes among Black men with type 2 diabetes. A possible explanation for this is that the aim of the respective studies was not on exploring the differences between men and women but on coping among Blacks in general. Other possible reasons for more studies being reported on women could be the higher burden of type 2 diabetes among Black women compared to Black men. As reported earlier, Black men may not be more disadvantaged than Black women however compared to White women and White men, their health is in a crisis. Given the importance of coping to the effective management of type 2 diabetes and the health crisis of Black men, efforts need to be made to look at this topic among Black men.

Additional research is recommended on the use of spirituality and religion as coping mechanism among Black men with type 2 diabetes. Religion and spirituality have been found to be critical in the management of type 2 diabetes among Blacks (Chin, Polonsky, Thomas, & Nerney, 2000; Egede & Bonadonna, 2003; Polzer & Miles, 2007). Although there were no

studies on Black men with type 2 diabetes, studies on Black men and prostate cancer have highlighted the importance of spirituality and religion as critical to dealing with cancer. A study on Black men with prostate cancer showed that through faith, spirituality helps the men face the fears that come with initial diagnosis of prostate cancer and inspires them to take control of managing the disease (Maliski, Connor, Williams, & Litwin, 2010). Another study on 86 low-income men with prostate cancer showed that spirituality as defined by faith and finding meaning in the disease was linked with enhanced health related quality of life among African American men (Zavala, Maliski, Kwan, Fink, & Litwin, 2009). Research on coping and type 2 diabetes among Black men will be useful for health care professionals and caregivers involved in the management of type 2 diabetes among Black men.

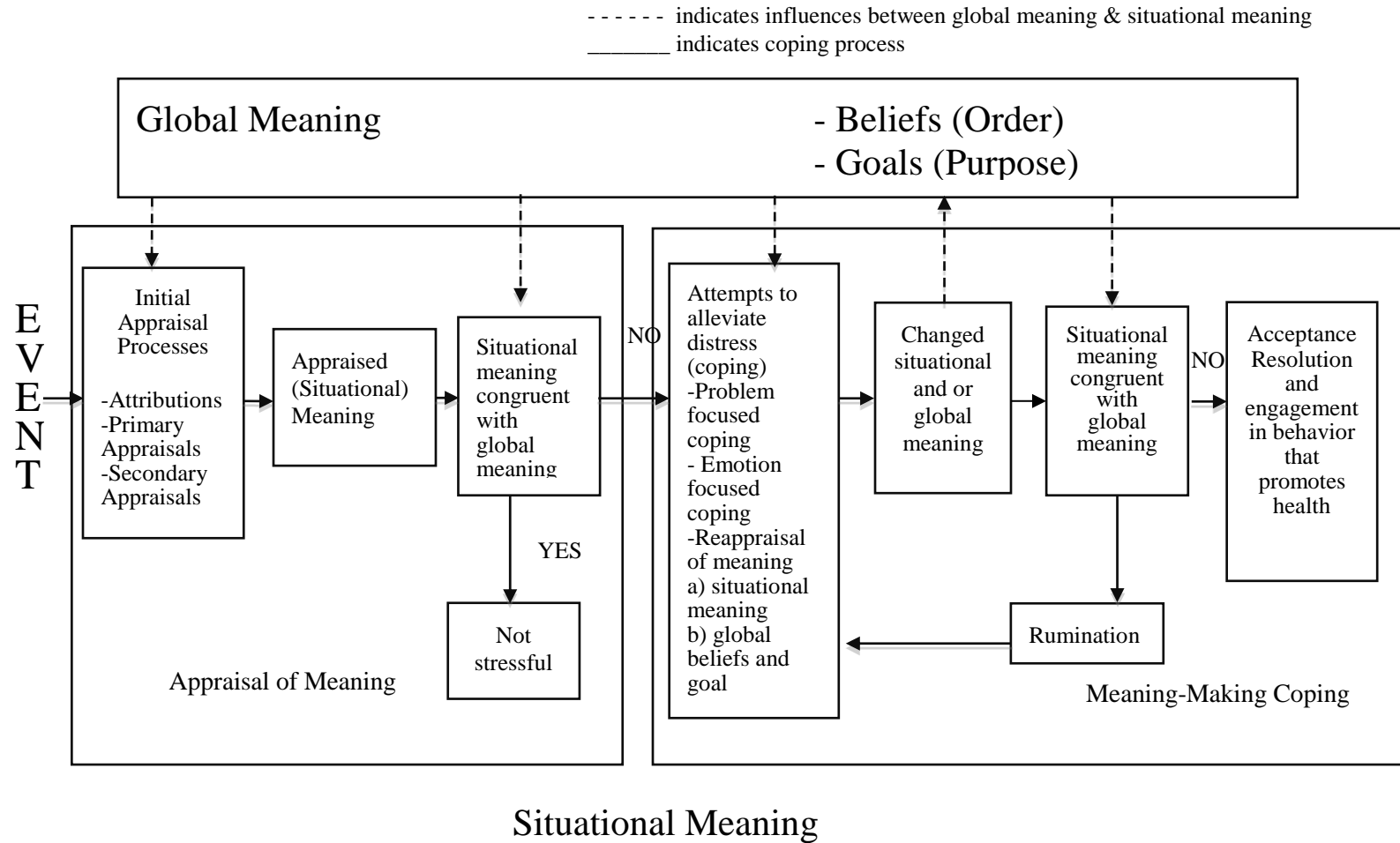
Theoretical framework

The theoretical framework that will be used to guide this study is an adaptation of the Transactional Model of Stress and Coping (TMSC) described by Lazarus and Folkman (1984b). The TMSC is a framework that provides researchers with an understanding of the pathway through which individuals cope with stressful situations (Glanz, Rimer, & Lewis, 2002). The TMSC has been used widely in diabetes research to examine coping among adolescents with type 1 diabetes (Hocking & Lochman, 2005), the contribution of cognitive appraisal processes to type 1 diabetes adherence among adolescents (Murphy, Thompson, & Morris, 1997), how origin of birth relates to coping among Black adults with type 2 diabetes (Degazon, 1995), and how spirituality and religion are used to cope with type 2 diabetes (Samuel-Hodge, et al., 2008).

The adapted TMSC by Park and Folkman as shown in Figure 1 includes an emphasis on “meaning” as an additional factor in understanding the pathway through which individuals cope with stressful situations (1997). The adapted TMSC states that when an individual encounters an

Figure 1. Framework of global and situational meaning as they relate to coping within an event

(Adapted from Park and Folkman)



event such as receiving an initial diagnosis of type 2 diabetes or dealing with a complication of type 2 diabetes, the individual evaluates the event (primary appraisal) and assesses how they can address the event with available resources (secondary appraisal). The event is evaluated against their global meaning of the world to provide a situational meaning of the event. Global meaning is defined as how an individual views the world and is composed of the goals, values and beliefs that are built through their life experiences including how an individual sees oneself or how they believe others see them. Situational meaning focuses on how an individual's goals, values, and beliefs (global meaning) relate to or are reshaped by events they experience (Park & Folkman, 1997). If an event aligns with how an individual views the world (global meaning), then the individual does not see the event as stressful. For example if an individual believes that as they get older they are likely to develop diseases such as type 2 diabetes, when they do develop the disease the experience is different than if they did not expect it.

If the event does not align with an individual's views of the world, then the individual sees the event as stressful and tries to address the event with different coping mechanisms. Using the example above if an individual who believes they will develop diabetes when they are older develops type 2 diabetes in their twenties, the experience will not match their global views and they will see the event as stressful and try and seek coping mechanisms to deal with the stress.

The adapted TSMC highlights three types of coping mechanisms emotion focused coping, problem focused coping, and reappraisal of the meaning of the event (Park & Folkman, 1997). When an individual cannot change a situation, they utilize emotion focused coping such as drinking or smoking to manage the feelings or emotions

associated with the event. When an individual can change a situation, they utilize problem-solved coping such as goal setting or information seeking to change the event (Glanz, et al., 2002). Neither emotion nor problem solved coping is the preferred coping mechanism rather each type of coping can be used at different times depending on the situation (Lazarus & Folkman, 1984b)The third coping mechanism, the reappraisal of an event, is an additional coping mechanism that focuses on an individual trying to get alignment of the global and situational meanings of the event (Park & Folkman, 1997).

With the use of the different coping mechanisms highlighted in the adapted TMSC model, an individual will have the situational meaning of the event either align or not align with their global meaning of life. Once the meanings align, the individual accepts the event, which makes it easier to cope with the event or engage in behaviors that promote health if they have type 2 diabetes. If the meanings do not align, the individual continues to reflect on the event and employs different coping methods until the global and situational meanings are in alignment. In this case an individual may have difficulty engaging in healthier behavior to promote health.

Conclusion

Epidemiological data show that Blacks are disproportionately burdened with type 2 diabetes. Although the prevalence of type 2 diabetes is higher among Black women, Black men die earlier of type 2 diabetes and experience more type 2 diabetes complications and hospitalizations. Effective management of type 2 diabetes is key to delaying the development of complications and mortality among individuals with type 2 diabetes. Black men however face a number of social and environmental factors impacts their health behavior, which can subsequently impact the management of type 2 diabetes.

The available research on individuals with type 2 diabetes in general shows that they do face a number of barriers and have developed coping mechanism to handle the barriers they encounter. Limited research however has focused on the barriers encountered and the coping mechanisms used by Black men with type 2 diabetes .The purpose of this dissertation was to address this gap in the literature by examining and reporting on the barriers encountered and coping mechanisms used to live with and manage type 2 diabetes among Black men. Although not a major focus of the dissertation study, the role of spirituality and religion as a coping mechanism among the Black men was also explored. Understanding the barriers encountered and the coping mechanisms used by Black men with type 2 diabetes will be useful in guiding the development of programs to improve their health.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

The purpose of this chapter of the dissertation is to provide information on the research design and methodology used to address the research questions of the study. As highlighted in chapter 1, the research questions of this study seek to explore and understand the experiences of Black men managing type 2 diabetes, in particular the barriers encountered and the coping mechanisms they use. Although research has been done on the experiences of living with diabetes among individuals with type 2 diabetes and among Blacks with type 2 diabetes, limited research has been done with Black men with type 2 diabetes (Liburd, et al., 2007). Understanding the experiences of Black men with type 2 diabetes requires the use of qualitative approaches to research. This chapter of the dissertation focuses on the methodology used to address the research questions of interest. The areas discussed include the research design, my subjectivity statement, target population, sampling, recruitment, data collection, and data analysis plan.

Research design

The research design used to answer the research questions of this study is qualitative. Qualitative research methods are used in studies where researchers seek to understand the factors and beliefs that motivate or influence decision making among individuals (Patton, 2002). The use of qualitative research methods in this study will contribute to the identified gaps in the literature on experiences of Black men with type 2 diabetes. The qualitative research approach proposed is ground theory method. Ground

theory method focuses on analysis of experiences to develop theory and in some instances to build up existing theory (Strauss & Corbin, 1994). For the purposes of this study, the grounded theory approach will be used to expand on existing theories about how Black men with type 2 diabetes live with the disease. Grounded theory method requires researchers to be less subjective while carrying out a research study (Strauss & Corbin, 1994). The preconceived notions I had about the dissertation topic are highlighted below in my subjectivity statement.

Subjectivity statement

As a student of the doctoral program in public health at the University of Georgia, my research interests defined broadly are gender and health among minority populations. My research interests have been shaped and refined by my personal and professional background. At a personal level, I am a Black woman from Uganda and as a Black person I have an interest in exploring and understanding issues that affect Black individuals in society today. As a woman I have research interests on gender-related matters that vary based on context. If my study is on a population in or from the developing world, I gravitate towards issues that address the health of women. If my study is in or from the developed world, I gravitate towards issues that address the health of men. As a Ugandan, my interest gravitates towards addressing health issues among minority or disadvantaged populations. Additionally as a member of the First Baptist Church in Atlanta, Georgia, I am passionate about the use religion and spirituality to promote health. At a professional level, I work for a major public health government agency in the United States, the Centers for Disease Control and Prevention, where I have engaged in qualitative data analysis focused on issues related to the prevention and

control of type 2 diabetes in both men's and women's health, which has also included publications on type 2 diabetes among men and women. My personal and professional background led to the formulation of my interest in exploring the role of social support among Black men with type 2 diabetes in particular the barriers experienced while managing type 2 diabetes and the coping mechanisms used by Black men with type 2 diabetes.

Sampling

Sampling of participants in this study was carried out using purposive sampling methodology, a sampling method that involves the use of deliberative and nonrandom selection of participants who meet certain characteristics as determined by the target population (Patton, 2002). Participants were selected from patients who receive care from the Grady Diabetes Clinic of the Grady Health System in Atlanta, Georgia. The Grady Diabetes Clinic was purposefully selected as a clinic because of the characteristics of the patients who receive care from the clinic. The patients who receive care from the Grady Diabetes Clinic are primarily African American and are low-income (Ziemer et al., 1996). Furthermore, selection of participants from the Grady Diabetes Clinic resulted in a homogenous population in terms of factors such as income level and possible types of experience managing type 2 diabetes. This kind of targeted sampling is customary in exploratory work when the range and variation of patterns are not yet established. Because low-income black males may be anticipated to face more serious challenges than their higher income peers in management of chronic conditions, beginning with them seemed appropriate. Given that the purpose of this study was to understand a phenomenon and its distribution among Black men with type 2 diabetes, a phenomenon

that has not been explored, the sampling methods above were appropriate (Onwuegbuzie, 2007). The findings thus are not generalizable to all similar Black men in the US, but they will provide an evidentiary basis for comparison to similar Black males around the country.

Target population

The target population for this study was Black men with type 2 diabetes. The eligibility criteria for inclusion in the study were Black men, individuals with type 2 diabetes, individuals between the ages of 45 and 65 years, and individuals who live in Atlanta, Georgia. The Black men included in the study were Black men who identified as African, African American, and African Caribbean descent. The age group of 45 to 65 years was selected for two reasons: type 2 diabetes is less common among individuals below the age of 45 (Centers for Disease Control and Prevention, 2009b) and the life expectancy of Black men is 69.7 years (Office of Minority Health, 2010). Partly for convenience, the location of this study was limited geographically to Atlanta, Georgia. Exclusion criteria included individuals with type 1 diabetes, individuals who had had type 2 diabetes for less than one year, and individuals who had lived in Atlanta, Georgia for less than a year. The institutional review boards of the University of Georgia and the Grady Health System approved this study. Upon approval of the study, recruitment and data collection began.

Recruitment

The sample of participants for this study was contacted through the use of a recruitment flyer (See Recruitment Flyer in Appendix C). Because the patients served by the clinic are considered to have low literacy levels, a two-pronged approach was used to recruit

the men. The flyer was placed on the bulletin board in the waiting room, and I also approached the Black men in the waiting room of the clinic. The content of the flyer was verbally communicated to all the men who were approached to participate in the study. This approach was used to eliminate the assumption of the literacy levels of the men in the clinic. Individuals who believed they were eligible to participate in the research study contacted me, the researcher, while in the waiting room to express an interest. Eligibility of individuals was self-report and determined using a screening tool (See In Person Script in Appendix D). Individuals who were eligible were provided with background information on the research study and asked about their interest in participating. Those who were interested were informed that they would be interviewed for 60 to 90 minutes once they had received care and checked out of the clinic. Individuals who were interested in the research study scheduled a time to conduct the interview after they received care. Individuals who agreed to participate signed a consent form, which contained information on the purpose of the study, the risks of the study, and the benefits of the study (See Consent Form in Appendix A). The interviews were conducted in a private room or in the waiting room at the Grady Diabetes Clinic. Given that the participants visit the clinic once every few months and are low income, no interviews were scheduled off site or for a later date. The decision to do interviews at the Grady Clinic was an effort to avoid loss of participants because of no follow up. For my safety as a female researcher, I wore a ring so that participants would think I was married and I conducted the interviews only at the clinic. At the end of the interview, participants were provided twenty dollars cash as incentive. Participants also signed a form to verify that they had received the incentive of twenty dollars cash.

Data collection

The qualitative data collection method used in this study was in-depth interviews. In-depth interviews involve the use of open-ended questions to gain detailed information on a topic from the perspective of the individual being interviewed (Kvale, 2007). Given that the nature of this study was to explore in detail the experiences of Black men, in-depth interviewing was preferred over focus group discussions. Unlike focus group discussions that include a number of individuals in the interview process, in-depth interviewing is done one individual at a time, which allows for each participant's voice to be heard (Kvale, 2007). Based on the research methods used – grounded theory method (Morse, 1994) and the research questions of interest (Morse, 2000), a sample size of 30 was used for this study. Using an interview guide, in-depth interviews were conducted with 30 Black men.

The interview guide for this study was comprised of a series of open-ended questions (See Interview Guide in Appendix B). The open-ended questions were semi-structured to facilitate the flow of the conversation with participants. Unlike structured interviews, which consist of a fixed set of open-ended questions, semi-structured interviews allowed the interviewer to ask new questions based on the responses of the participants. This was helpful for the research because it provided for the possibility of additional information that was unanticipated during the development of questions for the interview guide and it allowed for more detailed information particular to the participants to be obtained (Kvale, 2007). The questions in the interview guide were supplemented with appropriate probes as the interview progressed; for example, participants were asked about how they deal with one of the self-care behaviors (diet, exercise, etc) as defined by

the American Association of Diabetes Educators recommendations for the management of type 2 diabetes (American Association of Diabetes Educators, 2011).

The interview guide questions developed were reviewed and approved by my doctoral committee. The interview guide was also tested on two individuals who met the eligibility criteria identified for the participants in this study. Thoughts and suggestions from the two individuals were considered in the final draft of the interview guide. During the interviews the questions in some instances were not asked in the order they appeared in the interview guide. This was an attempt to obtain detailed information from the participants (Gubrium & Holstein, 2002). Some of the first sets of interviews were shorter than anticipated in length, resulting in my reflection on the interview process. Changes were made to the interviewing process to ensure that lengthy interviews and more detail were obtained from the men. Examples of changes made were to interview the men without holding a folder or taking notes during the interview, asking the questions in an order responsive to each interview situation, treating the men like the expert on their lives during the interview, and starting the interview process with other general questions specific to the participant, for example, how was your visit to the clinic today? (Gubrium & Holstein, 2002). Additionally during the interview process the men reported on experiences that did not make sense in relation to how an individual experiences type 2 diabetes. In such instances I did not correct or interrupt the men as they shared their experience.

The first few questions of the interview guide aimed at capturing demographic information on the age, marital status, duration of type 2 diabetes, family history of diabetes, and employment status of the participants. These questions also aimed at

providing context for understanding the findings of the research questions of the study. The next of set of questions focused on the 3 research questions of this study (See Appendix E). The last few questions of the interview guide were aimed at verifying the information shared in the interview and to capture other information related to the experience of managing type 2 diabetes.

The interviews were audiorecorded using an Olympus VN-8100PC digital audio recorder. Field notes were taken during the interviews to record any observations of importance not captured by audio (Kvale, 2007). In preparation for analysis, the audio recordings were submitted to a transcription company, Verbal Ink, a contracting company that focuses on transcribing qualitative data. Each transcribed transcript was reviewed against the audio recordings to ensure that Verbal Ink captured the information that was collected during the interview. The transcripts were then uploaded into a computer platform – HypeRESEARCH version 3.0, a qualitative analysis software that enables one to code, organize, and retrieve data as part of the data analysis process.

Data analysis

A general inductive approach to qualitative data analysis as defined by Thomas was used to analyze the transcripts and provide findings to address the research questions in this dissertation study (2006). The inductive approach entailed a thematic analysis of the transcripts to identify codes, categories, and themes relevant to constructs in the research questions. The transcripts included for review in this study were a mix of both short and long transcripts because consideration was given to the quality of the interview and not the length of the interview. The range of the duration of the interviews was 30 minutes to 80 minutes. Some of the lengthy interviews contained information that was

not relevant to the research questions of the study. Furthermore because the target population for the study is Black men, there were considerations taken into account that men do not talk much generally and can be brief about sharing their experiences. Being brief about their stories was not taken to be a lack of importance. The transcripts were each reviewed to get a sense of the data in each transcript. The transcripts were then read again to identify meaningful chunks of data related to the research questions and to make summary notes about each participant. For this study the chunks were demographic data, barriers, and coping methods.

The review of the transcripts was then accompanied with coding of the data in the margins of the transcripts for each of the chunks identified above. The coding methods were selected based on their usefulness in addressing the research questions of the study. In the first rounding of coding, I used attribute coding to code the demographic information of the participants. Attribute coding is the coding of data to obtain descriptive information on participants (Saldana, 2009). The attribute coding allowed for comparisons as appropriate among the participants based on specific demographic factors. The rest of the transcript was coded using structural coding, which is coding of data of sections of the transcripts focused on the area of inquiry (Saldana, 2009). For this study the areas of inquiry were grouped according to the research question of interest that focused on barriers encountered and coping mechanisms used. This was accompanied by *in vivo* coding, a coding method that uses the words of the participants to create codes from the transcripts (Saldana, 2009).

The transcripts were then reviewed again for the second round of coding. The second round of coding used pattern coding, which is coding to create categories and

themes in the data (Saldana, 2009). During the second round of coding, previous codes were deleted and new codes were created. Additionally the generated codes were grouped or organized into categories and themes based on patterns that emerged in the data. The grouping of codes into categories was guided by approaches recommended by Lofland, using categories such as relationships, settings, and behaviors to examine the data (1971). Additionally the codes and categories developed were guided by theory and literature on barriers to and coping with diabetes. The transcripts were reviewed to answer each research question separately.

Because the in-depth interviews were done in a conversational style manner and built on the participants' responses, the responses for some participants were interspersed throughout the transcript. Consequently all the content of each of the transcripts was reviewed to ensure that all the responses for the research questions were included in the analysis. As part of the coding process tables and matrices for each research question were used to assess the frequency with which each participant highlighted categories or themes.

Although all 30 transcripts were analyzed, only 25 were included in the write up of the findings. The 5 transcripts not included were both short and long in duration and page numbers. Some participants were brief and did not provide detailed information to the questions asked while other participants provided detailed information not relevant to the research questions of the study. The demographic profiles of the 5 participants who were excluded were similar to the 25 who were included in this study with an exception. One of the participants excluded for lack of appropriate information was the only man interviewed for the study who had HIV/AIDS. A check for themes apparent in the 5

transcripts excluded indicated that they were not any different than those in the 25 transcripts that were included in the study.

Demographic information on the 25 participants included is highlighted in two tables – one with detailed information on the participants and one with aggregate information on the participants. The barriers encountered and the coping mechanisms used are reported according to the frequency with which participants reported them. This includes the number of participants who mentioned a specific topic, but not the number of times a participant mentioned a specific topic. The use of religion or spirituality as a coping mechanism was reported only for Black men who, without being probed for the topic, volunteered the use of religion or spirituality as a coping mechanism for living with and managing type 2 diabetes. Similar to the barriers and coping mechanisms, the religious or spiritual strategies used were reported according to the number of participants who mentioned a specific strategy during the interview.

As identified by Thomas, several assumptions should be noted in the use of the inductive approach to qualitative data analysis (2006): 1) the codes, categories, and themes identified are determined to be central to the dissertation study based on the researcher's judgment, 2) the findings of the dissertation study that are shared will be influenced by the researcher's background and what he or she deem is important or relevant for the dissertation study 3) the findings from the dissertation study will be guided by the research questions and the information in the transcripts, 4) analysis of the data by different researchers may produce different findings, and 5) the truthfulness of

the findings can be verified by sharing the results with participants or comparing the findings to other published studies. For this study, truthfulness of the findings will be verified by comparing the findings to other published studies.

Conclusion

This chapter of the dissertation study focuses on the methodology used to address the research questions of interest. The use of qualitative research methods to answer the research questions of interest yielded findings that can be used by others in an effort to address the management of type 2 diabetes among Black men. The areas discussed include the research design, target population, sampling, recruitment, data collection, and data analysis.

CHAPTER 4

RESULTS

The purpose of this study was to explore and examine the experiences of living with type 2 diabetes among Black men in Atlanta, Georgia in 2012. The study was guided by research questions focusing on the barriers encountered and the coping mechanisms used when managing type 2 diabetes. Presented in this chapter are the findings from in-depth interviews conducted on 25 Black men with type 2 diabetes who were receiving care from the Grady Diabetes Clinic in Atlanta, Georgia. The chapter starts out with a description of the target setting where participants were recruited and interviewed for the study. This description is followed by an aggregated and a participant-specific demographic profile of the Black men interviewed. The key findings of the study are then presented according to the research questions of the study.

Target setting

The target setting of this study is the Grady Diabetes Clinic, a part of the Grady Health System of Atlanta, Georgia. The Grady Diabetes Clinic was established in the early 1960s to provide services to help individuals with type 2 diabetes manage the disease and its associated complications (Grady Health System, 2012). The services provided to the patients include diabetes self-management education, monitoring of diabetes-related clinical biomarkers, diabetes-related laboratory-testing, and screening for and treatment of diabetes-related complications. Aside from diabetes care, the services provided include laboratory services, translation services, social services, financial

counseling, nonemergency clinic care, and specialty clinic care. To provide services to its patients, the Grady Diabetes Clinic uses a team approach that includes a physician, a podiatrist, a nurse, a dietician, an eye specialist, a pharmacist, a social worker, a certified diabetes educator, and a financial counselor. The services at the Grady Diabetes Clinic are scheduled by appointment; however, walk-in appointments are available. To get services at the Diabetes Clinic, individuals need to be referred by either their primary care provider or a Grady Health System primary care provider. Similar to other health care settings, individuals are expected to use their health insurance card and make copayments based on their respective type of health insurance. The primary patients served by Grady are from 2 of the top 5 most populated counties in Georgia, DeKalb and Fulton (Grady Health System, 2012; Ziemer, et al., 1996).

Description of the participants

Thirty Black men with type 2 diabetes completed the study. The findings presented in this study are on 25 of the 30 Black men. Presented in Table 5 (aggregated) and Table 6 (individual) are the demographic profiles of the 25 Black men. The age range of the participants was 47 to 65 years. The range of time living with type 2 diabetes was from 1 to 22 years with 12 of the 25 participants (48%) having lived with type 2 diabetes for about 5 years or less. Only 5 of the 25 participants (20%) reported that they did not have a family history of type 2 diabetes. Family history as defined in this study includes at least one person in the participant's family – grandparents, parents, or siblings –has or had type 2 diabetes. One participant reported no knowledge of his family history.

Table 5. Aggregated demographic profile of participants (n = 25)

Demographic Variable	n	Valid %
Age Range		
46 – 50	3	12.0
51 – 55	6	24.0
56 – 60	9	36.0
61 – 65	7	28.0
Family History of Diabetes		
Yes	19	76.0
No	5	20.0
Unknown	1	4.0
Duration of Type 2 Diabetes		
Less than 5 years	12	48.0
More than 5 years	13	52.0
Marital Status		
Married	6	24.0
Single	9	36.0
Single (Divorced)	3	12.0
Single (Widowed)	3	12.0
Single (Separated)	3	12.0
Unknown	1	4.0
Uses Insulin to Manage Type 2 Diabetes		
Yes	18	72.0
No	7	28.0
Insurance Type		
Medicaid/Medicare/ Supplemental Security Income	16	64.0
Income based insurance from Grady Diabetes Clinic	3	12.0
No insurance	4	16.0
Unknown	2	8.0
Has Other Health Illness or Injury		
Yes	19	76.0
No	6	24.0

Table 6. Detailed demographic profile of participants (n = 25)

Name	Age (years)	Duration of type 2 diabetes (years)	Marital Status	Other health conditions	Family history of type 2 diabetes	Uses Insulin	Insurance Type
Participant 01	60	> 20	Divorced	Yes	Yes	Yes	Federal
Participant 02	62	4	Single	Yes	Yes	Yes	Unknown
Participant 03	52	12	Married	Yes	Yes	No	Federal
Participant 05	62	1	Single	Yes	Yes	Yes	Federal
Participant 06	56	2	Married	Yes	Yes	Yes	Federal
Participant 08	57	9	Single	Yes	No	Yes	Federal
Participant 10	65	> 20	Widowed	No	No	Yes	Federal
Participant 12	61	7	Married	Yes	No	Yes	Federal
Participant 13	57	14	Single	Yes.	Yes	Yes	Federal
Participant 14	60	3	Single	Yes	Yes	Yes	Federal
Participant 15	59	8	Separated	Yes	Yes	Yes	Federal
Participant 16	62	22	Divorced	Yes	Yes	Yes	None
Participant 17	54	2	Single	No	Yes	Yes	None
Participant 18	57	2.5	Separated	Yes	Yes	No	Federal
Participant 19	59	16	Separated	No	Yes	Yes	None
Participant 21	62	3	Widowed	Yes	No	Yes	Federal
Participant 22	50	13	Single	Yes	Yes	Yes	Federal
Participant 23	52	4	Single	No	Yes	No	Federal
Participant 24	52	4	Divorced	No	Yes	No	None
Participant 25	63	1-2	Widowed	Yes	Yes	Yes	Federal
Participant 26	52	8	Single	Yes	Unknown	Yes	Grady
Participant 27	60	7	Married	No	No	No	Grady
Participant 28	48	3	Unknown	Yes	Yes	Yes	Federal
Participant 29	52	10	Married	Yes	Yes	No	Unknown
Participant 30	47	3	Married	Yes	Yes	No	Grady

Eighteen of the 25 participants (72%) reported using insulin as part of their management of type 2 diabetes. A majority of the participants (19 of 25 [76%]) reported having another health condition in addition to type 2 diabetes. Their illnesses included prostate cancer, high blood pressure, depression, arthritis, asthma, depression, and sleep apnea. Their reported injuries included a broken leg, a broken arm, a broken collarbone, back pain, numbness in the neck, knee replacement, hand injury, and a football injury. Six of the participants (24%) were married, another nine reported having had previous relationships, and 19 (76%) participants had some insurance, either available through Grady or provided by federal insurance.

Research findings

The findings of this study are organized by the research questions of interest to the study and focus on 25 of the 30 participants. Under each research question the findings are broken down further by themes identified within the data. The findings focus on the essence of living with and managing type 2 diabetes in general. Where applicable references are made to specific behaviors required for the management of type 2 diabetes such as eating healthy foods, exercising, seeking follow up care, adhering to medication regimen, and engaging less in risky behaviors.

Research question 1

What barriers do Black men experience when managing type 2 diabetes?

Reported below are the findings of the barriers encountered by participants when living with and managing type 2 diabetes. The barriers are reported according to the number of participants who highlighted the specific barrier during their experience of living with and managing type 2 diabetes. The following barriers were shared by

participants in this study: a lack of motivation, lack of support from family and friends, lack of time, side effects of taking type 2 diabetes medication, having health conditions other than type 2 diabetes, social and environmental stressors, denial, and lack of knowledge on type 2 diabetes. Table 7 below shows the number of participants identifying a specific barrier to managing type 2 diabetes.

Table 7. Number of participants identifying a specific barrier to managing type 2 diabetes (n =25)

Barrier	Number of participants reporting barrier
Lack of motivation	25
Lack of support from family and friends	18
Lack of time	13
Side effects of taking type 2 diabetes medication	12
Having health conditions other than type 2 diabetes	12
Social and environmental stressors	11
Denial	7
Lack of knowledge	7

Lack of motivation:

All the 25 participants (100%) in this study identified lack of motivation as a barrier to living with and managing type 2 diabetes. A lack of motivation was defined as participants showing a lack of interest in engaging in healthy behaviors.

Twenty of the 25 participants (80%) highlighted a lack of will as contributing to their lack of motivation to engage in healthy behavior as part of the management of type 2 diabetes. One participant described his lack of will in this way:

I have been touched a lot by people. Just motivation. But the things that be happening to me is when I start relying, is to want to do it my way. When I start trying to do it my way, that's when everything get messed up. Just like this morning. I didn't want to take it so I didn't. I've been having a headache all day. I can tell just as good when it's low. I can tell just as good when it's high.

(Participant 21)

I want to enjoy myself. I like to, you know, eat whatever I want to eat, drink whatever I want to drink, do whatever I want to do. I believe if I am going to die a diabetic, I am going to die a diabetic. I believe in destiny. If I am going to die tomorrow, I am going to die tomorrow. If it's going to be from diabetic complication, it's going to be from diabetic complication. If it's not going to be, it's not going to be so. It's nice to manage it, for about a year right now, I haven't taken none of the prescription medicine. I haven't done nothing for the past year and I'm still here, you know, so I mean, I am one of those that believe in destiny.

(Participant 19)

Aside from a lack of will, 12 of the 25 participants (48%) also talked about how they had no motivation to change some of their behaviors because the behaviors were habits that they had built over time and were now difficult to change. Following are some of the ways participants described the habits that were hard to break:

I started going back to eating that because I'm an African, we have to eat some rice where I come from, you know, and those are some of my favorite foods, so I have to eat what I'm used too. At first I wanted to see if I can control the eat, how much food I eat. But you know – I mean, I eat less of food but they are more carbohydrate foods. (Participant 19)

I used to [*do*] drug[s]. I don't do anything anymore. All I got a problem now is getting rid of the cigarettes, which is bad for diabetes too. But I'm getting rid of it a little bit at a – I got rid of everything else... almost 40 years of smoking. It's hard to just throw away the cigarettes. But I just got to be strong about it and get rid of it. Because I know it's hurting me with the diabetes, you know. (Participant 24)

Only 6 of the 25 participants (24%) indicated that their lack of motivation to engage in healthy behavior as part of the management of type 2 diabetes was due to their laziness. One of the six participants shared his experience in the comment below:

Just being lazy and not being motivated, you know, to do – just not being motivated. I had to make myself, you know, try to motivate myself, just to try to do right. Just to self motivate myself, just tell myself, “Well, you want to get better, don't you? You don't want to be on that insulin, do you?” I think about those things. That help me, you know, I don't want to stick myself 'cause I feel like if I get on insulin, I'll be on it for life; I don't want that. (Participant 29)

Lack of support from family and friends:

A little over half of the participants (18 of 25 [72%]) in this study identified lack of support from family and friends as a barrier to living with and managing type 2 diabetes. Lack of support from family and friends was defined as participants not being helped in their efforts to engage in healthier behaviors as part of type 2 diabetes management. The lack of support focused on family and friends inviting participants to family or social events where they would be exposed to food considered unhealthy for the management of type 2 diabetes. This was mentioned by almost half of the participants (12 of 25 [48%]) in the study. A few of the comments about these participants' experiences are cited below:

Okay. Thanksgiving. You got your pies. Mom cooks potato pies, sweet potato pies, cakes. You got Christmas coming up. You got your tree so you're going to put candy on your tree, candy canes. So, that's temptation. And then I got a lot of nieces and nephews that's the age of my grandson. And they always want candy. Okay. (Participant 24)

We would either go out or I come over her house to eat, and she would have certain things in the house I be wanting to eat. She'll tell me, "Now, you know you don't need to eat that." But she have that for her husband. (Participant 01)

Aside from exposure to food they are not supposed to be eating, 6 of the 18 participants (33.3%) reported that their friends were being negative to them as they tried to live with and manage their type 2 diabetes. One participant shared the following about how he felt about interacting with his friends when it came to managing his type 2 diabetes:

Well, I don't mention it to a lot of people that I have diabetes because, you know, sometimes people bring you down and they say, "Oh, you got to do that, you got sugar now, and you know, you can't do this and can't do that." Well, it's just like this, now, like when I had the streptococcus, people thought I was never [*going to*] walk again, and I told them I will be walking back. (Participant 27)

Four of the 18 participants (22.2%) talked about no guidance or education on type 2 diabetes from family and friends. Three of the four men had a family history of type 2 diabetes and reflected on how their family never discussed the disease as part of helping the next generation. One of the three participants shared the following comment:

Because back when we was growing up, you didn't talk about family things openly. You didn't "Mom and Daddy, tell me about when ya'll coming up..." It wasn't a subject to just go and discuss. I mean, you did whatever you had to do. They were talking about whatever is necessary. But you didn't just go into a whole lot of knowing a lot of family history and stuff like we're doing now, today.

(Participant 17)

Aside from being negative, family and friends were also reported as being unavailable when needed by participants who had type 2 diabetes. This was emphasized by one of the participants in the comment below:

We don't even see each other no more. We don't - I might talk to him on the phone every now and then. Other than that, as far as visiting and stuff like that, that don't happen no more. They either live too far away or they – some of them still working. They don't have time. Or you know, be out like that. Like we used to hang out. They don't do that no – there's none of that. I ain't did that in so long. (Participant 14)

Lack of time:

A little over half of the participants (13 of 25 [52%]) in this study identified lack of time as a barrier to managing type 2 diabetes. A lack of time was defined as the participants' inability to manage type 2 diabetes because they do not have any time or limited time to focus on managing the condition. Most participants (12 of 13 [92.3%]) talked about how time was a barrier because they had other activities to do such as look for jobs, go for interviews, or other activities of personal interest that conflicted with or pushed their efforts to manage their type 2 diabetes to a time that was not ideal. These experiences were highlighted in the comments below:

Not getting up on time, doing what you're doing. You got to rush, and then you won't take it [*shoot insulin*] at all... Yeah. You won't take the insulin because

you won't have time to eat. And if you don't have time to eat, you know, you can't take the insulin because when you take the insulin, you got to eat about four or five minutes after. Mm-hmm. And you still in a rush all the time and miss, that's just too much. (Participant 12)

I don't have the time. I don't have the time. I go to work like about 9:00 every morning, come home by 6:00 and when I am home, I am tired. And so I have the treadmill at home, last time I got on it, I don't even remember. So, you know, I just don't have the time. When I get home I'm tired. I take a shower and go to sleep and go back [*to work*] the next day. (Participant 19)

Seven of 13 participants (53.8%) talked about the long wait time in the clinic as being a barrier to living with and managing type 2 diabetes. Some of the men commented on how they did not want to go the clinic for follow up care because they would be waiting for a long time and yet they had other things to do. This was shared in detail by one of the participants in the comment below:

Because I have other things I have to do. And I do everything within a timeframe. Because I have to go all the way – like I said, I have to get to the pharmacy before it closes at 5:00, which is on the other side of town which they've got me sitting here an extra two hours. It doesn't make sense. I was due at 3:00. That little stuff. It is what it is. And I try to make the best of it. I think I'll make it in time to get my medicine. I have to get my insulin and I don't get it from here. That's a

priority. I mean, if Nurse X don't get out within the next 20 minutes, I'm gone. Because I have to go get my insulin. I have to. But that's the only thing. They waste my time, sometimes. That's all. That's all. Waste my time. (Participant 22)

Only 1 of 13 participants (7.7%) emphasized how doctors not having time affected their ability to live with and manage their type 2 diabetes. In particular this participant remarked on how lack of time with physicians influenced how he would go about getting information on the disease. A description of his experience is highlighted below:

Well, you know, you get more information in the class. I mean a doctor, you know, they see you for whatever reason you're there and they tell you what they need to tell you...And then they're ready to move on to the next patient. But the class, you're sitting there and the entire class is dealing with your diabetes, so you're there more time, so you're learning more. I mean the doctor is good if they take the time to explain, you know, all that stuff to you, but they don't have that kind of time, you know. (Participant 26)

Side effects of taking type 2 diabetes medication:

Twelve of the 25 participants (48%) reported how the side effect of taking the diabetes medication was a barrier to managing type 2 diabetes. Side effects of taking diabetes-related medication was defined as the participants' experiences of how taking the medication affected their bodies, which ultimately deterred them from managing of their type 2 diabetes.

The two issues identified by participants are the influences on the external and internal part of their bodies. On the external part of the body, participants talked about the pain experienced when shooting insulin or testing their blood sugars. One of the participants described his experience this way:

I really don't like pricking my fingers or any of that. Because it causes pain after so long. Because you only can prick your fingers, there only so many spots on your hand you can prick. Eventually, if you keep doing it enough, your fingers start getting sore. And I don't like that (Participant 22)

The participants also commented on how their bodies changed internally by their gaining weight, having gastrointestinal issues, and being drowsy. One of the participants contributed the following about his frustrating experience with taking medication for type 2 diabetes:

Yeah, because – just because like something like having a bowel movement, I was regular before diabetes. Taking the diabetes medicine gives me diarrhea. But if I don't take it, I'm constipated. (Participant 30)

Having conditions other than type 2 diabetes:

Twelve of the 25 participants (48%) in this study related how having conditions other than type 2 diabetes played a role in their experiences living with and managing their type 2 diabetes. Other conditions included illnesses or injuries that the participant

had before or after they were diagnosed with type 2 diabetes. Additionally these illnesses or injuries were reported to either stress the participant mentally or through depression or physically through limitations on daily activities related to managing type 2 diabetes.

Seven of the 12 participants (58.3%) described how having a health illness played a role in their experience of living with and managing type 2 diabetes. The illnesses discussed included both infectious and chronic conditions. Those with an illness spoke about prescription interference with diabetes-related medications, having feelings of depression, and the illness affecting other body parts, for example, erectile dysfunction and impotence level of the men. One participant contributed the following about his experience dealing with another illness while managing his type 2 diabetes:

Because the pneumonia was what was causing my circulatory system to shut down where I could not walk. So, all of that started messing with my circulatory system. Of course, when you start messing [*with*] that, the diabetes gets compromised as well because they can't treat the diabetes. They have to treat the other issue. Get it under control first. And that's what they focused on (Participant 22)

Similarly 7 of the 12 participants (58.3%) reported how having an injury played a role in their experiences of living with and managing type 2 diabetes. Those with an injury talked about the challenges of engaging in physical activity because of the injuries they had endured. The men talked about their back, feet, and legs hurting, which limited

their mobility not only to exercise but also to do other daily activities. This is described in the two comments below:

And I try to walk and get a little exercise in that way 'cause my back, I take those pain pills for my back. It hurts so bad that I can't do no pushup, sit up, and no dancing and all that kind of stuff (Participant 02)

I got rheumatoid arthritis, too. But it don't – it affects me sometimes. Sometimes it might not hit me for a couple of weeks and then when it do hit me, I mean, I can't ties my shoes. I can't open no containers or nothing like that right there because I can't – well, this hand right here's just about useless anyway.

(Participant 14)

Social and environmental stressors:

A little less than half of the participants (11 of 25 [44%]) in this study identified living conditions as a barrier to managing diabetes. Social and environmental stressors included the places where the participants were residing when they had type 2 diabetes and how being in that specific place affected their management of type 2 diabetes. Any loss affecting their living conditions created a stress: the loss of a job, loss of income, loss of a family member, or loss of their home. Participants in this study reported living in a variety of places: shelters, jails or locations with friends or family.

A number of participants (9 of 11 [82%]) talked about how the places they were living influenced their abilities to eat healthy meals or inject their insulin. In some cases, participants were living with someone who was not supportive of them, and in other

cases, the places where they lived were set up in a way that prevented them from effectively managing their type 2 diabetes. Two participants – one who was living in a shelter and the other in a jailhouse -- described their experiences:

Because when I was in jail ... They're going to give you your breakfast tray right then and there. And you're going to eat before the rest of them eat. But the rest of the day you eat junk food. You eating chips. You're eating candy. You're eating cupcakes. You're eating honeybuns. You're eating peanut butter. (Participant 21)

And same with food, the diet is just – what gets in the way mostly with that is – it's some things I don't have a choice with. I mean I guess I couldn't eat 'em, but like if I'm at the shelter, you know, you eat what they give you ... And that's what I do, and it might be all wrong for my diet but, you know, same time you got to eat, so. I'd say that's the main problem is being able to, I guess, self-support myself right now. (Participant 26)

Eight of the 11 participants (73%) highlighted how social and environmental stressors such as a lack of income were a barrier to living with and managing type 2 diabetes, in particular the purchase of items to help them with managing the disease. The experience of one of the participants is related below.

'Cause just about the majority of the people you know are diabetic whether you know it or not. Especially if you're black. You ain't got the kind of money to do this

and the kind of money to do that and all that different kind of food they say you're supposed to have and all that. We can't afford to buy that. I can't afford that kind of food to buy. I'm on a fixed income. I can pay bills and everything. Sometimes I can afford my medication. Sometimes I can't. I have to make choices everyday about what I'm gonna do. (Participant 14)

Four of the 11 participants (36.3%) reported that, even with insurance, changes within the healthcare system affected what supplies they could afford to buy to manage their type 2 diabetes. One participant offered the comment below about additional costs for buying specific tools to inject insulin:

Well, before they [*the doctors*] used to tell me to check it [*blood sugar*] in the morning and night and twice during the day, but then, since the policy has changed for Grady, they no longer want to give you 100 strips a month if you're

not on insulin. So I can – they'll still give me one bottle, which is 50, and if I want the second bottle I have to pay full price for it. So it's become more of a financial burden that way. (Participant 30)

Aside from loss of a job, income, or place to stay, only 1 of the 11 participants (9%) related how the loss of a family member affected him and was linked to his type 2 diabetes through induced stress:

Death of a loved one. To me. Some form of bad news about a family member.

Things that I can't change. Stress has a great deal to do with diabetes. It plays a tremendous role in it. But I try not to get my stress level up that high. But that's what drives me when mine is high. It's either something that's very stressful or it's something I've found out or have to deal with the loss of a loved one or mother.

(Participant 22)

Denial:

Seven of the 25 participants (28%) reported how their denial of the condition was a barrier to living with and managing type 2 diabetes. Denial was defined as participants' accounts of not acknowledging or accepting that they have type 2 diabetes. The participants expressed denial during the early stages of living with type 2 diabetes. In the comments below, two participants described their experiences about how denial affected their management of type 2 diabetes in the early stages:

And then they found out, the doctor found out I was a diabetic. It was frightening, very frightening, because I could not accept the fact that I would be, after he told me, shooting insulin for the rest of my life. And it was frightening because I could not take, I couldn't adapt the idea of taking the syringe and punching it in my stomach or wherever I used to put insulin in my body. (Participant 01)

I guess I was kind of in denial that I really was a diabetic 'cause I was thinking, "Well I'm not on insulin; I'm just on pills, you know. It can't be all that bad, you

know.” And then I noticed that I started having higher numbers than usual, and when I come here to the clinic, they’re telling me I need to lose weight and my A1c level was a little higher, you know. So, you know, now I am trying to do the right thing, you know. I don’t ever want to be on insulin. (Participant 29)

Lack of knowledge on type 2 diabetes:

Only 7 of the 25 participants (28%) reported how a lack of knowledge on type 2 diabetes was a barrier to living with and managing the condition. A lack of knowledge on type 2 diabetes was defined as the participant’s not having information on how to manage the disease, for example, on how to use the supplies for injecting insulin. Participant 22 described the following about his experience trying to inject insulin: “ I mean, it was overwhelming because these are machines that I’ve never had to use.” Another participant related the following about trying to diet with limited knowledge:

By me being a man, I really don’t, know nothing about no dieting you know. So I go into the grocery store and grab what I – I can’t hardly see to read the little bitty labels on the canned stuff, so I just grab something that I like, you know, and I try not to eat too much of it. (Participant 02)

Research question 2

What coping mechanisms do Black men use to manage type 2 diabetes and what do they report about their experiences with these mechanisms?

Reported below are the findings on the coping mechanisms used by participants when living with and managing type 2 diabetes. The coping mechanisms are reported according to the number of participants who highlighted the specific coping mechanism during their experiences of living with and managing type 2 diabetes. The following coping mechanisms were identified by participants in this study: acceptance, taking action to change behavior, support from healthcare professionals, support from family, seeking healthcare information, support from friends, religion or spirituality (reported under research question 3), and not focusing on the disease. Table 8 below shows the number of participants that selected the different types of coping mechanism to live with and manage type 2 diabetes.

Table 8. Number of participants identifying a specific coping mechanism to deal with managing type 2 diabetes (n =25)

Coping mechanism	Number of participants reporting coping mechanism
Acceptance	25
Taking action to change behavior	25
Support from healthcare professionals	23
Support from family	21
Seeking healthcare information	20
Support from friends	17
Religion and spirituality	12
Not focusing on the disease	5

Acceptance:

All 25 participants (100%) in this study highlighted how acceptance of the disease was helpful in coping with type 2 diabetes. However, acceptance occurred at different times for participants. Acceptance was defined as the participants' reflection on the notion that they have type 2 diabetes. More than half of the participants (17 of 25 [68%]) accepted the idea that they had type 2 diabetes and started to manage their diabetes on diagnosis. Eleven of 25 participants (44%) emphasized how having type 2 diabetes was part of life and that they could not change it, which made it easier for them to accept it and cope with it. Only 2 of the 11 participants (18.2%) indicated that knowing it was part of their family history helped them come to terms with it easily. One participant related the following about how he reacted when he found out he had type 2 diabetes:

I mean, I've learned to accept that I got the diabetes, you know. Like I said, most of my family got it. It's something that we accepted... You can manage it and you come off the medicine, but it's really not going to go away. (Participant 24)

Aside from accepting that living with and managing type 2 diabetes is part of life, other participants (10 of 25 [40%]) explained how they accepted it because they did not want to develop the complications associated with type 2 diabetes. One of the participants described his fears of developing complications in the comment below:

And something I said to myself, I said, "[Participant 19], what if you don't die and you go blind. Do you want to go blind?" I said, "No, I don't want to go

blind.” That is the reason I came here to get the prescription. It’s not because of, you know, I’m having, you understanding what I am saying? I am having a complication with my eyes, so I figure, well, I’d rather, the truth, I’d rather die than go blind. You understand, or die. All my body is okay. I don’t have pains, no sore, nothing. I’m perfect but I’m having the eye problem, and I don’t want to go doing like that because I didn’t take my medication. (Participant 19)

Seven of the 25 participants (28%) talked about accepting the disease because they wanted to live. They spoke about the importance of managing the disease if a person desires to live. Two of the seven participants recounted their experiences in the comments below:

I put in my mind saying, well hey, if I want to continue to live and be healthy about it, this is what I got to do. I just basically put one foot in front of the other and went for it. (Participant 23)

You know, basically since I started my regimen for diabetes, right? Taking meds and eating habits, it seems like it’s a part of me now. It became a part of my daily routine and I know this is what I must do in order to live, you know what I am saying? And that’s what I want to do today, I want to live. (Participant 18)

Only 4 of the 25 participants (16%) talked about accepting the disease because they did not want the disease to control them. These participants emphasized the importance of

taking control of the management aspects of type 2 diabetes so that they could get control of it rather than have the disease controlling them. One participant related the following about taking control of his type 2 diabetes after he had been diagnosed:

After a few months I started to say wait a minute, this ain't me. I am not a dependent on nothing. I don't let no one or nothin' control [Participant 27], because only [Participant 27] controls me, I only control myself. (Participant 27)

Only 3 of 25 participants (12%) explicitly highlighted how having a positive attitude was helpful for managing type 2 diabetes. These participants talked about how important it was to focus on the positives and less on the negatives of having type 2 diabetes.

Taking action to change behavior:

Similar to acceptance as a coping mechanism, all 25 participants (100%) in this study indicated how they had taken action as part of a coping mechanism. Taking action to change behavior was defined as participants' making small or large steps to engaging in healthier behaviors that would make it easier and less stressful to live with and manage type 2 diabetes. The behavior changes occurred either on diagnosis or after having spent some time living with type 2 diabetes. The behavior change that all 25 participants (100%) in this study reported was revising their eating habits to include baking food instead of frying it, eating more fruits and vegetables, cutting down on portion size, and eating more healthy foods.

One participant described his experience in the comment below:

I have cut down some of the things and sweeteners I used to eat. If you could have seen me six months ago and how much sweeteners I was eating and the things that I was putting sugar into, it was just like I had a sugar factory. (Participant 21)

The next most frequently mentioned action was behavior change in physical activity where 16 of the 25 participants (64%) talked about starting to exercise, being more consistent with their exercise routine, or increasing the amount of exercise they do. Throughout the interviews participants referred to walking as the type of physical activity that they did as part of their management of type 2 diabetes. This was recounted by Participant 6 who said, “I get up and walk about a mile or two about two days a week.” Participant 05 described his changes as, “I go for a walk early in the morning, see. Like this morning, I walked all the way up there to the bus stop and then walked all the way across that same thing, walking on a regular basis.”

Only 7 of the 25 participants (28%) talked about engaging less in smoking and drinking. The following comment was offered by one of the participants:

I stopped drinking. Don't drink anymore. Stopped eating a lot of fried – all the food, just about, that I ate was fried food 'cause most of the foods you get at your fast restaurant, they all fried -- and stopped eating out. Don't eat out like I used to.

Don't drink like I used to. Don't – just don't do the bad things since I been told that I have diabetes that I did before I was told that. (Participant 25)

Eight of the 25 participants (32%) not only took action to change their behavior, but also set goals to help them stay on track with their action. The goals were set on a specific diabetes-related behavior or on managing the disease generally to achieve a life goal as reported in the comments below:

I walk every day, 30 minutes a day, rain or shine. If it's raining I'll wait 'til it stops. I got to get my 30 minutes in; if I can get my 30 minutes in, I feel like I've accomplished something and I feel better about myself when I do that, you know. And I'm trying to eat right. (Participant 29)

And knowing what could happen if you don't manage it, you know, you look at what you got, your family; that makes you look ahead – I need to take care of myself. Not only for your[*self*] but for your family, you know. Because me, you know, I'm still a young man. I want to get married again. Hopefully I'll find somebody that I will get married to. I need to be under control of my diabetes so I can see my grandkids grow up, you know. (Participant 24)

Support from healthcare professionals:

A majority of participants in this study (23 of 25 [92%]) described how health professionals had helped and were continuing to help them to live with and manage their

type 2 diabetes. The healthcare professionals discussed included dietician, health educators, doctors, podiatrists, case managers, neurologists, and nurses. The support from healthcare professionals included listening to participants, encouraging participants, providing care to their participants, and helping participants monitor and track their diabetes management. The healthcare professionals discussed were mainly from the Grady Diabetes Clinic. One participant reported in detail his experience with healthcare professionals at the clinic:

They are helping me by giving me prescription[s], writing me a prescription, giving me, what you call it, some kind of lectures and I say, “Man”. Like that lady, the nurse today told me “Mr. [Participant 19] your sugar is so high. I don’t want you to come in here having your kidney’s shut down.” You know. That’s getting me be aware that this can happen or that can happen. I mean, they talk to you depending on if you are doing okay, ... they say “Oh man your sugar is down Mr. [Participant 19], that’s very good. The doctor there just told me that my blood pressure is down, that is very good, you know, I mean, they encourage you, talk to you and encourage you. (Participant 19)

In some instances the healthcare professionals discussed were outside of the Grady network and included a primary care doctor, a counselor, a mental health doctor. Only 2 of 23 participants (8.7%) recounted their experiences of getting support from healthcare

professionals outside of the Grady network. Their experiences are highlighted in the comments below:

I have a counselor with my health care provider, my mental healthcare provider, they also, they helps me, I want to know about my other issues, and they want to know if I'm seeing about my medical issues because of the medications that I'm taking with them also. You know what I am saying, so they want to know about my other medical issues so that they – they are concerned about my diabetes and how I am taking care of it. This and that. How I'm taking care of my other health issues. (Participant 18)

See, I got to go to the grocery store today, some time today and – see my case manager is supposed to be taking me, but he said it probably [*would be*] tomorrow because he's going to, you know, pick out what I'm supposed to have and what I'm not supposed to have. (Participant 28)

Support from family:

A majority of the participants in this study (21 of 25 [84%]) reported how family had helped and were continuing to help them live with and manage their type 2 diabetes. The family members who helped included grandparents, parents, siblings, wives, in-laws, uncles, daughters, sons, nieces, nephews, and grandchildren. The support from family included encouraging participants, sharing their experiences with the disease, and helping

participants monitor and track their diabetes management, in particular the dietary regimen and self-monitoring of blood glucose. One participant described in the excerpt below how his family was helping him with managing the disease:

Well, they was telling me I had to be patient, take time, eat right and leave mostly sweets alone. That I had to really change my diet, my habits of eating, and I had to eat three square meals a day, you know, and exercise, and make sure I take my medicine. So, I been doing that. I been basically getting a good report when I come to see the doctor. (Participant 23)

Of the 21 participants who spoke of support from family, all but one talked about how female family members, in particular mothers, supported them in living with and managing type 2 diabetes. All 20 participants who discussed their mothers had mothers, living or deceased, who had type 2 diabetes. Two participants described how seeing their mothers live with the disease helped them manage their type 2 diabetes:

My mother because she's not here. And how the cancer took over with her, where it wasn't a diabetes issue – it became a cancer issue then. So, I know that at any point I can lose my life with diabetes. If I happens to not start doing it right, I can start getting cut on, losing limbs and all these things, which that's something I'm trying to prevent from ever happening. So, I have to manage it because I don't want to start getting cut on. I don't want to start losing things. It's my mother. Everything I learned from her. (Participant 22)

My mother has had it. My mother had taught me very much about it. Therefore, you know, I'm aware of the disease so I know about it. I know what it's like when I got it and how it affects me because of the way that it affected her. And also the way it affects a few of my sisters, you know. Other than that, you know, I would say I was more or less educated before it happened to me. (Participant 23)

Aside from their mothers, participants also spoke about other women in their lives such as their wives. Half of the married men (3 out of 6 [50%]) spoke about how their wives helped them live with and manage their type 2 diabetes. There were no commonalities in the support provided by the wives. The support provided focused on getting the men to take their medication, cooking healthy food for the men, getting exercise equipment for the men, and reminding the men to measure their blood sugar.

Less than half of the participants (9 out of 21 [42.8%]) talked about how male family members, in particular their brothers, supported them in managing type 2 diabetes. The experiences were having their brothers either with type 2 diabetes or without type 2 diabetes. One participant reported how observing his brother with the condition helped him manage type 2 diabetes:

I mean – I watched my brother, I seen like, you know, how he had to deal with his and he was, “But I don't want to be sticking myself and pricking myself,” so, you know, I said let me just do it and get this under control. So every morning I get up and I do – I do my exercises at night and I walk during the daytime and then I take my medicine in the morning when I get up. (Participant 05)

Aside from adults helping participants with the management of type 2 diabetes, young children such as nieces, nephews, and grandchildren were able to help participants with managing the disease. This was reported by only 3 of the 21 participants (14.2%). There were no commonalities in the support provided by the children. The support provided was to help participants with cooking food, to monitor participants' eating and smoking habits, and to call for help when participants were not feeling too well. One participant recounted the following about his niece and granddaughter helping him:

One's 7 and one's 9, and they won't let me eat it. If they see something that I'm not supposed to eat, they'll eat it. Or they'll tell me to cook for them, you know, I want to do stuff with them, so yeah, I do stuff to make them happy. But, you know, they see something, they know I'm going to abuse or whatever else, or I just drink too much, whatever else, if I turn my back they'll drink it. If I need a cigarette, they'll break my cigarettes, or whatever else. So the two of them look out for me, and basically they're like – they want to eat how I eat. (Participant 30)

Seeking healthcare information:

A majority of participants in this study (20 of 25 [80%]) reported how seeking healthcare information was useful as a coping mechanism for living with and managing type 2 diabetes. Seeking healthcare information was defined as participants' looking for diabetes-related information to help them with managing the disease and included obtaining information from health professionals, the Internet, print material, watching television, friends, family, and diabetes education classes.

All 25 participants in this study had access to the diabetes self-management education programs offered by the Grady Diabetes Clinic, and the majority of participants (17 of 25 [68%]) reported participating in them. Participation in the programs occurred either on diagnosis with the disease or after living with type 2 diabetes for some time. The programs focused on a number of diabetes-related topics helpful for the participants as described in the comment below:

Yeah, the classes, they really educational. I advise anybody to go to your class. Go to your class and go to your diabetic visit. Go to your doctor to see about your diabetes on a regular basis and you check on it. You learn yourself. You learn what your diabetes is doing to yourself. You learn what you can and can't do with food, what type of food. You learn to eat what you know you can get by with without raising your sugar level. You have to learn yourself. Physician, heal thyself. (Participant 15)

Aside from the diabetes self-management education programs offered at the Grady Diabetes Clinic, participants also sought out additional information from other sources to complement their knowledge about living with and managing type 2 diabetes. The information was obtained from the Internet, print resources obtained from the clinic

or other healthcare settings, watching television, friends and family. Two participants offered the comments about their experience below:

You can go online and get information about diabetes. You – like Medicaid, they send you pamphlets, and once they find out you getting Medicaid or Medicare, you get pamphlets from certain pharmaceutical companies trying to give you information about diabetes equipment and, you know, recipe books, how to cook, this and that, you know what I am saying? Online you know, and they– they have a lot of uhh – what is it? Sometimes you can be right here in Grady, they have those set ups where people be speaking about this, speaking about different health issues and seminars or whatever. (Participant 18)

I read everything I could upon this, you know, ‘cause this affects me, so I have to find out what’s going on, what’s ticking, because when I talk to the doctor, I don’t want him to tell me something that I don’t know because I’m trying to find out what’s going on with me. (Participant 27)

Support from friends:

A little over half of the participants in this study (17 of 25 [68%]) related how friends had helped and were continuing to help them live with and manage their type 2 diabetes. The friends discussed included male friends, female friends, girl friends, co-workers, and acquaintances. The support from friends included encouraging participants, sharing their experiences with the disease, and helping participants monitor and track

their diabetes management, in particular the dietary routines and self-monitoring of blood glucose. An example of how friends help participants is highlighted below:

The only thing I know of is like when we be out, you know what I am saying, picking up donations or something and we have to get something to eat. They look at me right and now, what they start doing, they start thinking of healthier ways of eating so they start suggesting Subway, like I said, so that's how they help me out. So they can eat Subway also, so they take me there. They help me with my diabetes. That's the way I see it, they help me. (Participant 18)

When talking about friends who help them with living with and managing type 2 diabetes, participants for the most part referred to friends as “they”. In a few instances participants (6 of 17 [35.2%]) specified if they were being helped by female or male friends. Support from the female friends focused on monitoring participant's eating habits while support from the male friends focused on participant's learning from their male friends' experiences of living with diabetes.

Only 3 of 17 participants (17.6%) spoke about having a girlfriend who was supportive of their living with and managing type 2 diabetes. One participant reported the following about how his girlfriend was helping him with managing type 2 diabetes:

I had a girlfriend that was a nurse and she told me, she said, “You've got to take charge of your own health and don't listen to everything a doctor tells you. Some

things you've got to – if something they're doing ain't working, you tell them it ain't working or go to another doctor.” (Participant 16)

Aside from having their friends telling them what to do and what not to do, some participants (7 of 17 [41.2%]) talked about how seeing the struggles of their friends with type 2 diabetes was helpful in motivating them to better take care of their own type 2 diabetes. In particular participants spoke of not wanting their type 2 diabetes to progress to the level that they saw in their friends. One participant described his detailed experience in the comment below:

I don't want to lose my leg. I don't want to lose my arms. Like I said, it's a scary thing because you're looking at all the situations that can be handed [*to you*]. And if you just play it down simple, you in trouble. I got a friend, which I ain't seen now since 2001, he was a diabetic. He used to come over to the house all the time. One night he was over there and he fell out the wheelchair. And he went to the doctor the next two days. They cut his whole leg off. Amputated his whole leg. Then he got a sore on the other one. They had to cut that one off. I'm watching him. And I'm looking at that situation because the night that he fell, I thought he was drunk. (Participant 21)

Not focusing on the disease:

Five of 25 participants (20%) described how distracting themselves from the notion that they have type 2 diabetes helped them cope with the disease. Distractions

included listening to music, playing cards, reading, watching television, and smoking—ways for them to think less about the disease and the stresses that come with the disease.

One participant reported the following about his experience:

It [*reading*] helps me relax. It's no longer the need to just put something in your face. It's like a smoker, a smoker will constantly smoke. I had got to the point where I was substituting cigarettes for food. So I was constantly eating and I was eating the wrong things. Reading makes me more relaxed where I no longer need to smoke as much or eat as much. (Participant 30)

Research question 3

For Black men who say they engage in spirituality or religion as a coping mechanism to manage type 2 diabetes, what are the approaches used?

Religion or spirituality was one of the ways that participants coped with living with and managing type 2 diabetes. In this study religion and spirituality is defined as participants' beliefs in a higher power and how that affected their management of type 2 diabetes. This also includes how individuals who were religious or spiritual helped the participants cope with type 2 diabetes. Twelve of the 25 participants (48%) talked about how religion and spirituality was useful when coping with type 2 diabetes. Only 3 of the 12 participants affirmed a religion other than Baptist. The other religions named were the Roman Catholic church, the Jesus Christ church, and the worship of Yahweh El Eohim and Yashua the Messiah. Table 9 below shows the number of participants that selected the different types of religious strategies used to cope with managing type 2 diabetes.

Table 9. Number of participants identifying a specific religious strategy to deal with managing type 2 diabetes (n =12)

Religious strategy	Number of participants reporting religious strategy
Praying and believing in God	7
God keeps me alive	6
God helped me change my behaviors	5
God supplies my needs	4
Reading the Bible	4
God handles what I am not able to handle	3
Religious people help me	2

Seven of the 12 participants (58.3%) described how praying and believing in God were instrumental to how they coped with type 2 diabetes. The participants made prayer requests to address the different aspects of managing type 2 diabetes and then followed that up with faith or belief that God or a higher being would grant their requests. One participant reported the following from his experience with praying to God to help him:

I pray to Him to heal me, but I know that in order to heal me, heaven helps those who help themselves. In order for Him to heal me, I have to try to heal myself and that's what I want. You understand what I am saying? So that's the way – I am not going to go blind, acting blind and say, oh I am going to pray to God, because I pray to Him, He's going to heal me. He's going to send somebody. He's going to send me somewhere to get treatment. That is the way God works, to the best of my knowledge. (Participant 19)

In addition to praying and believing, participants (6 of 12 [50%]) talked about how God helped keep them alive. When speaking about God keeping them alive, participants remarked on the challenging times that God had brought them through and the fact that God wakes them up every morning. One participant recounted the following about his experience:

That's who helps me. He helps me by waking me up. Then He helps me by struggling with my pain, helping me through it, helping me think about what I need to do and what I need not to do. He really is the man on with me. He really is the man on with me. But let's say if God wasn't there, and He wasn't there where I wouldn't believe in Him to help me, then I don't know what is. (Participant 13)

A few participants (4 of 12 [33.3%]) emphasized how reading the Bible helped them live with and manage type 2 diabetes. In particular participants spoke of meditating on the content of the Bible to help them cope. One participant recounted the following about his thoughts on how the Bible helps him cope:

I know so much about the Bible that I can just think of verses in my head. And I take those verses and put them in effect. The method that I use, it works. Because it has kept me out of trouble...Just relying on Him. Sitting back, holding conversations, realizing who He is, what He has done. The path that was taken by the Old Testament. The path that was taken by the New Testament of Jesus. (Participant 21)

Aside from praying, being thankful that God keeps them alive, and reading the Bible, participants (4 of 12 [33.3%]) also reported that God supplies their needs as they relate to their management of type 2 diabetes. The supplies discussed included medication, access to doctors, access to treatments and so forth. One of the participants described how God helps him:

I have God in my life. You know what I am saying and I found him and you know, my worries are over because I turn everything over to him and he supply all my needs and I'm in a better place today. (Participant 18)

Participants (5 of 12 [41.7%]), also talked about how God helped them quit drinking, smoking, and engaging in other unhealthy behaviors that they reported as hard to change. One participant reported the following about how God helped him after he found out he had type 2 diabetes:

Had it not been from the Lord Almighty, you wouldn't never been able to do this interview with me, but the Lord have played a great role in my life since I had diabetes. Since I had diabetes, I don't drink no more. I used to drink. I didn't drink beer, but I did drink liquor and now I don't drink anymore. A lot of things I don't eat that I used to eat. I don't eat at no McDonald's no more. Don't eat at no Burger King. I don't eat at none of the fast-food restaurants, let's just say that. (Participant 25)

Only 3 of the 12 participants (25%) spoke about how God handles what they are unable to handle. The participants highlighted how they turn over their problems to God rather than worry or become stressed about the problems. One participant highlighted his experience in the following comment:

Yeah, because I don't let nothing worry me like that. That's why I'm 62 and still going. I don't let too much stress me out. If it's a problem that I see that I can't solve, then I let God solve it, and I take it out of my hands and put it in His hand, then I keep going (Participant 05)

Two of the 12 participants (16.7%) spoke about how individuals who were religious or spiritual helped them with managing their type 2 diabetes. The individuals who were identified helped with ensuring that the participants followed up on their care at the clinic and encouraged participants to stay on their medication. One of the participants offered the comment below about how individuals who were religious or spiritual helped him:

They encourage you to take your medicine. I went to one church. And they were saying that it was very important to take your medicine. Even though you have faith, but you still have to be considerate of your medicine. Until one day there might be a cure for it. Just believing that it's going to work. As long as you're breathing, you've got a chance. (Participant 03)

Summary of the research findings

This chapter presented the findings of this study according to the research questions of interest and focused on 25 participants. The findings primarily provide insight into the barriers encountered and the coping mechanisms used by Black men with type 2 diabetes. A secondary purpose of the findings was to provide insight into how religion or spirituality acts a coping mechanism for the Black men. The findings were reported according to the number of participants who highlighted the specific barrier or coping mechanism during their experiences of living with and managing type 2 diabetes.

Summary of research question 1:

The barriers reported by participants in this study include a lack of motivation, lack of support from family and friends, lack of time, side effects of taking type 2 diabetes medication, having conditions other than type 2 diabetes, social and environmental stressors, and lack of knowledge on type 2 diabetes.

All the participants in this study identified lack of motivation for adapting to their condition as a barrier to living with and managing type 2 diabetes. A majority of those same participants highlighted a lack of will as contributing to their lack of motivation while about half talked about habits that they had built over time that were now difficult to change. A few said that their lack of motivation was due to their laziness.

Over half of the participants identified lack of support from family and friends as a barrier to living with and managing type 2 diabetes. Participants reported that family and friends exposed them to unhealthy food when at social events. A few reported that their friends were negative toward them, provided no guidance or education on type 2 diabetes, or were unavailable when needed.

Over half of the participants identified lack of time as a barrier to managing type 2 diabetes. Some participants talked about having conflicting appointments, some of which were important and others not. A few talked about the long wait time in the clinics while only one mentioned how not having enough time with doctors affected his ability to live with and manage his type 2 diabetes.

Almost half of the participants reported how the side effects of taking the diabetes medication were a barrier to managing type 2 diabetes. On the external part of the body, participants talked about the pain experienced when injecting insulin or testing their blood sugars while on the internal part of the body participants talked about how taking the medication made them gain weight, have gastrointestinal issues, and feel drowsy.

Almost half of the participants reported how having conditions other than type 2 diabetes played a role in their experiences living with and managing their type 2 diabetes. Over half described how having a health illness (infectious or chronic) was a challenge when the illness interfered with the management of type 2 diabetes. Similarly over half recounted how having an injury was a challenge for those trying to engage in physical activity or other daily activities required for the management of type 2 diabetes.

A little less than half of the participants identified social and environmental stressors as a barrier to managing diabetes. A majority of them talked about how the place they were living in, such as a shelter or a jail, affected their ability to eat healthy food or inject their insulin. Aside from places of residence being a barrier, some mentioned a lack of income while others highlighted described inadequate insurance coverage to purchase needed items for managing type 2 diabetes. Only one reported how

the loss of a family member influenced him and was linked to his type 2 diabetes through induced stress

A few participants reported how a lack of knowledge on type 2 diabetes was a barrier to living with and managing type 2 diabetes. The participants highlighted how it prevented them from starting the process of managing their type 2 diabetes as they figured out how to use the instruments for injecting insulin and to effectively read food labels.

Summary of research question 2:

The coping mechanisms used by participants in this study include acceptance, taking action to change behavior, support from healthcare professionals, support from family, seeking healthcare information, support from friends, being positive, religion or spirituality, not focusing on the disease, and carrying supplies with them.

All participants in this study highlighted how acceptance of the disease was helpful in coping with type 2 diabetes. Almost half emphasized their belief that type 2 diabetes was a part of life that they could not change, which made it easier for them to accept it and cope with it. Some reported how their desire to live and not develop type 2 diabetes complications made acceptance easier. Additionally participants talked about taking charge so as not to let type 2 diabetes control them. A few participants also remarked on the importance of having a positive attitude as helpful for managing type 2 diabetes.

All participants identified how they had taken action as part of a coping mechanism. The behavior change that all participants in this study highlighted was making changes to eating habits, which was followed by behavior change in physical

activity. Participants also talked about engaging less in risky behaviors such as smoking and drinking, and a few set goals to help them stay on track with their actions.

Almost all participants described how health professionals had helped and were continuing to help them to live with and manage their type 2 diabetes. The healthcare professionals discussed were mainly from the Grady Diabetes Clinic although there were some from other healthcare networks. The healthcare professionals mainly helped participants with monitoring and treatment of their type 2 diabetes.

Almost all participants recounted how family members had helped and were continuing to help them live with and manage their type 2 diabetes. Many spoke about their mothers, living or deceased, who also had type 2 diabetes and how mothers' experiences were helpful for them now, and a few spoke about their wives. Participants also talked about how their brothers advised them or served as examples of what it is like to have type 2 diabetes. Young children in the family were also reported as helping participants with different aspects of managing type 2 diabetes.

A majority of participants described how seeking healthcare information was useful as a coping mechanism for living with and managing type 2 diabetes. The majority reported participating in the diabetes self-management education classes offered by the Grady Diabetes Clinic. A few of participants also sought out additional information from other sources such as the internet and print resources to complement their knowledge about living with and managing type 2 diabetes.

A little over half of the participants noted how friends had helped and were continuing to help them live with and manage their type 2 diabetes. Support from female friends focused on monitoring participant's eating habits while support from male friends

centered on participants' learning from their male friends about experiences of living with diabetes. A few of the female friends referenced were girlfriends of the participants.

A few participants highlighted how distracting themselves by reading or playing cards helped them cope with type 2 diabetes while a few others described how having their supplies for managing type 2 diabetes such as insulin and healthy food with them all the time was useful when coping with the disease.

Summary of research question 3:

Religion or spirituality was one of the ways that participants dealt with living with and managing type 2 diabetes. Half of the participants in this study talked about how religion or spirituality was useful when coping with the type 2 diabetes. Almost half of this group of the participants described how praying and believing in God were instrumental to how they coped with type 2 diabetes. In addition God helping to keep them alive and reading the Bible were reported by a few as helpful when coping. Participants also reported their beliefs about how God supplies their needs and handles what they are unable to handle. A few talked about how God helped them quit drinking, smoking, and engaging in other unhealthy behaviors while a few others talked about how individuals who were religious or spiritual helped them with managing their type 2 diabetes.

Conclusion

The purpose of this chapter was to report on the findings obtained from in-depth interviews with 25 Black men with type 2 diabetes. The men in this study highlighted a number of barriers encountered and coping mechanisms used to live with manage type 2

diabetes. The next chapter of this dissertation will focus on the discussion and the implications of the findings from this study.

CHAPTER 5

DISCUSSION

The aim of this dissertation study was to explore and understand the experiences of living with and managing type 2 diabetes among Black men in Atlanta, Georgia. The dissertation study used in-depth interviews to collect data on Black men served by the Grady Diabetes Clinic in Atlanta, Georgia. Understanding the experiences of Black men with type 2 diabetes is essential for healthcare providers and researchers who develop interventions to support Black men and their families. This chapter is a discussion of the findings reported in chapter 4.

Discussion of research findings

What barriers do Black men experience when managing type 2 diabetes?

The men in this dissertation study experienced the following barriers while living with and managing type 2 diabetes: lack of motivation, lack of support from family and friends, lack of time, side effects of taking type 2 diabetes medication, having health conditions other than type 2 diabetes, social and environmental stressors, denial, and lack of knowledge. These findings are consistent with the literature on barriers to the management of type 2 diabetes (Dutton, et al., 2005; Dye, et al., 2003; Horowitz, et al., 2004; Horowitz, et al., 2003; Huang, et al., 2009). The findings are also consistent with literature on the barriers experienced by individuals with type 2 diabetes who are insulin users (Brod, Kongso, Lessard, & Christensen, 2009; Marshall, 2007).

The effective management of type 2 diabetes requires individuals to be motivated to adopt and maintain healthy behaviors. The men in this dissertation study struggled with being motivated to adopt and maintain healthy behaviors, a finding consistent with the literature on the barriers to managing type 2 diabetes (Dutton, et al., 2005; Kieffer et al., 2004; Miller, Marolen, & Beech, 2010). According to self-determination theory individuals are motivated if they have some level of autonomy, competence, and self-relatedness (Ryan & Deci, 2000; Williams et al., 2009). Mulvaney however argues that individuals with type 2 diabetes also need rewards to help them stay motivated to manage their type 2 diabetes (2009). Eating healthy diets or engaging in increased physical activity however does not provide immediate rewards on action for most individuals, which can result in a lack of motivation. This could be a possible explanation for why the men in this dissertation study were not motivated. Aside from a lack immediate rewards, behaviors such as eating an unhealthy diet, smoking, and not engaging in physical activity are difficult patterns to change (Ary, Toobert, Wilson, & Glasgow, 1986; Clark, 1997; Glasgow, Hampson, Strycker, & Ruggiero, 1997). With the exception of not engaging in physical activity, these unhealthy behaviors were habits that the men in this dissertation study had acquired over time, and they lacked a motivation to unlearn these and learn new behaviors. An alternative explanation to the lack of motivation for changing behavior is that engaging in the healthy behaviors would yield unintended negative consequences for the men who would be compromising their masculinity and be perceived as a less masculine by other men (Addis & Mahalik, 2003; Courtenay, 2000).

Given that the management of type 2 diabetes occurs where individuals live, work, and play (Jack, Liburd, Vinicor, Brody, & Murry, 1999), those with type 2 diabetes

will look for support from within these settings. Although support may be available in these contexts, some men in this dissertation study reported a lack of support from family and friends. This finding is similar to reports in the literature that highlight how support from family and friends can be both positive and negative (Carter-Edwards, et al., 2004; Mayberry & Osborn, 2012). The lack of support was experienced when the men tried to eat healthy foods with family at social events such as family reunions, Thanksgiving, Christmas, and Memorial Day weekend. This finding can be explained by the culture and traditions of African Americans, which include large portion sizes, calorie dense foods (Anderson-Loftin et al., 2005; Liburd & Vinicor, 2003), and fried foods (Burley & Mack, 2010) that can be unhealthy for individuals trying to manage their type 2 diabetes.

Most of the men in the dissertation study were not married. Studies on social support have found that marriage is helpful for improving health outcomes of individuals (Connell, Davis, Gallant, & Sharpe, 1994; Savoca & Miller, 2001; Trief, Himes, Orendorff, & Weinstock, 2001). Some of the married men in the dissertation study reported that their wives were not supportive, especially for eating a healthy diet. This could be explained by the eating traditions and culture of Blacks as highlighted in the previous paragraph (Anderson, Funnell, & Hernandez, 2005; Burley & Mack, 2010; Liburd & Vinicor, 2003). Furthermore, if men's wives are the household cooks, it is likely that providing two sets of meals is burdensome for the significant other. In a review on caregiver support and health, the authors report that caregivers can feel burdened and at times believe that they lack the knowledge to provide support to sick individuals; however in some cases they may look at the experience as beneficial (Reinhard, Given, Petlick, & Bemis, 2008). Reformulating care giving experiences so

that they are beneficial for the caregiver may be an effective approach. Previous literature on the topic showed that, among caregivers, Blacks are less likely to feel that caring for a sick individual is a burden (Dilworth-Anderson, Williams, & Gibson, 2002; Lawton, Rajagopal, Brody, & Kleban, 1992).

Making time to engage in activities such as seeking follow up care, administering insulin shots, and eating healthily is part of effective management of type 2 diabetes (American Association of Diabetes Educators, 2011). Among the men in this dissertation study, a lack of time was identified as a barrier. Studies on time and the management of type 2 diabetes show that, in any given day, individuals are unable implement all the required tasks for the effective management of type 2 diabetes (Safford, Russell, Suh, Roman, & Pogach, 2005). Furthermore, individuals with type 2 diabetes who are newly diagnosed or have comorbid conditions require more than the 2 additional hours that the average individual with type 2 diabetes needs (Russell, Suh, & Safford, 2005). Although most of the men in this dissertation study were not employed, they still reported that they did not have time to attend to their condition. A possible explanation is that some of the men were not at retirement age and needed time to look for a job to supplement the costs associated with managing type 2 diabetes. This translated into a lack of time to sit at the clinic waiting for care.

Aside from time to do activities for managing type 2 diabetes, men in the dissertation study mentioned inability to eat and administer insulin on time as scheduled by their respective doctors. This finding has been reported in the literature on barriers to self-management of type 2 diabetes (Savoca & Miller, 2001). The possible reasons for eating or administering insulin at irregular times is that the men may be preoccupied with

other activities or they could be at locations where they cannot actively manage their type 2 diabetes. An additional note on the function of time for these individuals is the lack of time spent interacting with their respective doctors. A dissertation study done at the same clinic where these men were interviewed reported the limited time that doctors spent with patients because of the number of patients who needed to be seen (Barnes et al., 2004). This confirms what the men reported in their interviews.

The social environment also plays a role in the management of type 2 diabetes. According to social cognitive theory, the health behaviors of individuals are influenced by the environment (Glanz, et al., 2002). Given that the management of type 2 diabetes occurs in settings where individuals live, work, and play (Jack, et al., 1999), the social environmental settings of the men in the dissertation study affected their behavior. Some of the men were homeless and experienced barriers to eating healthily and adhering to medication regimes similar to findings on a study of homeless individuals with diabetes (Hwang & Bugeja, 2000). One man in this dissertation study was in jail at some point while managing his type 2 diabetes. Even though guidance for diabetes care in jails is available (American Diabetes Association, 2012), he encountered barriers to eating healthy foods. Though focused on non-U.S. populations, available studies on diabetics in prisons have mixed results with some studies highlighting how the structure in prison allows for better management (MacFarlane, Gill, Masson, & Tucker, 1992) while others indicate limited access to diabetes specialists and diabetes diets (Petit et al., 2001).

Aside from the environment where individuals reside, exposure to environments with unhealthy foods makes it challenging for an individual to manage type 2 diabetes. The men in this dissertation study reported trying to manage their type 2 diabetes when

exposed to environments with unhealthy food. In the home setting, the men were exposed to foods that had an African American culture and as highlighted earlier these foods can be unhealthy for an individual with type 2 diabetes (Anderson-Loftin, et al., 2005; Burley & Mack, 2010). The everyday cooking in the home may be as inadequate as the holiday cooking. Outside the home, the men were challenged with finding healthy places to eat. This can be explained by the limited places to eat healthy meals that are easily accessible and convenient. A study of the locations of fast food restaurants showed that a high prevalence of fast foods are located in low income and Black neighborhoods (Block, Scribner, & DeSalvo, 2004; Larson, Story, & Nelson, 2009; L. B. Lewis et al., 2005).

Managing type 2 diabetes can be costly; the average healthcare costs per year for an individual with type 2 diabetes is \$9677, which is more than three times the healthcare cost for an individual without type 2 diabetes (\$2, 864) (Dall et al., 2010). Among individuals with type 2 diabetes the healthcare costs are 75% higher among insulin users compared to insulin users (Yeaw, Lee, Aagren, & Christensen, 2012). Given that the men in this dissertation study were low-income men, it was surprising that the only individuals who reported issues with lack of income were those who had no or insufficient federal assistance. Even with health insurance coverage, individuals do not have the resources for all that is needed to manage type 2 diabetes (National Institute of Health, 2009), which explains why some of the men in the dissertation study who had health insurance highlighted lack of income as a barrier. The literature also indicates that low-income individuals or the working poor are less likely to have health insurance from their employer or to qualify for health benefits from other insurance programs outside of their employers' benefits (Berk & Wilensky, 1987; Seccombe & Amey, 1995).

Not all the men in the dissertation study qualified for Medicare because of their age. Some of the men were able to get on Medicaid, Supplemental Security Income, or discounted rates at the Grady Diabetes Clinic. In some cases, the men were able to get a mix of the different insurance programs available. Even if individuals have health insurance or federal assistance, they do not necessarily have enough income to pay for healthy food or better equipment. As reported in the literature, access to and the cost of healthy food can be limiting for low-income individuals and minorities (Horowitz, et al., 2004; Lucan, et al., 2010). The newer equipment for the management of type 2 diabetes is sleek and easier to carry around and as a result can be more expensive than older equipment that is bulkier (Korytkowski, Niskanen, & Asakura, 2005).

Having type 2 diabetes puts an individual at risk for developing other conditions such as heart disease, kidney disease, and depression. (Agency for Healthcare Research and Quality, 2005; Centers for Disease Control and Prevention, 2011a). Some of the men in this dissertation study had existing illnesses in addition to type 2 diabetes and reported challenges with managing both. These include deciding which disease to treat first and what medications to take or not take. Given the link between type 2 diabetes and some health conditions (Air & Kissela, 2007; Brown et al., 2005; Kim et al., 2010; Rasche et al., 2010; Renn, Feliciano, & Segal, 2011; Vijan & Hayward, 2003; Vijan et al., 2005), it can be difficult for health providers and individuals to make decisions about managing type 2 diabetes. Decisions have to be made about which disease to treat first when the treatment plans are discordant, when time is insufficient for discussing more than one disease, or when the health provider or individual focuses more on one condition than the other (Piette & Kerr, 2006).

Apart from dealing with an illness, dealing with an injury in addition to type 2 diabetes can also be overwhelming. This is especially because the effective management of type 2 diabetes requires continuous care (Piette & Kerr, 2006). Injuries limit an individual's engagement in physical activity or daily activities required to manage a disease (Dye, et al., 2003; Pfizer, 2008). Among the men in this dissertation study having an injury was a barrier to engaging in physical activity levels. Some of the men reported experiencing pain when trying to walk, which discouraged them from engaging in physical activity. This can be explained by the pattern that, as individuals' age, they experience pain in the joints and the back with more Blacks (44%) experiencing severe joint pain than Whites (26%) (Pfizer, 2008).

Treatment of type 2 diabetes requires individuals to take insulin, oral medication, or both oral medication and insulin in some cases (Centers for Disease Control and Prevention, 2011a). Adherence to the medication routine is one of the healthy behaviors required for effective management of type 2 diabetes (American Association of Diabetes Educators, 2011). The men in this dissertation study related their experiences of how taking metformin was a barrier especially if they were not in places where they could take care of their gastrointestinal issues. In some cases this experience would deter the men from adhering to their medication regimen. Gastrointestinal health issues are a side effect of metformin use that has also been reported in the literature (Blonde, Dailey, Jabbour, Reasner, & Mills, 2004; Hoffmann, Roa, Torrico, & Cubeddu, 2003).

Among the men in the dissertation study who were insulin users, the side effects they recounted were similar to those reported in the literature and include skin-related soreness from repeated use of the same spot in administering insulin (Richardson & Kerr,

2003) and weight gain (Brod, et al., 2009; Heller, 2004). These side effects are seen as a barrier because experiencing them deters individuals from adhering to their medication regimen and can have implications for the management of type 2 diabetes. The weight gain can especially be challenging because maintaining a healthy weight is required of individuals with type 2 diabetes, and this can deter individuals who are struggling with weight issues from administering insulin as recommended (Carver, 2006; Korytkowski, 2002). A surprising finding is that not all men in this dissertation study who were insulin users reported experiencing the side effects from administering insulin as part of managing their type 2 diabetes. It is possible that the men in this dissertation study were using insulin supplies that were easy to use and less painful to inject into their bodies (Korytkowski, et al., 2005) or that they did not have weight issues to deal with as they managed their type 2 diabetes.

Type 2 diabetes is a chronic condition considered to be a silent killer because the development of complications is a gradual process. Because these complications may not be noticeable, individuals who have type 2 diabetes tend to ignore the seriousness of their disease. Denial among individuals with type 2 diabetes occurs mainly at diagnosis and within the first few years thereafter (Garay-Sevilla, Malacara, Gutierrez-Roa, & Gonzalez, 1999). The men in this dissertation study indicated how denial of having type 2 diabetes prevented them from managing the disease. A similar finding has been reported in studies on denial and the management of type 2 diabetes among individuals (Figaro, Elasy, BeLue, Speroff, & Dittus, 2009; Gazmararian, Ziemer, & Barnes, 2009; Khan, Lasker, & Chowdhury, 2011; Peek et al., 2009). Some of the men in the dissertation study, especially those who were not using insulin as part of their treatment regimen, did

not believe that having type 2 diabetes was serious because they were not yet using insulin. This finding aligns with the health belief model that states that, unless individuals experience threats or severe experiences with a disease, they will not take it seriously or take action to prevent or manage the disease (Harvey & Lawson, 2009). Denial among men in the dissertation study was also related to their beliefs that having to take insulin means that the condition has worsened, a finding consistent with the literature (Nakar, Yitzhaki, Rosenberg, & Vinker, 2007).

To help with the complexities of managing the disease, individuals are offered classes on diabetes self-management education (American Association of Diabetes Educators, 2011; Centers for Disease Control and Prevention, 2011a). Diabetes self-management education programs provide support to individuals with type 2 diabetes to help them make decisions about their care as they interact with healthcare providers and others within in their social setting (Funnell, et al., 2009). The Grady Diabetes Clinic offers diabetes self-management classes to both new patients and seasoned patients, which included all the men in the dissertation study. It was consequently surprising that a lack of knowledge was a barrier emphasized by these men. This can be explained by reports in the literature showing low participation in diabetes self-management education among men compared to women (Fan & Sidani, 2009) . As indicated previously in this chapter, the men in this dissertation study reported that they did not have time to engage in activities for managing type 2 diabetes. Perhaps the men in the dissertation study did not have time to go to the diabetes self-management education programs or the programs were not offered at convenient times and places. The literature on participation in diabetes self-management education programs shows that even with insurance coverage

not all individuals with type 2 diabetes participate in the programs because of the inconvenient times offered and transportation concerns (Funnell, et al., 2009; Powell, Glover, Probst, & Laditka, 2005).

What coping mechanisms do Black men use to manage type 2 diabetes and what do they report about their experiences with these mechanisms?

The men in this dissertation study used the following coping mechanisms to live with and manage type 2 diabetes: acceptance, taking action to change behavior, support from healthcare professionals, support from family, seeking healthcare information, support from friends, religion or spirituality, and not focusing on the disease. These findings are similar to what has been reported in the literature on the coping mechanisms used to live with and cope with type 2 diabetes (DeCoster & Cummings, 2004; Degazon, 1995; Samuel-Hodge, et al., 2008; Utz, et al., 2006). The findings also indicated that the men in this dissertation study used more problem-solving coping strategies (taking action to change behavior, seeking support from healthcare professionals, seeking support from family, seeking support from friends, and carrying their supplies with them) than emotion-based coping strategies (acceptance and not focusing on the disease).

Managing and living with type 2 diabetes can be complex and challenging. As theorized by Lazarus and Folkman, acceptance and having a positive attitude has been shown to be instrumental to coping with a stressful situation or event (1984a). All the men in this dissertation study reported how acceptance of the disease was helpful in coping with type 2 diabetes. They accepted that they had the disease at some point during their experience with type 2 diabetes because they had observed the experiences of others with type 2 diabetes dealing with their complications, which motivated the participants to

action to prevent the same from happening to them. This finding aligns with the theoretical underpinnings of the health belief model as highlighted earlier in this chapter (Harvey & Lawson, 2009). Having had a family history of type 2 diabetes was helpful for some of the men because it provided them with insight through observation of what they wanted to avoid in the future. This is may be an example of the workings of the aforementioned social cognitive theory and vicarious learning (Glanz, et al., 2002). Men in this dissertation study who had no family history of type 2 diabetes lacked this source of information. Another reason that the men in the dissertation study accepted that they had type 2 diabetes was that they wanted to be in control of it and not let it, the disease, control them. This notion of control is an example of perceived control and how it influences health behavior as projected in the theory of planned behavior which states that health behavior is influenced by an individual's beliefs about the behavior, norms around the behavior, and perceived control of the behavior (Glanz, et al., 2002). This finding is consistent with the literature on masculinity, health, and the traditional role of men, which suggests that men exhibit control over situations to show that they are masculine (Courtenay, 2000; Garfield, et al., 2008).

Type 2 diabetes requires individuals to change their lifestyles to include health behaviors as part of managing the disease (American Association of Diabetes Educators, 2011). Individuals are also advised to not only engage in these health behaviors, but also maintain them as part managing type 2 diabetes (Jack, et al., 1999). The two health behavior changes that the men in the dissertation study discussed frequently were taking action to eat healthily and engage in physical activity. Surprisingly, administering insulin was not talked about much as a means of taking action, a finding consistent with a study

on barriers among insulin users (Glasgow, McCaul, & Schafer, 1986) . This finding however was inconsistent with a study showing that managing a diet was just as challenging as taking insulin (Vijan, et al., 2005). Only 32% (n = 192) of the participants in the latter study were insulin users. A possible explanation for the findings in this dissertation study is that the men had insurance to cover the costs of medication, making it easier to adhere to insulin use than to eat healthy food – a purchase not covered by insurance.

Furthermore this dissertation study included men who were mostly insulin users and who may have viewed administering insulin as requiring a few quick steps and little time compared to eating healthily, which requires more time (Russell, et al., 2005) and is one of the most difficult behaviors to change (Ary, et al., 1986). Eating healthily among the men in this dissertation study was tackled by changing their type of food, the way their food was cooked, the portions sizes of their food, and by adjusting to the taste of different foods. Although exercise seemed easier for the men in this dissertation study based on their past experience engaging in sports, they were limited by foot, back, and leg injuries that slowed them down. This finding is similar to the literature on pain, which reports the impact of pain on the quality of life among U.S. adults (Pfizer, 2008).

Effective management of type 2 diabetes involves seeking continuous care and follow up with healthcare professionals(American Association of Diabetes Educators, 2011). Because the men in this dissertation study were identified through a clinic, they are among the population of Black males who have sought support from healthcare professionals to cope with managing type 2 diabetes. Although individuals can look for healthcare information from other places such as the Internet, family, or friends,

healthcare professionals are still considered the key source of information and help when dealing with a disease (Hesse, Moser, & Rutten, 2010; Longo et al., 2010). The healthcare professionals discussed by the men in the dissertation study were mostly from the Grady Diabetes Clinic. Because some of the men had health conditions in addition to type 2 diabetes, they also sought help from other healthcare professionals in addition to what was available through the Grady Diabetes Clinic.

Although the lack of social support from family and friends was identified as a barrier among the men in this dissertation study, some men found the presence of social support to be helpful. Social support from family, friends, and individuals within the settings where individuals live, work, and play has been shown to improve the health outcomes of individuals with type 2 diabetes (Connell, et al., 1994; Savoca & Miller, 2001; Trief, et al., 2001). Among the men in this dissertation study, support from family was mainly provided by female family members, with mothers being the primary source followed by sisters and wives. The support from mothers is not surprising given that mothers are the first caregivers an individual encounters in life. Having mothers, sisters, and wives provide support aligns with the socially sanctioned care giving role of women (Shumaker & Hill, 1991) and is consistent with the literature's report of the important role of women in promoting the health of men (Collier, 2007; Norcross, Ramirez, & Palinkas, 1996). Some of the men in this dissertation study were caregivers to their mothers who had type 2 diabetes. This was beneficial for them as they learned about managing type 2 diabetes vicariously, a pattern reported in the literature on building self-efficacy to manage a disease (Dye, et al., 2003; van de Laar & van der Bijl, 2001), and

through helping their mothers with cooking and other activities the mothers could not manage.

None of the men referred to their fathers as supporting them with their type 2 diabetes; however, they did talk about their brothers helping them cope with type 2 diabetes. Why the participants did not talk about their fathers as sources of support is unclear; I did not probe for participants' relationships with their fathers. Only 5 men in this study had fathers who have or had type 2 diabetes. A surprising finding was the support received from young children. Because the men in this dissertation study were patients at the Grady Diabetes Clinic, which serves individuals with low income and low health literacy levels, most of them lacked a high school diploma. One explanation for their reliance on younger children to help them with managing the type 2 diabetes is suggested by research on immigrants. Here, the use of young children in the health of adults has also been reported; however, the focus has been on the children communicating with doctors and about the medical bills and notes, and the effect of this role on children continues to be explored (Corona et al., 2012; Weisskirch, 2002).

Similar to support from family, support from friends helps individuals manage type 2 diabetes (Connell, et al., 1994; Savoca & Miller, 2001; Trief, et al., 2001). Though social support from friends can be critical, only a few men in this dissertation study said that they had friends who helped them cope with type 2 diabetes. Their female friends provide support by checking in on and cooking for them, which aligns with the caregiving role expected of women (Shumaker & Hill, 1991). Among the support reported from participants' male friends was that some of them had type 2 diabetes themselves and served as examples of what could happen to someone with the condition.

The literature on social cognitive theory explains that such vicarious learning is key to learning skills needed to manage a disease (Dye, et al., 2003; van de Laar & van der Bijl, 2001).

Part of the effective management of type 2 diabetes is the participation of diagnosed individuals in a diabetes self-management education program (Norris, Engelgau, & Narayan, 2001; Norris, et al., 2002). All the men in this dissertation study had access to information on type 2 diabetes by participating in the diabetes self-management program at the Grady Diabetes Clinic. Diabetes self-management education programs are aimed at building individual self-efficacy to initiate and maintain diabetes self-care behaviors as part of the effective management of type 2 diabetes (Funnell, et al., 2009). Although they had access to this resource, some of the men in this dissertation study chose to seek additional diabetes-related information from other sources. It is possible that the men in the dissertation study needed additional diabetes related information that was not provided by the diabetes self-management education program at the Grady Diabetes Clinic.

The chronic nature of type 2 diabetes requires individuals to make changes to their lifestyles on diagnosis and continuously thereafter if they are to effectively manage the disease (Jack, et al., 1999). Changing lifestyles can be frustrating and challenging, especially if the change is not on an individual's own terms and the person is not ready for it. The transtheoretical model of health indicates that, depending on individuals' self-efficacy and support systems, individuals move through a number of stages to get from precontemplating action on a behavior to taking action on the behavior and maintaining the behavior (Glanz, et al., 2002). Although interventions such as diabetes self-

management education programs help individuals with type 2 diabetes move through the stages of change, individuals still face challenges. The men in this dissertation study channeled the frustrations from the challenges into distractions such as reading a book, listening to music, or playing cards. Distractions such as these are useful coping strategies as compared to risky behaviors such as smoking or drinking (American Association of Diabetes Educators, 2011). It is understandable why the men would want to distract themselves from focusing on the disease. The men had lived with type 2 diabetes for less than five years, and learning about the disease and the lifestyle changes they had to make was probably overwhelming.

For Black men who say they engage in spirituality or religion as a coping mechanism to manage type 2 diabetes, what are the approaches used?

As indicated in Chapter 3 of this dissertation, the men were not explicitly asked if they use religion or spirituality to cope with type 2 diabetes. Nevertheless, several of them (n =12) volunteered using religion or spirituality as a coping mechanism in discussing how (Mansfield, Mitchell, & King, 2002b)they managed their conditions. Research on religion and spirituality as they relate to health reveals that African Americans more than any other group use spirituality as a coping mechanism when dealing with health issues (Koenig, 1998; Mansfield, et al., 2002b). Spirituality is defined as the “personal life [that] animates transcendent quality [of] relationship [with] God of god being” while religion is defined as a “system [of] organized beliefs and worship [that] the] person practices (Emblen, 1992; Newlin, Knafl, & Melkus, 2002). The broad nature of spirituality encompasses more than just religion but also non-religious groups (Young & Koopsen, 2005).

Research on spirituality, religion and health highlights how spirituality and religion are used in studies. Reviews of studies show that the two terms have either been used individually or interchangeably (Ellison & Taylor, 1996; Miller & Thoresen, 2003; Moberg, 2002) or religion is a part of spirituality (Burkhardt, 1989; L. M. Lewis, Hankin, Reynolds, & Ogedegbe, 2007; Mattis, 2000). The results reported in this dissertation study focused on the participant's definition. In this dissertation study, participants described their experiences with God as religion and not as spirituality. The men in this dissertation study may have been spiritual according to definitions in the literature, but in their eyes they viewed themselves as religious. This finding may be explained in part by the notion that the men in this dissertation study identified with a specific religion – Baptist. According to the Pew Forum on Religion and the Public survey conducted in 2007, a high prevalence of African Americans are Baptists (Sahgal & Smith, 2009). Though not all the men attended a church, they still referred to themselves as religious, which aligns with literature showing that religious individuals participate in organized activities such as attending church or non-organized practices such as watching church on television (Gall et al., 2005). None of the men reported a negative experience with religion as it relates to the management of type 2 diabetes. The men in the study however spoke of how they resented participating in church because their pastors were using the tithes in the church for their own personal use.

The findings from this dissertation study showed that the following approaches and strategies were used to cope with type diabetes: prayer, belief in God, reading the Bible, “turning things over” to God, God “keeping them alive,” God “helping them quit risky behaviors,” God “supplying their needs,” and individuals within the church helping

out. These findings are consistent with the literature on the use of religion or spirituality and health among Blacks (Chin, et al., 2000; Degazon, 1995; Egede & Bonadonna, 2003; Mansfield, Mitchell, & King, 2002a; Polzer & Miles, 2007; Reeves, Adams, Dubbert, Hickson, & Wyatt, 2012; Samuel-Hodge, et al., 2000). Although these studies did not focus solely on Black men, findings from studies on Black men with prostate cancer, a chronic disease like type 2 diabetes, showed similar patterns (Maliski, et al., 2010; Zavala, et al., 2009).

Living with and managing type 2 diabetes can be complex and challenging, making it overwhelming for individuals who have been diagnosed with it. Theories on cognition and religion suggest that individuals' beliefs in God provide them with hope, which can help them manage challenging situations (Dull & Skokan, 1995). Having faith and praying to God was emphasized as important among the men in this dissertation study who discussed religion and spirituality. Most of these men talked about praying for God to help them continue to improve their management of type 2 diabetes, while some men prayed for release from a dire situation that had resulted from their poor management. This fits the literature suggesting that individuals use prayer in a number of ways to help them cope with a situation (Bade & Cook, 2008). Some pray in dire situations (Koenig, McCullough, & Larson, 2001) whereas others pray routinely (Koenig, George, Hays, et al., 1998). The men in this dissertation study looked at reading the Bible as a way to meditate and avoid thinking of the challenges that come with managing type 2 diabetes. This strategy has been reported as instrumental for individuals coping with various diseases (Arcury, Quandt, McDonald, & Bell, 2000; Koenig, George, & Titus, 2004b).

Some of (Koenig, George, & Titus, 2004a) the men had to manage type 2 diabetes and other conditions as well, which took an additional toll on them. The men in this dissertation study spoke of “turning things over” to God especially when managing type 2 diabetes seemed overwhelming. Most of the men in this dissertation study were not married, and some reported that they did not have any friends. “Turning to God” may have seemed the only option when they felt they needed someone to talk to. This response is consistent with conceptual frameworks that have shown how individuals evaluate the available resources they have and take appropriate action to obtain the resources they need to deal with a situation (Gall, et al., 2005; Park & Folkman, 1997). However, “turning things over” to God did not mean that the men were going to avoid managing their type 2 diabetes. They spoke of shared responsibility in which they would work collaboratively with God (Gall, et al., 2005).

As reported previously in this chapter, individuals with type 2 diabetes have other conditions such as heart disease, hypertension, and cancer. These were some of the diagnoses reported by the men in this dissertation study. In their treatment for these different conditions some of the men reported near death experiences that brought them closer to God. Furthermore, seeing the severity of the experiences of others with type 2 diabetes also drew some to God. Other scholars have reported such patterns as meaning-making experiences in which individuals connect with God and try to make sense of their situations (Gall, et al., 2005; Park & Folkman, 1997).

Aside from eating healthily and engaging in physical activity, effective management of type 2 diabetes requires individuals to engage less in risky behaviors such as smoking and drinking (American Diabetes Association, 2012). The men in this

dissertation study spoke of their struggles with overcoming these risky habits. A few of the men who volunteered the importance of religion or spirituality in their lives explained how God was instrumental to helping them quit smoking or drinking. This finding is consistent with literature on religion and substance abuse, which shows that individuals who are religious, in particular those who attend church, are less likely to engage in risky behaviors such as smoking and drinking (Koenig, George, Cohen, et al., 1998; Koenig, et al., 2001).

The management of type 2 diabetes as discussed previously, can be complex and challenging. For individuals to manage the disease effectively, they need to accept it and take appropriate action as recommended by the American Association of Diabetes Educators (American Association of Diabetes Educators, 2011). Part of taking action requires making decisions on the different aspects of managing the disease. The men spoke of how God provides the doctors, the medication, the transportation, and all the other needs for managing type 2 diabetes. Among the men in the dissertation study who talked about religion and spirituality, God was viewed as source of support to guide the decision making and provide supplies. Other research has also indicated that individuals find their religious beliefs useful in their health care, such as “God has more authority than the healthcare provider,” and “my health is in God’s hands” (Johnson, Elbert-Avila, & Tulsy, 2005).

As discussed earlier, the management of type 2 diabetes occurs in the social settings where we live, work, and play (Jack, et al., 1999). These social settings also include church settings. Not many men in this dissertation study talked about others within their churches helping them cope with type 2 diabetes. The men in this dissertation

study preferred to have a private relationship with God. The men who did talk about church shared their experiences of being offered support as opposed to seeking it from the individuals within the church setting. A possible explanation for this finding is that individuals within the churches may have been drawn to helping out, as part of their service to God, and thus the men were recipients of that good will.

Summary of discussion of research findings

In summary and as I have emphasized, the management of type 2 diabetes can be complex and challenging. The most frequently discussed diabetes self-care behavior among the men in this dissertation study was eating healthily. The participants identified a number of barriers to living with and managing type 2 diabetes, and these are similar to barriers encountered by individuals with type 2 diabetes in general. The barriers identified are all interrelated in how they connect to each other to create barriers for individuals with type 2 diabetes; for example lack of time and lack of knowledge were linked because the men did not have time to seek the needed knowledge.

Issues of racism and mistrust of the healthcare system were factors not identified among the men in this dissertation study as barriers to receiving care for type 2 diabetes. Findings from the literature have shown that racism from healthcare professionals and mistrust of healthcare systems negatively affects the encounters of Blacks within the healthcare system (Corbie-Smith, Thomas, & St George, 2002; Griffith, Metzl, & Gunter, 2011; Griffith, et al., 2010; Musa, et al., 2009; Ornelas, et al., 2009). This finding is explained by the fact that the Grady Diabetes Clinic has been serving African Americans with type 2 diabetes for over a decade (Ziemer, et al., 1996). The staff therefore may be culturally competent to serve the African American population and may be trusted by

African Americans. Furthermore the interplay of masculinity with the experiences of these men may have been less than what has been highlighted in the literature on masculinity on health (Jack, 2004; Liburd, et al., 2007; Scott, 2009). Conventional expectations for masculine behavior seemed to have affected the men in their reports of delayed health seeking before being diagnosed with type 2 diabetes.

Despite the barriers they encountered, the men in this dissertation study identified a number of coping mechanisms they used when living with and managing type 2 diabetes. These are similar to those used by individuals with type 2 diabetes in general. Most of the coping methods were problem-based methods supplemented by a few emotion-based approaches. Similarly to the barriers, the coping mechanisms used were also linked to each other to create a supportive environment for individuals to manage type 2 diabetes. For example, support from family and friends was linked to taking action to change diabetes self-care behaviors. Religion, but not spirituality, was highlighted as an important coping mechanism used by some of the men in this dissertation study to live with and manage type 2 diabetes. As noted in my discussion of the use of religion as a coping mechanism, the men used religion and not spirituality to talk about their interactions with God. Although the men were Baptist, they did not all attend church, and they preferred to engage privately with God in living with and managing their type 2 diabetes. None of the men viewed religion as a barrier to managing type 2 diabetes.

The role of family and friends as a source of social support was both a barrier and a coping mechanism. Although spousal support has been identified as important for living with and managing type 2 diabetes in general (Beverly & Wray, 2008; Trief, et al., 2001), spousal support was only briefly discussed among my participants. Most men in

this dissertation study were not married; however, they relied on support from female figures such as their mothers and sisters to help them live with and manage type 2 diabetes.

In considering the demographics of the men in this dissertation study, those who were insulin users had additional barriers to deal with compared to the men who were not insulin users. Furthermore, in some instances having a family history of type 2 diabetes was helpful in reducing barriers encountered and in helping individuals cope with and live with type 2 diabetes. Overall duration of type 2 diabetes, age, marital status, and age on onset did not appear to have an influence on the barriers these individuals identified or the coping mechanisms they used.

Strengths of the study

This dissertation study has strengths that should be noted. First and foremost, the use of in-depth interviewing as a data collection tool allowed for rich and detailed information to be collected on the participants' experiences and outlooks on their lives. The information may be used in further research to contribute to the understanding of the experiences of managing type 2 diabetes among Black men. Secondly, as a female interviewer of male participants, I have contributed insights on the research methodology related to gender and in-depth interviewing. Thirdly this dissertation study was conducted on Black men that were recruited from a clinic, which resulted in a homogenous population in terms income level and possible types of experience managing type 2 diabetes. The dissertation study also focused on Black men who had had type 2 diabetes for more than a year, which allowed for sharing of their experiences living with the

disease. Lastly, the sample size in this study was large compared to sample sizes of other qualitative studies.

Limitations of the study

This dissertation study is not without limitations to the methodology that was used. Outlined below are limitations that should be considered in interpreting the findings that were obtained from the dissertation study.

The information collected from participants in this dissertation study was self-report. Data that are self-report can be biased in several ways: individuals may offer what they believe to be socially acceptable responses; individuals may misrepresent their experiences for many reasons; or individuals may misunderstand what is being asked of them. The information provided by the participants was treated as confidential, and it was challenging to verify its accuracy. To address this limitation I used a few questions that overlapped. Verification of the information shared was checked by reviewing the questions that were expected to result in similar responses.

The duration of living with type 2 diabetes may have had an impact on the information shared in the dissertation study. The experiences of someone who just received a diagnosis are or may be different than the experiences of someone who has had type 2 diabetes for a long period of time (Liburd, et al., 2007). To address this limitation the dissertation study aimed for recruiting participants who had had type 2 diabetes for a year or longer. This helped differentiate between the experiences at first diagnosis and the experiences after having been diagnosed for one year. One year was selected because I believed that after a year from diagnosis, individuals with type 2 diabetes manage their type 2 diabetes differently than those more recently diagnosed.

Because of the small sample size, the results from this dissertation study are not representative of all Black men living in Atlanta, Georgia, and thus are not statistically generalizable. Furthermore, results from this dissertation study are not statistically generalizable to Black men with type 2 diabetes in the rest of the United States. Given that the purpose of this dissertation study was not to generalize but to explore, the findings can be used to inform larger studies that can be used for generalization purposes.

Personal events occurring in the lives of the participants immediately prior to the interview may have influenced the information shared during the interview especially if the personal events were stressful. A situation such as a long wait in the clinic for treatment prior to being interviewed for this dissertation study is an example of something that may have affected the responses of the participants. Efforts to account for these situations were made; for example, data collection was postponed if needed; however, other personal events not as apparent as the preceding example may have happened, and I, the interviewer, may not have been aware of them. At the end of the interview, the participants were asked if they believed their responses to the questions would have been similar six months previously and, if not, why not.

As a female researcher conducting the interviews with male respondents, I may have encountered biases such as participants' sharing less information than needed, not sharing information at all, or providing less truthful information. Ultimately the inadequate information obtained may have resulted in findings that are biased.

Sharing my subjectivity statement with the reader helps provide a context for interpretation of the findings that are reported from this dissertation study. Despite this, the reader should note that words may mean different things to different individuals. It is

possible that my interpretation of what was said may be different than what the person being interviewed intended to share. My intent in sharing participants' word is to permit the reader to make up his or her own mind about what they mean.

Lessons learned

The lessons learned from this dissertation primarily focus on the theory and methodology used to carry out the study. On review of the findings it appears that the social cognitive theory is a more appropriate theory for understanding the barriers encountered and coping mechanisms used by Black men with type 2 diabetes. The original theory or conceptual framework selected for this study assumed that long interview would be carried out with the participants in the study. The long interviews would have yielded more in-depth information to allow one to examine how an individual's global meaning and situational meaning impact the way they cope with managing type 2 diabetes. The theory may be more appropriate for qualitative methods that use phenomenology, an approach that was the initial idea of this dissertation.

The inability to use the phenomenology approach was as a result of a number of factors that were beyond my control. An example is participants could only be interview after receiving care at the clinic. Given this scenario, some of the participants were exhausted by the time that they were available to carry out the interview. Furthermore the participants were men who are generally known for not providing much detail into their experiences as women are consequently the stories of the men could not yield the data expected of the phenomenology approach of qualitative methods.

Another lesson learned was in the development of the interview guide. Not instruments were available specific to Black men with type 2 diabetes. As such an

instrument was developed and pilot tested with two individuals and reviewed by the dissertation committee. It would have been helpful to review the instruments used to assess barriers and coping methods encountered by Black women with type 2 diabetes or Black men with prostate cancer. Albeit this disadvantage, the interview guide was able to yield results for the research questions of the study. It is possible that a better-developed instrument would have yielded richer information.

Given the increase in sample size from 12 to 30 participants, additional research questions could have been included in the dissertation. The large sample size would have allowed for comparisons among the Black men with type 2 diabetes into groups such as insulin users versus non-insulin users, married versus non married Black men, family history of type 2 diabetes versus no family history of type 2 diabetes, Black men with complications versus Black men without complications and so forth. These comparisons can be used in further research among Black men with type 2 diabetes.

The last lesson learned relates to the assessment of participants experiences with the use of religion or spirituality as a coping mechanism. During the interviews, it was clear that there was confusion on the definition of religion and spirituality among the participants. Given the dissertation was focused on the use of religion or spirituality as a coping mechanism and not on the definition of the terms, no time was spent during the interview to get into the definition of the terms. Defining the two terms for individuals would have been helpful for the interview process although some could argue you that an individual can be both religious and spiritual at the same time.

Implications

This dissertation study aimed at examining and reporting the barriers encountered and the coping mechanisms used by Black men with type 2 diabetes. The findings from this dissertation study contribute to the currently limited research available on the experiences Black men with type 2 diabetes. The findings from this dissertation study also have implications for future research on Black men who have type 2 diabetes.

The men in this dissertation study identified a number of barriers that they encountered as part of managing type 2 diabetes. Even with available federal assistance the men in this dissertation study still identified a lack of income as a barrier to managing type 2 diabetes. Additional research should build on this dissertation study by looking at low-income men with type 2 diabetes who do not qualify for federal assistance or any other financial assistance. This is especially the case among men who were not of retirement age or did not have a disability or circumstance that would qualify them for federal assistance. The low income men in this dissertation study were able to obtain care at a sliding fee from the Grady Diabetes Clinic; however, a lack of income contributed heavily to their inability to purchase healthy foods, preferred supplies for administering insulin, or additional strips for measuring glucose levels. Eating healthily can be costly for low-income individuals (Horowitz, et al., 2004; Lucan, et al., 2010) and convenient supplies for administering insulin can also be costly (Korytkowski, et al., 2005) and not covered by some health insurance programs. It is possible that low-income men with type 2 diabetes who are not served by the Grady Diabetes Clinic may encounter other barriers not identified in this dissertation study.

The men in this dissertation study used a number of coping strategies to manage type 2 diabetes. Where available, the men were able to rely on family, friends, and healthcare professionals for support in managing type 2 diabetes. Given that a number of men in this dissertation study were not married and had no friends, the support received came primarily from their mothers and sisters. Given the importance of social support in the management of type 2 diabetes, additional research should build on this dissertation study and examine the supportive role of different family members in the management of type 2 among Black men. The available literature on family support focuses on family support in general (Jones et al., 2008) or spousal support (Beverly & Wray, 2008; Beverly, Wray, & Miller, 2008; Jones, et al., 2008; Rosland et al., 2008; Trief, et al., 2001; Trief, Wade, Britton, & Weinstock, 2002). Considering the men with type 2 diabetes who are not married, it will be important assess the role of different family members in the management of type 2 diabetes. Furthermore a comparison will be important of the role of family support among individuals with type 2 diabetes who have a family history of type 2 diabetes and those who do not have such a history.

Religion has been emphasized as one of the coping mechanisms used for health issues among Blacks especially among women (Baldwin, 2005; Casarez, Engebretson, & Ostwald, 2010; Ellison, n.d; Figueroa, Davis, Baker, & Bunch, 2006). Although the literature does not discuss the use of religion as a coping mechanism by Black men, the men in this dissertation study identified religion as a coping mechanism for dealing with type 2 diabetes. To cope with type 2 diabetes, however, these men preferred a private relationship with God and not necessarily church attendance or involvement in church activities. A number of health interventions targeting Blacks have been implemented and

promoted within the church setting (Austin & Harris, 2011; Baskin, Resnicow, & Campbell, 2001). Considering the men's attitudes toward the church setting, it will be important for researchers working with Black men to assess how to reach these men who use religion as a coping mechanism to deal with type 2 diabetes. Furthermore it is worth exploring the views of Black men who do participate in support groups within the church setting such as cancer supports groups. Insights from these men may be useful to identify ways to reach men who may be reluctant to engage in the church setting.

Although not reported in this dissertation study, factors such as racism (Fowler-Brown, et al., 2006; Paradies, 2006; Sellers, et al., 2009) and mistrust of the health care system (Cheatham, et al., 2008; Griffith, et al., 2010; Whaley, 2004) have been found to impact the health of Blacks in the U.S. The participants in this study were recruited and interviewed at the Grady Diabetes Clinic, a clinic that has been primarily serving the African American population in Atlanta for over ten years. It is possible that healthcare providers serving at the Grady Diabetes Clinic are culturally competent in working with the African American population and that the patients in the clinic trust the healthcare providers because they have been serving African Americans for a long period. Research should be conducted on the patients in the Grady Diabetes Clinic to assess if racism and mistrust in the healthcare system are factors that impact the management of type 2 diabetes among Black men. Additional research should be done among low income Blacks with type 2 diabetes that are not served by the Grady Diabetes Clinic. The research will provide data on how and why racism and mistrust in the healthcare system may or may not influence the management of type 2 diabetes among Black men.

Last but not least, this dissertation study also brought to the forefront topics and themes that were not related to the research questions of interest. These topics and themes however provide insight into the experiences of Black men living with and managing type 2 diabetes. These topics and themes include the role of fathers in management of type 2 diabetes, the meaning and cause of type 2 diabetes in individuals, a comparison of the experiences of living and managing type 2 diabetes among Black men who are married compared to those who are not married, and a comparison of the experiences of living and managing type 2 diabetes among Black men who are married compared to those who were previously married. These topics and themes should be explored in future studies conducted on Black men with type 2 diabetes.

Conclusion

The purpose of this dissertation study was to examine and report on the barriers encountered and the coping mechanisms used by Black men living with type 2 diabetes. Using in-depth interviews, data were collected on 25 Black men with type 2 diabetes. The findings from this dissertation study showed that Black men with type 2 diabetes encounter a number of barriers and use a number of coping mechanisms to live with and manage type 2 diabetes. The findings from this dissertation study contribute to the literature on Blacks and type 2 diabetes, in particular among Black men, and have implications for researchers working with Black men.

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APPENDIX A

CONSENT FORM

Diabetes Research Study Consent Form

I, _____, agree to take part in this research study on examining how Black men live with type 2 diabetes. Apophia Namageyo-Funa from the Department of Health Behavior and Promotion at the University of Georgia (404-428-8449) will conduct the study under the direction of Dr. Jessica Muilenburg also from Department of Health Promotion and Behavior at the University of Georgia (706-542-4365).

I am aware that participation in this study is voluntary. I do not have to take part in the study. I can stop taking part in the study at any time for any reason. I will not lose any benefits or services, including medical care and treatment, that I was already receiving. The purpose of this study is to find out about how Black men live with type 2 diabetes. If I take part in this study, I will be interviewed by the researcher for about 60 to 90 minutes. I will be asked about how I live with type 2 diabetes.

I understand that the interview will be audio recorded. The recording will be typed up into a transcript. The recording will be erased by December 2012. The risk for being a part of the study is that the individually-identifiable information I share in the interview could be accidentally shared with others. In order to prevent this, I will be given a false name in the transcript. My real name will not be used when the results of the study are reported.

I can choose to have parts of my interview or the entire interview excluded from the study. The discomfort I could experience is that I may feel overwhelmed or depressed when sharing my experiences of managing type 2 diabetes. The benefits for me are that I will be provided with an opportunity to talk about my experience with living type 2 diabetes. As an incentive, I will receive 20 dollars cash.

The researcher will answer any of my questions now or throughout the study. I understand that by signing this form I agree to take part in this study. I will also receive a signed copy of this consent form.

_____	_____	_____
Name of Researcher	Signature	Date

Telephone: _____

Email: _____

_____	_____	_____
Name of Participant	Signature	Date

Please sign both copies, keep one and return one to the researcher.

Additional questions or problems regarding your rights as a research participant should be addressed to The Chairperson, Institutional Review Board, University of Georgia,

629 Boyd Graduate Studies Research Center, Athens, Georgia 30602;

Telephone (706) 542-3199; E-Mail Address IRB@uga.edu

APPENDIX B
INTERVIEW GUIDE

My name is Apophia Namageyo-Funa, and I am currently working towards a doctoral degree in Public Health at the University of Georgia in Athens, Georgia. My research focuses on the experiences of Black men who have type 2 diabetes. The purpose of this study is to gain an understanding of your experiences and use the information to guide the development of efforts to help Black men effectively manage their type 2 diabetes. I am interviewing a number of Black men who have had type 2 diabetes for at least one year. I would like to interview you by asking you a few questions about your experiences and how you cope with managing type 2 diabetes. If you agree to participate in this interview, please note that the interview will be recorded. The interview will take approximately 60 to 90 minutes, and field notes will be taken as well to note anything that may not be captured by the audio recording. Your participation in this research is voluntary, and you may at any point pass on any question. Your name will not be linked with the information you provide nor will your name be mentioned in the dissertation I am writing. Furthermore the information you share in this interview will be treated as confidential.

Questions

1. Tell me a little bit about yourself (Probe with how old are you? Where do you work? What is the highest education you have attained? Describe your family.)

2. Tell me about the time when you found out you had type 2 diabetes (Probe with how were you feeling physically?)
3. How did you feel when you found out you had diabetes? (How did you see yourself? How did others see you?)
4. At what point did you decide that it was time to start managing your type 2 diabetes? What led to that decision?
5. What are some of the ways you have been managing your type 2 diabetes? (Probe with Did you try to lose weight? Do you use insulin to manage your type 2 diabetes?)
6. When you think back to how long you have been managing your type 2 diabetes, what about it has been the easiest thing to do? (Probe with what advice would you give someone managing type 2 diabetes?)
7. Tell me a bit about what gets in the way of you from managing your type 2 diabetes?
8. When you think back to how long you have been managing your type 2 diabetes, what about it has been the most challenging thing to do? (Probe with what contributed to making it more challenging?)
9. It's admirable how you have been able to keep going under such difficult circumstances. How do you handle the challenges? (Probe with can you give me an example?)
10. What are other ways in which you handle challenging situations such as what you have shared?

11. Who and what were helpful in handling the challenging situations you face when managing type 2 diabetes? How do they help you?
12. Describe your religious or spiritual position. What connections if any do you make between your religion or spirituality and how you manage your type 2 diabetes? (Probe with how does it help ? how does it hinder?)
13. Compared to 6 months ago, do you think you are doing better or worse? If so why? Do you think you are doing better or are you okay with where you are?
14. What else do you want to tell me about your experiences with type 2 diabetes? (Probe with “What have I not asked that you would like to say?”)

APPENDIX C
RECRUITMENT FLYER

Diabetes Research Study

**Be part of an important research study
on type 2 diabetes**

Are you a Black male between 45 and 65 years of age?

Have you had type 2 diabetes for more than a year?

Do you live in Georgia?

If you answered **YES** to these questions, you may be eligible to be a part of a research study on type 2 diabetes.

The purpose of the research study is to find out about how Black men live with type 2 diabetes. The research study will include an interview that will last about one hour. If you are a part of the research study, you will receive 20-dollars cash for being a part of the study.

Apophia Namageyo-Funa a graduate student of the Department of Health Promotion and Behavior at the University of Georgia in Athens, Georgia will be doing this research study.

Please contact Apophia Namageyo-Funa at apophia@hotmail.com
or **(404) 428-8449** for more information

APPENDIX D
IN PERSON SCRIPT

P = Potential Participant; I = Interviewer

P - Hello, [name of potential participant] speaking. May I please speak to Apophia Namageyo-Funa? I am responding to the brochure for the study on type 2 diabetes.

I - Hello, and thank you for responding to the recruitment flyer. My name is Apophia Namageyo-Funa and I am a graduate student in the Department of Health Promotion and Behavior at the University of Georgia in Athens, Georgia. I am currently conducting research under the supervision of Dr. Jessica Muilenburg on the management of type 2 diabetes among Black men in Georgia. As part of my dissertation research, I am conducting interviews with Black men in Georgia to understand their experiences managing type 2 diabetes. Do you meet the eligibility criteria outlined in the recruitment flyer?

P - Yes/No

I - Are you a Black male?

P - Yes/No

I - Are you between the ages of 45 and 65 years?

P - Yes/No

I - Have you had type 2 diabetes for at least one year?

P - Yes/No.

IF AT LEAST ONE RESPONSE IS NO, then

I – Thank you for responding to the recruitment flyer and your interest in the research study however you do not meet the criteria to be included in this research study.

IF ALL RESPONSES ARE YES, then

I - Ok. You meet the criteria for the research study. I would like to schedule an interview with you but first I would like to provide you with some background information about the research study.

P - Yes, could you provide me with some more information regarding the interviews you will be conducting?

I - Background Information:

- I will be undertaking interviews starting in November.
- The interview would last about 60 to 90 minutes, and would be arranged for a time convenient to your schedule.

- Involvement in this interview is entirely voluntary. You may or may not experience discomfort with answering some of the questions. If you do, we can skip those questions or stop the interview.
- The questions are quite general (for example, What do you do to manage your type 2 diabetes?).
- You may decline to answer any of the interview questions you do not wish to answer and may terminate the interview at any time.
- With your permission, the interview will be tape-recorded to facilitate collection of information, and later transcribed for analysis.
- All information you provide will be considered confidential.
- The recordings of the data collected will be kept in a secure location and disposed of in June 2013 after completion of the study. The transcripts of the data collected will also be kept in a secure place and pseudonyms will be used in place of real names in the transcripts.
- If you have any questions regarding this study, or would like additional information to assist you in reaching a decision about participation, please feel free to contact Dr. Jessica Muilenburg at 706-542-4365.
- I would like to assure you that this study has been reviewed and received approval through the Institutional Review Board at the University of Georgia. However, the final decision about participation is yours.

After careful consideration, please contact me at 404-428-8449 to schedule a time to sign the consent forms and conduct the interview.

P - No thank you after hearing the background information, I am not interested in participating.

OR

P - I will think about it and if I am interested, I will give you a call to schedule a time to sign the consent forms and conduct an interview.

OR

P - Yes, I would like to go ahead now and schedule a time to sign the consent forms and conduct an interview.

I - Thank you very much for your time. I look forward to hearing from you. Once again, if you have any questions or concerns please do not hesitate to contact me at 404-428-8449

P - Good-bye.

I - Good-bye.

APPENDIX E

ALIGNMENT OF STUDY QUESTIONS WITH THE INTERVIEW GUIDE

Research questions	Interview guide questions
Demographic information	Tell me a little bit about yourself Tell me about the time when you found out you had type 2 diabetes How did you feel when you found out you had diabetes?
Research question 1	At what point did you decide that it was time to start managing your type 2 diabetes? What led to that decision? What are some of the ways you have been managing your type 2 diabetes? When you think back to how long you have been managing your type 2 diabetes, what about it has been the easiest thing to do? Tell me a bit about what gets in the way of you from managing your type 2 diabetes? When you think back to how long you have been managing your type 2 diabetes, what about it has been the most challenging thing to do?
Research question 2	At what point did you decide that it was time to start managing your type 2 diabetes? What led to that decision? What are some of the ways you have been managing your type 2 diabetes? It's admirable how you have been able to keep going under such difficult circumstances. How do you handle the challenges? What are other ways in which you handle challenging situations such as what you have shared? Who and what were helpful in handling the challenging situations you face when managing type 2 diabetes? How do they help you?
Research question 3	Describe your religious or spiritual position. What connections if

	any do you make between your religion or spirituality and how you manage your type 2 diabetes?
Verification questions	Compared to 6 months ago, do you think you are doing better or worse? If so why? Do you think you are doing better or are you okay with where you are? What else do you want to tell me about your experiences with type 2 diabetes?