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The Lived Experience of Spirituality among Type 2 Diabetic Mellitus Patients with Macrovascular and/or Microvascular Complications

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The Lived Experience of Spirituality among Type 2 Diabetic Mellitus Patients with Macrovascular and/or Microvascular Complications

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The purpose of the research was: (a) to explore the lived experience of spirituality among type 2 diabetes mellitus patients with macrovascular and/ or microvascular complications; and (b) to describe the meanings of this phenomenon that are discovered in the descriptions of the lived experience of spirituality among type 2 diabetes mellitus patients with macrovascular and/or microvascular complications. Twenty-five male veterans with type 2 diabetic mellitus macrovascular and/or microvascular complications were interviewed from the medical outpatient clinics of an urban hospital. Giorgi's (1985) phenomenology method was used to analyze the interviews. The following eight themes emerged: (a) the comprehension on the vicissitudes of type 2 diabetic patients with macrovascular and/or microvascular complications: Precursor to the spirituality experience; (b) spirituality helps explain the "Why Me?" question among type 2 diabetic patients with macrovascular and/or microvascular complications; (c) relationship with God or a Higher Power in spirituality supports living with type 2 diabetes mellitus and its macrovascular and/or microvascular complications; (d) spirituality promotes self-efficacy in the diabetic management of type 2 diabetic mellitus patients with macrovascular and/or microvascular complications; (e) spirituality generates faith with living among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications; (f) spirituality encourages optimism among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications; (g) spirituality remains unchanged if not stronger or enhanced in type 2

diabetic patients with macrovascular and/or microvascular complications; and (h) the religiosity component of spirituality supplements adaptation or coping in living with type 2 diabetes with macrovascular and/or microvascular complications. The findings concluded that spirituality expands the consciousness of the participants to meet the challenges of type 2 diabetes mellitus with macrovascular and/or microvascular complications with favorable diabetic practices and coping skills. Spirituality is one domain of holistic health that is significant to nursing in enhancing nursing knowledge, spiritual care, and evidence-base existential inquires toward health and healing.

This dissertation by Cynthia M. Cordova fulfills the dissertation requirement for the doctoral degree in Philosophy approved by Eden Kan Ph.D, R.N. as Director, and by Barbara Moran Ph.D, R.N., and Beverly Lunsford Ph.D, R.N. as Readers

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Chapter I

The Lived Experience of Spirituality among Type 2 Diabetic Mellitus Patients with Macrovascular and/or Microvascular Complications

Patients living with chronic illnesses such as type 2 diabetes mellitus have life management challenges and difficulties that come with the disease process. Type 2 diabetes mellitus is a metabolic disorder that causes insulin resistance or insufficient amount of insulin to maintain normal glucose levels in the body (Becker, 2001; Franz, 2001). Epidemiology data from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) (2007) had indicated that individuals with type 2 diabetes were at risk for many microvascular and/or macrovascular complications such as retinopathy, neuropathy, nephropathy, altered skin integrities, amputations, strokes, and myocardial infarctions. According to the American Diabetes Association (ADA) (2005), type 2 diabetes accounts for 90 percent to 95 percent of all diagnosed cases of diabetes. National estimates on diabetes for 2007 from NIDDK (2007) indicate the following:

(1) Total: 23.6 million people- 7.8 percent of the population have diabetes

Diagnosed: 17.9 million people

Undiagnosed: 5.7 million people

Pre-diabetes: 57 million people

New cases: 1.6 million new cases in people aged 20 years and older each year

(2) Ethnicity: a. Non-Hispanic Whites: 14.9 million or 9.8 percent of all non-Hispanic whites 20 years or older have diabetes

b. Non-Hispanic blacks: 3.7 million or 14.7 percent of all non-Hispanic blacks ages 20 or older have diabetes

(3) Age: a. 20 years or older, 23.6 million people or 10.7% of all population in this age group has diabetes

b. 60 years or older, 12.2 million people or 23.1% of all population in this age group has diabetes

(4) Gender: a. men- 12 million or 11.2 percent of all men age 20 years and older have diabetes

b. women- 11.5 million or 10.2% of all women 20 years and older have diabetes

In reference to other ethnic populations, there was not enough sufficient data to derive estimates of both diagnosed and undiagnosed diabetes for all minorities such as Native Hawaiian and other Pacific Islander populations (NIDDK, 2007). With the exception of the Indian Health Service database, 1.4 million American Indians and Alaska Natives in the United States had been treated for diabetes (NIDDK, 2007). After adjusting for population age differences, 2004-2006 national survey data (NIDDK, 2007) indicated 7.5 percent of Asian Americans, 8.2 percent for Cubans, 11.9 percent for Mexican Americans, and 12.6 percent for Puerto Ricans ages 20 years or older had a diagnosis of diabetes. Diabetes was ranked seventh as the cause of death in 2006 based on 72,507 death certificates (NIDDK, 2007).

Inconsistent diabetic management by type 2 diabetic patients will lead to macrovascular and/or microvascular complications such as retinopathy, neuropathy, nephropathy, altered skin integrities, amputations, strokes, and myocardial infarctions from this chronic illness (Becker, 2001; Franz, 2001). Adults who were 65 years and older with diabetes in 2004 were two to four times higher than adults without diabetes to die with heart disease (68 percent) and stroke (16 percent) (NIDDK, 2007). Diabetic adults (20 to 74 years of age) with retinopathy developed blindness (NIDDK, 2007). According to NIDDK (2007), there were 12,000 to 24,000 new cases of blindness each year attributed to diabetic retinopathy. For diabetic nephropathy, data retrieved in 2005 by NIDDK (2007) indicated 46,739 diabetic patients with end-stage kidney disease and 178,689 diabetic patients who were on renal dialysis or had a kidney transplant. Nontraumatic lower limb amputations from diabetic neuropathy in 2004 were 71,000 (NIDDK, 2007). It was also noted that diabetic patients ages 60 or older were two to three times more likely to report an inability to walk a quarter of a mile, climb stairs, do housework, or a mobility aid compared to non-diabetic patients (NIDDK, 2007).

An evaluation of these data would suggest that the challenges and adjustments in the lives of type 2 diabetic patients are inevitable. The challenges of diabetic patients are lifestyle changes, regular monitoring of blood sugars, medication changes as in hypoglycemic agents versus insulin, and compliance with diabetic preventive health care behaviors can cause either acceptance or denial of their diabetes. Even a well-controlled diabetic patient will face a complication or chronic condition in the future due to the trajectory of the pathophysiological process of this disease (NIDDK, 2007). When type 2

diabetic patients experience increased levels of stress, adjustment to their illness may need to be explored.

Patients living with type 2 diabetes present with different coping responses to the changing circumstances of this chronic illness. The patients' coping resources have a facilitating effect when facing life changing challenges (Coleman, 2003; Koenig, 2001; Lazarus & Folkman, 1984; O'Brien, 2003a). One coping resource in times of stress and illness is spirituality (Koenig, 2001; Koenig, 2002; O'Brien, 2003a; O'Brien, 2003c; Taylor, 2002; Wright, 2005). Although multiple factors influence how patients deal with complications of a chronic illness, spirituality has been determined to be a mediating factor in the adaptation and coping ability of patients who were faced with such challenges (Koenig, 2004a; Koenig, 2004b; Landis, 1996; Lin & Bauer-Wu, 2003; O'Brien, 2003a; Treloar, 2002). Concerns on making life changes can increase a person's awareness of his or her vulnerability to chronic illnesses (Koenig, 2001; O'Brien, 2003a; O'Neill & Kenny, 1998). An individual's sense of spirituality can encourage hope and a feeling of adaptation, coping, or acceptance to whatever circumstance arises from a chronic illness. Spirituality may be a key locus of control when living with chronic illnesses (Koenig, 2004a; Koenig, 2004b; Landis, 1996; Lin & Bauer-Wu, 2003; O'Brien, 2003a; Treloar, 2002).

In general, nursing theories view the human being as a biopsychosocial-spiritual person (Baldacchino & Draper, 2001). Spirituality is a concept that includes the individuals' values, interconnectedness, becoming, and meaning and purpose in life should be a fundamental element of nursing practice in caring for patients with chronic illnesses (Dyson, Cobb, & Forman, 1997; McSherry, 2000; Taylor, 2002). There is a need to consider the

meaning of spirituality on the patients' perception of illness. The spirituality of a patient is the inner resource or strength that is pivotal in influencing his or her ability to become accustomed or cope with the changing circumstances of an illness toward an encouraging health outcome (McSherry, 2000; O'Brien, 2003a; Taylor, 2002; Wright, 2005).

No nursing study in the extant of literature has been found to explore the lived experience of type 2 diabetic patients with complications in relation to spirituality in the outpatient hospital setting. There was a need to explore the meaning of spirituality as it is integrated in the lives of type 2 diabetic patients with macrovascular and/or microvascular complications. Since spirituality is holistically interconnected and transpersonal, it is particularly important to examine this perspective in relation to this chronic illness. Diabetes mellitus is a chronic condition with complications such as retinopathy, neuropathy, nephropathy, altered skin integrities, amputations, strokes, and myocardial infarctions; when it is not managed effectively, can lead toward stress and discouragement, which may influence the patient's perception on how to cope with the disease process (Landis, 1996; McDonald et al., 1999). Spirituality may be one personal resource for type 2 diabetic patients to maintain stability or to adapt to episodes of illnesses.

Statement of the Problem

What is the lived experience of spirituality among type 2 diabetic patients with macrovascular and/or microvascular complications?

Conceptual Orientation

In this study, the concept of spirituality provides an exploratory insight into the meaning of illness from the 'consciousness' perspective of the participant. Through a

qualitative inquiry, the researcher is able to acquire an ontological understanding on the reality of the subjective experience that only the participant is able to communicate with as 'being in the world" (Giorgi, 2005;Husserl, 1970; Patton, 2002; Speziale & Carpenter, 2003). As Patton (2002) explains,

> There is no separate (or objective) reality for people. There is only what they know their experience is and means. The subjective experience incorporates the objective thing and becomes a person's reality, thus the focus is on meaning making as the essence of human experience (p.106).

A conceptual orientation of spirituality reveals a broad human experience that lacks definitional clarity, but an important humanistic and metaphysical dimension in the health and well-being of patients (Baldacchino & Draper, 2001; Dyson, Cobb, & Forman, D, 1997; Koenig, 2001). Due to its abstractness, spirituality is synonymously interchanged with religiosity (Delgado, 2005; Dyson, Cobb, & Forman, D, 1997; Greenway, Milne, & Clarke, 2007; Koenig, 2001). Importantly, the concept of spirituality is broad beyond religious, cultural, social, and secular aspects of meaning (Delgado, 2005; Dyson, Cobb, & Forman, D, 1997; Greenway, Milne, & Clarke, 2007; Koenig, 2001). As an inherent human quality, spirituality involves "faith, search for meaning and purpose, connectedness to God, a Higher Power, other people, transcendence of the self, or becoming as in inner peace and well-being" (Delgado, 2005, p. 157).

Despite the inherent human qualities of spirituality, the spiritual well-being of patients from an existential and religious perspective extrapolates a positive coping mechanism toward chronic illnesses (O'Brien, 2003a, 2003b, 2003c). This is evident in the conceptual orientation of O'Brien's (2003a) theory on spirituality as a dimension in the spiritual well-being of individuals. From this perception, the generality of one's spiritual well-being is defined as spirituality in the countenance of illness itself (O'Brien, 2003a, 2003c). This research will be explored by O'Brien's (2003a) definition of spirituality in illness as it relates to this study's focus in type 2 diabetes mellitus patients with macrovascular and/or microvascular complications.

Spirituality in Illness

According to O'Brien (2003a), spirituality is grounded in the belief that the "human person, as well as being possessed of physical and psychosocial nature, is also a spiritual being capable of transcending and/or accepting such experience as pain and suffering in the light of his or her higher nature" (p.108). The patient's spiritual resources assist in his or her functional ability to accept illness (O'Brien, 2003a). According to O'Brien (2003a), the purpose of "identifying, supporting, and strengthening these spiritual resources in relation to sickness or disability are the influencing factors in the conceptual orientation of spirituality in illness" (p.108).

An ill individual is conceptualized as having a searching ability to find spiritual meaning in the experience of illness as it leads to a positive outcome of well-being (O'Brien, 2003a). An individual's perception of the spiritual meaning of an illness is influenced by personal, spiritual and religious attitudes and behaviors (O'Brien, 2003a). According to

O'Brien (2003a), these attitudes and behaviors refer to *personal faith, spiritual contentment, and religious practice* which are three conceptual components of spirituality in illness synthesizing an individual's ability to find spiritual meaning in the experience of illness (O'Brien's, 2003a). Although the concepts of spirituality and religiosity are distinct, O'Brien (2003a) addresses religiosity as part of the spiritual experience. The mediating factors that impact spiritual and religious attitudes and behaviors of individuals are severity of illness, social support, and stressful events (O'Brien 2003a). The severity of illness is defined as the degree of functional impairment (O'Brien, 2003a). Social support makes references to family, friends, and caregivers (O'Brien, 2003a). Stressful life events are described as being emotional, sociocultural, and/or financial (O'Brien, 2003a).

Spirituality in illness has been studied inductively and deductively in the area of coping with chronic illness and disability such as HIV and end-stage renal disease as derived through several nursing studies by O'Brien (1982a, 1989, 1992; O'Brien & Pheifer, 1993). The conceptual orientation relates to the association between spirituality and quality of life with those dealing with illness and/ or disability (O'Brien,1982a, 1982b, 1989, 1992, 2003b; O'Brien & Pheifer, 1993). Spirituality provides a mediating mechanism for patients to adapt or manage the adversities of chronic illness (O'Brien, 1982, 1989, 1992, 2003c). However, no research has been found on the lived experience of type 2 diabetic outpatients with macrovascular and/or microvascular complications in terms of spirituality. Therefore, it is appropriate to explore the essence or nature of this experience within the conceptual orientation of spirituality in illness.

Statement of the Purpose

The purpose of this research was: (a) to explore the lived experience of spirituality among type 2 diabetes mellitus patients with macrovascular and microvascular complications; and, (b) to describe the meanings of this phenomenon that are discovered in the descriptions of the lived experience of spirituality among type 2 diabetes mellitus patients with macrovascular and microvascular complications.

Research Question

What is the lived experience of spirituality among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications within a hospital outpatient setting?

Definition of Terms

Theoretical Definition of Spirituality

According to Moberg (1979), spirituality is related to an individual's philosophy of life and sense of transcendence as inner resources central toward health and healing. Spirituality is multidimensional that of "transcendence on a personal level and religiosity which reflects an individual's practice of faith with or without participation in an organized religion" (O'Brien ,2003a, p.110). The referents are personal faith, spiritual contentment, and religious practice (O'Brien, 2003a). Personal faith is a reflection of an individual's transcendent values and philosophy of life with a private relationship with God (O'Brien, 2003a). Religious practices are religious rituals such as prayer, church attendance, charity, or reading spiritual books (O'Brien, 2003a). Spiritual contentment is the opposite of suffering which includes living in God's love, power, peace, and forgiveness (O'Brien, 2003a).

Theoretical Definition of Type 2 Diabetes Mellitus with Macrovascular and/or Mircrovascular Complications

Diabetes mellitus consists of a "group of metabolic diseases characterized by inappropriate hyperglycemia resulting from defects in insulin secretion, insulin action, or both" (Franz, 2001, p.5). This chronic disease is characterized by abnormal metabolism of carbohydrates, proteins, fats, and insulin (Becker, 2001; Franz, 2001). Leading epidemiology data define type 2 diabetic complications as consequences of poor glycemic control of two major categories: (1) macrovascular complications: strokes, peripheral vascular disease (ulcers and amputation), and myocardial infarctions and (2) microvascular: retinopathy, neuropathy, and nephropathy (Becker, 2001; Franz, 2001).

Significance to Nursing

Since nursing is a holistic profession, the spiritual dimension is integrated into a healing atmosphere that promotes perseverance of the illness, spiritual well-being and physio-psychosocial well-being in patients. Nurses are in a unique position to facilitate and recognize the importance of spirituality as a component of regular nursing care. At the same time, nursing knowledge can be enhanced as one gains insight into the spirituality of outpatient type 2 diabetic patients. The cognitive process of spirituality and its significance in type 2 diabetes mellitus patients with complications provides nurses a unique perspective into the nature and meaning of the lived experience. More importantly, it will deepen an understanding on how nurses can assess and be more attentive to the spiritual needs of chronically ill patients such as among type 2 diabetes mellitus patients with macrovascular and/or mircrovascular complications in influencing their health behaviors and the general

well-being. Therefore, it is important to explore the meaning of spirituality among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications in a hospital outpatient setting.

Chapter II

Review of the Literature

Introduction

The purpose of this research entailed two aims: (a) to explore the lived experience of spirituality among type 2 diabetes mellitus patients with macrovascular and/or microvascular complications; and, (b) to describe the meanings of this phenomenon that are discovered in the descriptions of the lived experience of spirituality among type 2 diabetes mellitus patients with macrovascular and/or microvascular complications. The research question was "What is the lived experience of spirituality among type 2 diabetic patients with macrovascular and/or microvascular complications within a hospital outpatient setting?" In this review of literature, there will be an overview on the pathophysiology and epidemiological data of type 2 diabetes mellitus which presents a description on physiological characteristics, risk factors, and complications.

Lifestyle changes as well as current well-being factors or coping mechanisms in managing this chronic illness from previous research will be discussed. The philosophical analysis of spirituality will be examined as a metaphysical concept which includes a dual understanding of the eschatological and humanistic paradigms as reflected in research from a quantitative and qualitative perspective. A global perspective on the nature of spirituality as a mediating factor in the severity and fluctuating certainties of chronic illness will be examined. Spirituality as a coping resource will be explored through its conceptual orientation within a chronic illness perspective. O'Brien's (2003c) conceptual orientation of spirituality in illness will be explored within the context of personal faith, spiritual

contentment, and religious practice in the spiritual well-being of chronically ill patients. Lastly, the present state of research will be reviewed relating to nursing care and the recognition of spirituality as a locus of control in times of living with type 2 diabetes and its macrovascular and microvascular complications.

Pathophysiology and Epidemiological Data of Type 2 Diabetes Mellitus

Diabetes mellitus consists of a "group of metabolic diseases characterized by inappropriate hyperglycemia resulting from defects in insulin secretion, insulin action, or both" (Franz, 2001, p.5). Type 2 diabetes mellitus is characterized by abnormal metabolism of carbohydrates, proteins, fats, and insulin (Becker, 2001; Franz, 2001). The pathogenic processes involve beta cell dysfunction which leads to "impaired insulin synthesis and peripheral insulin resistance" (Franz, 2001, p. 5). In peripheral insulin resistance, there is persistent hepatic glucose production where muscle, fat, and liver cells do not use insulin properly (Becker, 2001; Franz, 2001: Quinn, 2002). Besides beta cell dysfunction, other specific defects are insulin receptor abnormalities and post-receptor defects that affect intracellular insulin activity (Becker, 2001; Quinn, 2002). There are phenotypic differences in type 2 diabetic patients in variable levels of insulin resistance which includes " a range of abnormalities characterized by predominant defects in insulin sensitivity with relative β-cell dysfunction to metabolic derangements characterized by severe or mild insulin resistance" (Quinn, 2002, p.3) Since insulin resistance and decreased insulin secretion are present in type 2 diabetes, it is difficult to surmise which metabolic abnormalities are the primary defects (Quinn, 2002).

Regardless of the etiologies of diabetes mellitus, type 2 diabetes evolves from three distinct stages. In this first stage, the pancreatic β-cell is able to produce "a high level of insulin and normal glucose homeostasis is maintained by a compensatory hyperinsulinemia" (Quinn, 2000, p.4). The second stage involves the suppression of visceral fat lipolysis which leads to increased free fatty acids, increased insulin resistance, impairment in glucose uptake in insulin sensitive tissues of the primary muscles, and increased postprandial plasma glucose levels (Quinn, 2002). The third stage depicts increased insulin resistance through impaired hepatic glucose production and increased plasma glucose levels (Quinn, 2002).

The causal characteristics of type 2 diabetes cannot be easily ascertained, but this chronic disease is known to be strongly associated with heredity which individuals who have a parent or sibling with type 2 diabetes have a 10 to 15 percent chance in developing this disease (American Diabetes Association [ADA], 2005). Type 2 diabetes is usually diagnosed after the age of 30, but can be diagnosed at any age. The diagnostic criteria for diabetes mellitus are the following: (a) casual plasma glucose concentration (any time of the day) >200 mg/dL (11.1 mmol/L); (b) fasting plasma glucose (no caloric intake for at least 8 hours) >115 mg/dL (7.0 mmol/L); and (c) two-hour plasma glucose > 200 mg/dL (11.1 mmol/L) (Davidson et al., 1999; Franz, 2001). Hyperglycemic symptoms include "polyuria, polydipsia, polyphagia, weight loss, blurred vision, fatigue, headache, occasional muscle cramps, and poor wound healing" (Franz, 2001, p.5). Although type 2 diabetic patients can be asymptomatic at the time of diagnosis, end-organ complications are progressive if not managed expeditiously (Becker, 2001; Franz, 2001). Type 2 diabetes may be present for about 6.5 years prior to clinical manifestations and treatment (Franz, 2001).

The epidemiology factors of type 2 diabetes include other risk factors besides heredity. Obesity or being overweight is one major cause leading to type 2 diabetes which is determined to be a score of 25 or more on the body mass index (BMI) (NIDDK, 2007). Excess fat, especially around the waist, is known to interfere with glucose metabolism and can lead toward insulin resistance or metabolic syndrome (NIDDK, 2007). Another factor for developing type 2 diabetes for women is a history of gestational diabetes or having at least one baby weighing more than 9 pounds at birth in women is a factor in developing type 2 diabetes (NIDDK, 2007). In addition, hypertension (blood pressure of 140/90 mm Hg or higher), HDL cholesterol ("good" cholesterol) levels of 35 or lower, and triglyceride levels of 150 and higher contribute to the incidence of type 2 diabetes (NIDDK, 2007). Finally, a sedentary lifestyle as in exercising less than three times a week is another risk factor.

According to the NIDDK (2007), the national estimates on diabetes in terms of prevalence, age, sex, race and cost were derived from the total number of diabetic persons and the prevalence of diagnosed and undiagnosed diabetes from the National Health Interview Survey and the National Center for Health Statistics. In the United States, there are 23.6 million people (6.3% of the population) who have diabetes (NIDDK, 2007). An expected 50 million Americans will have diabetes by 2025 (NIDDK, 2007). The total direct (medical) and indirect (disability, work loss, premature mortality) cost of diabetes in the United States is $174 billion (NIDDK, 2007).

Complications of Type 2 Diabetes

The three consequences of poor glycemic control are: (a) microvascular complications, e.g. retinopathy, nephropathy, and neuropathy; (b) macrovascular

complications, e.g. coronary artery disease, peripheral artery disease, and cerebrovascular disease: and (c) nonvascular complications, e.g. gastroparesis, infections, and dermatological problems (Becker, 2001). Life-threatening diabetic incidents that occur are hyperglycemia with ketoacidosis, hyperosmolar hyperglycemic state, and medication-induced hypoglycemia (Franz, 2001). Microvascular complications are caused by high blood sugar and damage to the capillaries of organs such as the kidneys (nephropathy), eyes (retinopathy), and nerve damage (neuropathy) to extremities leading to diabetic leg ulcers, gangrene, and amputation (Franz, 2001).

Diabetic nephropathy is also known as Kimmelstiel-Wilson syndrome or intercapillary glomerulonephritis (Becker, 2001; Franz, 2001). In diabetic nephropathy, the kidney's small vessels are damaged due to elevated blood glucose, which would reduce the elimination of toxic waste products and inhibit normal levels of fluid, minerals, and electrolytes (Franz, 2001). As diabetic nephropathy progresses, increased amounts of urine albumin or microalbuminuria occurs as a result of nodular glomerulosclerosis (Becker, 2001; Franz, 2001). The first laboratory warning of potential nephropathy is a positive microalbuminuria test (Becker, 2001; Franz, 2001). Serum creatinine and blood urea nitrogen (BUN) may increase as kidney damage progresses (Becker, 2001; Franz, 2001). A kidney biopsy will confirm diabetic nephropathy (Becker, 2001; Franz, 2001). Signs and symptoms of diabetic nephropathy include edema, foamy appearance of urine, unintentional weight gain, anorexia, malaise, nausea and vomiting, fatigue, headache, frequent hiccups, and generalized itching (Franz, 2001). Complications from diabetic nephropathy include hypoglycemia, progressive chronic kidney failure, end-stage kidney disease, hyperkalemia,

severe hypertension, hemodialysis to kidney transplant complications, and increased infections (Becker, 2001; Franz, 2001).

Diabetic retinopathy is the common cause of blindness for diabetic patients (Becker, 2001; Franz, 2001). In diabetic retinopathy, increased blood glucose cause more retinal flow and loss of vascular regulation by retinal endothelial cells and pericytes (Becker, 2001; Franz, 2001). The early phase of this complication is known as background diabetic retinopathy where arteries in the retina become weakened and leak dot-like hemorrhages leading to retina edema and decreased vision (Becker, 2001; Franz, 2001). The next phase is a vasoactive response with increased endothelial cell proliferation resulting in capillary closure and retinal ischemia (Becker, 2001; Franz, 2001). In the neovascularization phase, new frail vessels developed to maintain adequate oxygen levels within the retina (Becker, 2001; Franz, 2001). Unfortunately, the vessels are prone to hemorrhage (Becker, 2001; Franz, 2001). Diabetic retinopathy is dependent on the characteristic fundal lesions which could be mild to moderate non-proliferative (microaneurysms, hard exudates, cotton-wool spots, intraretinal microvascular abnormalities) to proliferative (retinal detachment, vitreous hemorrhage), or maculopathy (macular edema); a complication of diabetic retinopathy is a sudden loss of vision (Becker, 2001; Franz, 2001).

Diabetic neuropathy or nerve damage is due to the metabolic changes associated with diabetes (Becker, 2001; Franz, 2001). Hyperglycemia destroys both nerve axon and the myelin that surrounds it leading to neuropathy which results in loss of sensation, hypersensation, or pain (Becker, 2001; Franz, 2001). Diabetic neuropathy includes “distal symmetrical polyneuropathy, autonomic neuropathy, mononeuropathies, plexopathies,

proximal motor neuropathy, and entrapment neuropathies" (Franz, 2001, p.50). Diabetic foot ulcers are also common due to the autonomic dysfunction of the sweat glands, which can lead to ulceration (Franz, 2001). Diabetic neuropathy and lack of proprioception place the diabetic patient at risk for falls due to gait instability and foot ulcers (Franz, 2001).

Macrovascular or large vessel complications of type 2 diabetes include heart disease, stroke, and peripheral arterial disease (Becker, 2001; Franz, 2001). In macrovascular complications, there is a manifestation of metabolic syndrome X, which is a group of metabolic disorders that result from insulin resistance, where high levels of insulin in the body attempt to overcome the resistance to insulin (Becker, 2001; Franz, 2001; Paul-Labrador et al., 2006). The characteristic disorders of metabolic syndrome X are insulin resistance, hypertension, abnormalities of blood clotting, low HDL and high LDL cholesterol levels, and high triglyceride levels (Becker, 2001; Franz, 2001; Paul-Labrador et al., 2006). The large vessels become blocked which lead toward ischemia and strokes. Type 2 diabetic patients are at risk for heart attack and heart-related problems (NIDDK, 2007). For men, the risk of dying from heart disease is 2 to 3 times greater and for women 3 to 4 times greater than for people without diabetes (ADA, 2005). In diabetic neuropathy, autonomic neuropathy of internal organs in diabetic patients may not manifest the signs and symptoms typical of heart disease (Becker, 2001; Franz, 2001). A "silent ischemia" may occur in diabetic patients due to the autonomic neuropathy (Franz, 2001). The incidence of strokes in diabetic patients with hypertension is 85% due to the more atherogenic lipid profile and the lower concentrations of HDL cholesterol and high levels of LDL cholesterol (NIDDK, 2007).

From this perspective, impending complications of type 2 diabetes instill lifestyle changes for the patient to deter the pathophysiologic consequences of this chronic illness.

Lifestyle changes and Coping Mechanisms in the Management of Type 2 Diabetic Patients

Type 2 diabetes is a chronic illness that requires lifestyle changes in patients in terms of blood glucose and lipoprotein monitoring, diet alterations, exercising, medication regimens and changes, compliance with regular office visits, and preventive health monitoring as in blood pressure monitoring, eye exams, and foot care (Franz, 2001). Intensive treatment regimens and the motivational factors that affect self-management are challenges for type 2 diabetic patients (Hess et al., 2006; Kim & Oh, 2003; Kralik et al., 2004; Whittemore et al. 2002; Kim & Oh, 2003). Research into the psychobehavioral attributes of outpatients with chronic illness have revealed stress in the "areas of trial and error in recognizing and monitoring boundaries, mobilizing resources, managing shift in self-identity, and balancing, pacing, planning, and prioritizing life changes" (Kralik et al., 2004, p.259). Perceived barriers, such as lack of knowledge and understanding of specific diabetic care planning without reinforcement can also challenge the ability of diabetics to adapt, which lead toward depression, helplessness, and frustration (Nagelkerk, Reick, & Meengs, 2006).

Whittemore (2002) found that the chronicity of type 2 diabetes and severe complications result in significant lifestyle disruption. The disruption consists of dietary management, exercise, self-monitoring of blood glucose, and hypoglycemic medications or insulin (Whittemore, 2002). Studies identify the greatest difficulties are related to health

literacy, dietary, exercise behavior, and changes in medications (Cheng & Fantus, 2005; McCormick & Quinn, 2002; Kim et al., 2004; Whittemore, 2002). Limited knowledge of type 2 diabetes in conjunction with pharmacological management increases anxiety, which leads to noncompliance and depression (Cheng & Fantus, 2005; Katon et al., 2005; Kim et al., 2004). Studies of the nurse-led educational programs have shown to be effective in decreasing the health literacy anxieties of diabetic patients (Hess et al., 2006; Kim & Oh, 2003). Yet, it is the psycho-behavioral adjustment or adaptation to type 2 diabetes, especially during labile moments of change in medical treatments that impose many demands that accompany the disease process (Ludwig-Beymer & Arndt, 1999; Mann, Ponieman, Leventhal, & Halm, 2009; McDonald, Tilley, & Havstad,1999).

There is an element of confidence in chronic illnesses, such as type 2 diabetes that imply a level of normalcy when the disease is controlled; yet, there is also trepidation lurking in the background when complications or a sense of insecurity prevail upon the coping abilities of these patients. One prime example would be a 55 year old male who is on hypoglycemic agents such as metformin and insulin once a day and follows the recommended diabetic diet; but, still has vacillations in his diabetic management. Such inconsistencies can place emotional demands on the personal coping mechanisms in managing type 2 diabetes.

In general, studies into the self-management of diabetes have concentrated on coping factors, such as self-care empowerment and motivation (Nagelker, Reick, & Meengs, 2006; Newlin, Knafl, & D'Eramo, 2002; Polzer & Miles, 2005). Siguardottir's (2005) meta-analysis of diabetic self-management studies found that diabetic patients with emotional

aspects of adjustment, stress, or distress have at least one serious diabetes-related problem, which is associated with worry about the future and feelings of discouragement with diabetic treatments. Other issues such as fear about living with diabetes, worrying about hypoglycemic or hyperglycemic events, and being burned out by the constant medication management of this chronic illness have led to a positive relationship between diabetes-related emotional distress and poor self-motivation exemplified by less adherence to self-care (Aalto, Uutela, & Aro, 2000; Hornsten, Sandrstrom, & Lundman, 2004; Sigurardottir, 2005; Sturt, Whitlock, & Hearnshaw, 2005).

In Paterson's (1998; 2001) studies of community-based patients on adaptation to diabetes and the concept of empowerment in chronic illness, the findings suggest a need for "balance" in determining a person's willingness to accept the vacillations of diabetic management which is dependent on external and internal resources available to the diabetic patient within a hospital infrastructure. External resources are the diabetic patient educational programs, family/friends support systems, and health care costs (Paterson, 1998, 2001). Internal support depends on the psycho-behavioral resources of the person in terms of spiritual and religious beliefs or alternative methods of healing such as meditation or relaxation interventions (Paterson, 1998, 2001). From these findings, Paterson (2001) found that empowerment cannot be achieved unless the patients' practioners' perceptions change toward acceptance of "experiential knowledge of patients who have lived with the disease over time and the provisions of necessary resources whether they are external or internal support factors in assisting them to cope with the uncertainty of that particular disease" (p.577).

Although type 2 diabetic patients are given a foundational understanding on how diabetes affects their lives, there is still a propensity toward anxiety in experiencing any of the macrovascular or microvascular complications as they live with daily management of this chronic illness. Such anxiety can jeopardize a person's self-integrity in managing the complications of any chronic illness. For type 2 diabetes, educational support from medicine and nursing may not be enough in providing inner strength for such patients to cope with diabetic management regimens. Weinger et al. (2005) studied the psychological characteristics of diabetic patients who frequently canceled diabetic medical and educational appointments. They found that it was not the type of diabetes that was associated with cancellations; rather, it was the psychological markers such as "pragmatic/stoic coping style, increased anxiety, low self-esteem, diabetes-related distress, increased depression, low optimistic attitude, increased frustration with self-care, and low self-care adherence to diabetic management" (Weinger et al., 2005, p.1792). Weinger et al. (2005) did not explore the connection between these markers and spirituality. Little is known about the inner resources of diabetic patients in terms of spirituality as a possible mediating factor to the vicissitudes of living with this chronic illness. There is a need to explore this concept of spirituality and its meaning for type 2 diabetic patients as they deal with this illness's complexities such as macrovascular and microvascular complications.

Philosophy of Spirituality

Philosophically, attention to a patient's spirituality is part of holistic nursing practice (McSherry,2000; O'Brien, 2003c; Popoola, 2005). Holism assumes "that a person is more than the sum of many parts and differs from wholism which suggests that persons are a

collective of their subsystems or the whole of their component parts" (Delgado, 2005, p.157). Unlike the logical-positivism of science, spirituality is viewed as a metaphysical concept that defies a clear definition (Delgado, 2005; Dyson, Cobb, & Forman, 1997; Koenig, 2001; Miller & Thoresen, 2003). Clarity into understanding the meaning of spirituality is first seen as a metaphysical yet human phenomenon within the intricacies of mind-body-spirit dualism (Dyson, Cobb, & Forman, 1997; Thoresen & Harris, 2002). Further, explanation of spirituality can be evaluated from an eschatological versus a humanistic paradigm. The eschatological aspect of spirituality refers to the sacredness or theistic meaning of life (Koenig, 2001; Miller & Thoresen, 2003). The humanistic aspect of spirituality can be described through art, poetry, self-concept ideals, or relationships with other people (Dyson, Cobb, & Forman, 1997). For others, the meaning of spirituality can be seen as an intersection between the sacred and the secular fields of humanism (Dyson, Cobb, & Forman, 1997). Nevertheless, spirituality is a source of coping in finding meaning and purpose in one's life.

The discourse on the concept of spirituality is broad. According to Ellison (1983), the meaning of spirituality may be subjective in nature affirming religious and social-psychological attributes and can be described as being intrinsic and extrinsic. As conceptualized by Ellison (1983), intrinsic spirituality is the individual's framework of meaning and purpose of life's challenges. Extrinsic spirituality is based on religious rituals and practices such as attending church, prayer, meditation, or works of charity (Ellison, 1983). Nurse researchers, Dyson, Cobb, and Forman (1997), did a meta-analysis of literature exploring the concept of spirituality and its meaning within the context of God, self,

and others. It was found that the "nature of God" may take many forms to be reliant upon an individual's ultimate value in his of her life" (Dyson, Cobb, & Forman, 1997, p.1183). As such, spirituality is incorporated as part of the ontological foundation of nursing which is important in human health and well-being from an intrinsic and extrinsic perspective.

In conceptualizing spirituality, there is confusion with the meaning of spirituality, which is hindered by its relationship with religion. One way to differentiate spirituality and religion is that "religion is more about systems of practice and beliefs while spirituality is an expression of it" (Dyson, Cobb, & Forman, 1997, p. 1184). Research reveals that the dichotomy of spirituality and religiosity in religious and non-religious communities does not reflect their lived experience (Colye, 2002; Dyson., Cobb, & Forman, 1997; George et al., 2000). For them, spirituality and religiosity are interwoven (Dyson, Cobb, & Forman 1997; Tanyi, 2002). For others, this may not be the case where spirituality is more defined within the lines of non-theistic beliefs, such as personal values or goals (Tanyi, 2002). Instead, spirituality is a type of altruistic awareness or personal responsibility in social justice or from an Eastern spirituality perspective entailing compassion for others (Delgado, 2005). Whether spirituality is interwoven or not with religiosity, strong emerging themes in spirituality from the literature review were found to be purpose and meaning, connection, spiritual well-being, self-transcendence, inner peace, and adaptation in health or illness (Colye, 2002; Delgado, 2005; Gall et al., 2005; O'Brien, 2003a; Tanyi, 2002). These themes are the inherent aspects of spirituality.

Concept analysis is useful in nursing to clarify ambiguity in research, practice, and education (Chinn & Kramer, 1999; Walker & Avant, 1995). Tanyi (2002) did a concept

analysis of spirituality through a literature review using the Oxford English Dictionary, CINAHL, PsyInfo, ATLA Religious Index, and Social Work Abstracts based on Walker & Avant's (1995) analysis format which included the aims of the analysis, various uses of the concept; defining attribute of the concept, model case and other cases related to the model, the antecedents and consequences, and the empirical referents. The criteria for Tanyi's (2002) selection included scholarly articles and books with a definition of spirituality and research articles that studied the meaning of spirituality to individuals' well-being and health. Tanyi (2002) found a lack of consensual definition on spirituality but, many nursing authors such as Narayanasamy (1999), Watson (1989), Oldnall (1996), and Dyson et al. (1997) identify the common elements in spirituality to be "transcendence, unfolding mystery, connectedness, meaning and purpose in life, higher power, and relationships" (p.502). Tanyi (2002) concluded that people who experience their spirituality were able to cope with the stressors and anxieties associated with illnesses. The assumption is that having a degree of spiritual well-being as a component of spirituality "eases suffering during illness and encourages peace and the ability for individuals to have positivism and grace" (p.503).

Defining attributes of spirituality identified by Tanyi (2002) included belief and faith, connectedness, inner strength, and peace. In concept analysis, antecedents are "events that must be present before the occurrence of a concept, and consequences are incidents that emerge as a result of a concept" (p.505). The antecedents of spirituality include life, as in conception, birth, and death (2002). Consequences of spirituality are sense of optimism, peace, worship, meaning and purpose in life, physical well-being, and transcendence (2002). As for empirical referents, no single external measure emerged from the literature, but the

most cited instrument used was the Spiritual Well-Being Scale (SWB) by Paloutzian and Ellison (1982) measuring religious well-being (relationship with God) and existential well-being (perception of meaning and purpose) with a reliability of 0.93 (Tanyi, 2002). Many nursing researchers have used this scale to measure the spiritual well-being in adults (Crigger, 1996; Landis, 1996; Tuck et al., 2000). Qualitative studies provide richness into the spiritual experiences of patients faced with chronic illnesses (Chiu et al., 2004; Mattis, 2000; O'Brien, 2003c).

Narayanasamy's (2003) phenomenological study on spiritual coping mechanisms in chronic illness included a purposive sample of 15 chronically ill patients diagnosed with leukemia, melia fibrosis, bowel cancer, chronic liver disease, lung cancer, ulcerative colitis, or melanoma. The sample included nine Christians, two Hindus, and four subjects with no religious affiliations. Patients were hospitalized at the time of this study. Findings of the study included the following themes: "(a) reaching out to God in the belief and faith that help will be forthcoming: (b) feeling connected to God through prayer; (c) meaning and purpose; (d) strategy of privacy; and (e) connectedness with others" (p. 116). The themes led to an understanding that "being connected to God and others appear to help sufferers through crisis brought on by the illness" (p.116). Christians and Hindus referred to the importance of God in their lives versus those with no religious affiliation who instead relied on family and friends (2003). The significance of this study provides an insight into the lived experience of spirituality in Christians and Hindus and how it impacts their coping ability with chronic illnesses. Patients with no religious affiliation rely on the "connectedness" with family and friends to cope with chronic illnesses (2003). These two contrasting views provide insight

into the meaning and purpose of spiritual and non-spiritual pursuits. In this study, spirituality is a factor in the coping ability of chronically ill patients.

Chui et al. (2004) did a quantitative and qualitative integrative review to address the essential elements of spirituality by way of operational definitions, conceptual models/theoretical frameworks, and a transcultural perspective. A systematic search was similar to Tanyi (2002) with additional databases such as Health Star (HSTAR), EMBASE, and Social Sciences Citation Index (SSCI). Inclusion criteria of the articles were: "(a) methodological rigor; conceptual definition of spirituality stated purpose; (b) stated research purpose, questions, and/or objectives; (c) demographic profile of sample; and (d) related spirituality to health" (p.407). Analysis was performed through an electronic data-collection tool which was formatted using Excel software for compatible transfer of coded data into the NVivo software. Content validity was established through expert review and a consensus ranking score of 6.7 (2004). Interrater reliability was .77 with 100 percent agreement among the research team for all data reviewed (2004). Sample size was 73 articles published between 1991 and 2000. Between 1996 and 2000, there were an increased number of studies pertaining to spirituality and health care (2004). There were 38 (52.1%) quantitative designs, 28 (38.45) qualitative designs, and 7 (9.6%) quantitative and qualitative research designs (2004).

In nine sample articles of spirituality studies, the findings suggested the following themes: "(a) spirituality as a life-giving force; (b) meaning making; (c) making most of life; (d) a sense of connectedness with Self, Others, Nature, and Higher Being; (e) transcendence/transacting self-preservation; and (f) religious practice" (p.409). The

conceptual definition of spirituality revealed the following themes: “existential reality, transcendence, connectedness, and power/force/energy” (p.409). Nursing Conceptual models of Martha Rogers’ (1970) Science of Unitary Human Beings, Rosemarie Parse’s (1981) Theory of Human Becoming, Margaret Newman’s (1986) Theory of Health as Expanding Consciousness and Pamela Reed’s (1987a) Theory of Spirituality were cited frequently (2004). Other conceptual models of Viktor Frankl’s (1963) Theory of Logotherapy (the will to meaning), Hans Selye’s (1976) Theory of Stress, and Lazarus and Folkman’s (1984) Model of Stress, Appraisal, and Coping were also used in implicating spirituality as a mediating factor on stress reduction.

In general, Chiu et al. (2004) found 31 research instruments measuring a variety of spiritual attributes. Reliability was reported for 23 of 31 identified instruments (2004). The research instruments which were frequently used were the Spiritual Well-Being Scale (Paloutzian & Ellison, 1982), Oncology Nurse Spiritual Care Perspectives Survey (Taylor, Amenta, & Highfield, 1995) and the Royal Free Interview of Spiritual and Religious Beliefs (King, Speck, & Thomas., 1994) (Chiu et al., 2004). Highest reported reliabilities were the Spiritual Well-Being Scale (Paloutzian & Ellison, 1982), Spiritual Orientation Inventory (Elkins et al., 1988), and Spiritual Perspective Scale (Reed, 1987) (Chiu et al., 2004). Transcultural examination of the studies on the concept of spirituality displayed themes of “connectedness, transcendence, existential reality, and power/force/energy were universal without specific cultural focus” (p.422). According to Chiu’s (2004) findings, spirituality may reflect a more religious connotation which becomes more metaphysical in nature.

The philosophical and empirical nature of spirituality can be perceived as a difference of religiousness and spirituality where the traditional distinction between the two concepts is the former representing an institutional or doctrinal expression and the latter to be more individually oriented to meaning and purpose in life (Ellison, 1983). Within a theoretical perspective, spirituality has been described as a confirmation of life in a cultivating relationship with God, self, community, and environment; in contrast to general well-being which refers to personal life satisfaction within the boundaries of social and psychological domains (Ellison, 1983; Meraviglia, 1999; O'Brien, 2003b). There are two distinctions to spirituality which are "transcendental or existentional relationship with an ultimate other and physio-psychosocial relationship involving the individual with their environment/world and other individuals" (McSherry, 2000, p.40). Spirituality is the essence of one's being which is interactive and integrative to intrinsic and extrinsic attributes of the person (Ellison, 1983; McSherry, 2000).

In this literature review, there was no exploration found examining the lived experience of outpatient type 2 diabetic patients with macrovascular and/or microvascular complications and their reflections on spirituality. Exploring the conceptual orientation of spirituality in illness will provide deeper insight into the spirituality in patients with chronic illnesses such as type 2 diabetes. The philosophy of spirituality has reflected the eschatological and humanistic aspects of spirituality within the essence of meaning of illness.

The Nature of Spirituality in Chronic Illness

The nature of spirituality in chronic illness is directed toward a person centered model of transcendence, which emphasizes an inner expression of self revival or recovery in light of

the anxieties lived with a chronic illness (MacKinlay, 2008). This inner expression of self revival is grounded on a process of faith, self-empowerment and self-direction, responsibility of care, and skill-building to adapt to the negative outcomes of chronic illnesses (Craig et al., 2006; Colye, 2002; Patterson, 2001). According to MacKinlay (2008), two significant concepts of spirituality were found to be predominant in people with chronic illnesses: spiritual resilience and transcendence.

Spiritual resilience is the ability to endure the stresses and negativity of life circumstances toward a personal reflection of well-being (Mackinlay, 2008; Ramsey & Bleisner, 2000). Resilience from spirituality is an activating force for patients with chronic illnesses and associating complications to capture their adaptive capacities during times of trials (Mackinlay, 2008; Ramsey & Bleisner, 2000). Spirituality enables patients to bring about hope with chronic conditions (Colye, 2001). Chronically-ill patients with spiritual resilience have the ability to adapt effectively with adverse conditions. A qualitative study based on content analysis was conducted by Siegel & Schrimshaw (2002) on the perceived benefits of religion and spirituality among 63 older adults with HIV/AIDS. The sample consisted of 45 men (71 percent) and 18 women (29 percent) between the ages of 50 and 68 years (M=56, SD=5.5). Racial profiles of the participants were 44 percent African-American, 24 percent Puerto Rican, and 36 percent were non-Hispanic white. Religious affiliations included 25 percent Catholic, 16 percent Baptist, 16 percent Protestant (no specific denomination), 8 percent Pentecostal, 5 percent Jewish, 5 percent Buddhist, and 8 percent other Protestant denominations (2002). For the thematic analysis, the investigators identified units of meaning related to the participants' religious/spiritual beliefs and activities

and how these beliefs were used to cope with HIV/AIDS. A computer text analysis program searched the text for terms such as religion, spiritual, God, pray, church, temple, and faith. Through thematic analysis, each author read the excerpts for the subsample of cases to identify religious/spiritual beliefs and activities to the various perceived roles that the participants' religion/spirituality played in their lives (2002). Two coding schemes were compared with discrepancies designed to produce code categories. The codes were applied to determine nine themes after reaching saturation. The nine themes were: "(a) evokes comforting emotions and feelings; (b) offers strength, empowerment, and control; (c) eases the emotional burden of the illness; (d) offers social support and a sense of belongs; (e) offers spiritual support through a personal relationship with God; (f) facilitates meaning and acceptance of the illness; (g) helps preserve health; (h) relieves the fear and uncertainty of death; and (i) facilitates self-acceptance while reducing self-blame" (p.94-99). These perceived beliefs of spirituality enhance the meaning and purpose of resilience in terms of chronic illness and its deterioration. Through spiritual resilience, there is a sense of attaining faith in one's capacity to withstand the adversities of life in general. This basic foundation supports a self-confidence perspective for those with chronic illnesses to draw from past hardships and to transcend toward a level of functioning effectively (2002).

Transcendence is the other concept empowering chronically ill patients. Transcendence describes the functional capability of individuals to progress beyond adversity (MacKinlay, 2008). Self-transcendence in a chronically ill individual is an introspective examination of a person's behavior as he or she confronts the challenges and stresses of a chronic disease (Farren, 2010; MacKinlay, 2008). It is a developmental process linking

contemplation, self-evaluation, and introspection of one's past experiences and future anticipations with a spiritual strength (MacKinlay, 2008). The outcome is a sense of well-being, personal growth, purpose and meaning in life, and healing (MacKinlay, 2008).

Farren (2010) examined the relationships among power, uncertainty, self-transcendence, and quality of life in breast cancer survivors from the conceptual framework of Martha Roger's (1970) science of unitary human beings. This was a correlation, cross-sectional study with a purposive sampling of 104 breast cancer survivors in the intermediate stage of survivorship who were completing initial treatment for primary breast cancer, less than 5 years since time of diagnosis, free of metastasis, no major psychiatric syndromes, and age 18 or higher. Power analysis suggested a minimal sample of 100. Of the five research questions, two research questions focused on self-transcendence. The first question pertained to power and uncertainty in explaining the variance in self-transcendence in breast cancer survivors (2010). The second question asks do power and uncertainty contribute in an interactive way to the explanation of the variance in self-transcendence in breast cancer survivors (2010). Eligible participants completed a self-administered questionnaire of four instruments, a demographic data form, and two consent forms, including the Quality of life Index-Cancer Version (Ferrans, 1990), Power of Knowing Participation in Change Tool Version II(Barrett & Caroselli, 1998), Mishel (1981) Uncertainty in Illness Scale-Community Form, and Self-Transcendence Scale (Reed, 1987). Data analysis was conducted with the Statistical Packages for the Social Sciences Version 10.0.

Farren's (2010) main analyses of the two research questions focused on the relations of power and uncertainty with self-transcendence. For the first research question, the

"together power (beta=.118, t=4.907, p=.000) and uncertainty (beta= -5.509, t= -2.252, p= .027) explained 28% of the variance in self-transcendence, F(2,10)= 19.843, p=.000 (Adj R^2=.268)." (Farren's,2010, p. 68) For the second research question, the results showed "the interaction term of power and uncertainty (*beta*=.093, *t*=1.065, *p*=.290) did not make a statistically significant contribution to explain the variance in self-transcendence" (Farren's, 2010, p. 68). According to Farren (2010), an ancillary analysis of a process called three regression equations tested the mediating relations of power, self-transcendence, and quality of life. In regards to the first question, "self-transcendence mediated the relation between power and quality of life, step one, power (*beta*=.496, *t*=5.770, *p*= .000) was statistically significantly [*F* (1,102) = 33.288, p=.000 (*Adj* R^2=23.9)] and explained 25% of the variance in transcendence" (p. 68). The results of step two indicated that "power (*beta* .315, *t*=3.357, *p*=.001) contributed statistically significantly to the explanation of variance 10% in quality of life, [*F* (1,102) = 11.269, p=.001]" (p. 68). In the third step, "self-transcendence (beta= .593, t=6.496, p=.000) continued to make a significant contribution to quality of life, while power became non-significant (*beta* =.021, *t*=.231, *p*=.818)" (p. 68). This statistical evidence revealed a "complete loss of significance of power with self-transcendence as a strong mediator in the relation to power and quality of life" (p. 69). This is consistent with Reed's (1987) ideas of "self-transcendence demands knowing participation and that self-transcendence may be heightened during fragmenting experiences in life" (p. 69).

The nature of spirituality reflects the resilience and transcendental attributes of individuals faced with the challenges, difficulties, and complications of chronic illnesses. Ultimately, spirituality is the source of power that promotes motivation and growth toward a

personal identity of health and healing. It is a coping mechanism that mediates the stresses and difficulties of living with chronic illnesses and at the same time, providing meaningful support toward well-being.

Spirituality as a Coping Mechanism in Chronic Illness

There is a growing body of positive evidence documenting the relationship between patients' religious/spiritual lives and their coping experiences of illness and disease. This demonstrated that spirituality is important to people particularly those with chronic illnesses, disabilities, or terminal illness (Koenig, 2001). From a healing perspective, spirituality reduces anxiety, depression, adverse physical symptoms in patients, and enhances quality of life (Andrykowski et al., 2005; McSherry et al., 2004; Meraviglia, 2004; O'Brien, 2003a).

In Thoresen and Harris' (2002) meta-analysis on spirituality and health, they found that religious and/or spiritual factors as in religious attendance, prayer, and self-reflection with a God or Higher Being influence a positive sense of physical and psychological well-being as in: "(a) lower coronary incidents and lower blood pressure; (b) improved physical functioning, medical compliance, self-esteem, lower anxiety in heart transplant patients; (c) reduced pain in cancer patients; (d) better perceived health and less medical service utilization; and (e) decreased functional disability in nursing home elderly" (p.5). Spirituality may influence how patients are able to managed and cope with their chronic illness toward physical and psychological well-being.

In terms of spirituality in illness, McNulty et al. (2004) found that there is a growing appreciation on the significant role of spirituality and religiosity on coping in terms of stress, severity of illness, and complications. In their study of perceived uncertainty, spiritual well-

being and psychosocial adaptation in a sample of 50 patients with multiple sclerosis, McNulty et al. (2004) examined the role of spiritual well-being as a potential mediator between uncertainty and adaptation. Although the sample was small, the aim of the study was to examine the role of spiritual well-being as a mediator between perceived uncertainty and psychosocial adaptation to multiple sclerosis. Statistical analysis included: (a) zero-order correlations among the study's variables (perceived uncertainty, spiritual well-being, and psychosocial adaptation); (b) conducting a series of hierarchical multiple regression analyses to examine several predictor variables (i.e. selected sociodemographic characteristics, perceived uncertainty, spiritual well-being) on the outcome variable adaptation by controlling personal, social, and disability-related variables; and (c) testing spirituality as a moderator by examining the magnitude of the interaction term (uncertainty x spiritual well-being) (2004). Results indicated that both uncertainty and the two domains of spiritual well-being (intrinsic and extrinsic) were significantly linked to overall psychosocial adjustment in multiple sclerosis (2004). Higher levels of perceived uncertainty and decreased levels of spiritual well-being were associated with lower levels of psychosocial adaptation (2004). The intrinsic and extrinsic components of spiritual well-being have demonstrated mediator properties in "attenuating the impact of uncertainty on psychosocial adaptation" (p.96). Spiritual well-being is a compelling predictor of psychosocial adjustment.

In a study of diabetic patients, Landis (1996) explored uncertainty, spiritual well-being, and psychosocial adjustment in a nonprobability sample of 94 community-based men and women with type 1 or 2 diabetes. In this descriptive correlation study with a small sample, Landis (1996) used four instruments: Spiritual Well-Being Scale (Ellison, 1983),

Uncertainty in Illness Scale-Community Form (Mishel, 1981), Psychosocial Adjustment to Illness Scale-Self Report (Derogatis, 1986), and The Participant Survey which included socioeconomic demographics and in-dept information on the experiences of adjusting to diabetes was posed by two open-ended questions: "What has been most difficult about living with diabetes? And what has helped you most to live with diabetes?" (p.223). Data analysis included correlations, hierarchical multiple regression, and method triangulation in examining the essence of complex concepts such as spiritual well-being and uncertainty. The results were: (a) a significant negative relationship between uncertainty and spiritual well-being (r = -.49, p =.000); (b) a stronger negative relationship with existential well-being subscale (sense of purpose or meaning of life) to uncertainty (r = -.54, p =.000) than the religious subscale (religious orientation to God or higher being) (r = -.26, p =.006); (c) overall spiritual well-being scale had a significant negative relationship with the psychosocial adjustment scores (r = -.47, p =.001) (1996). When existential well-being entered next, there was an additional 10 percent (r^2 change=.104) explained variance (1996). The religious well-being variable was not significant in this equation compared to the significant change when the existential variable was entered with an explained variance that ranged from 3 to 21 percent (r^2 = change .035 to.21) (1996). From the two opened-ended questions, only 18% (*n=16*) of diabetic patients indicated spiritual support and found that there were "potential difficulties of persistent uncertainty in diabetic patients and that the potential of spiritual well-being, particularly existential well-being was an internal resource of coping to the stress of uncertainty" (p.228). Presently, no recent study was found in regards to an in-depth

exploration in spirituality of type 2 diabetic outpatients with macrovascular and/or microvascular complications.

Exploring the meaning of illness is influenced by the patient's description of the nature of the illness and perseverance, which can assist his or her capacity to deal with the uncertainty and challenges of the illness. The conceptual orientation of spirituality in illness is envisioned as being of two dimensions: "(a) the spirituality or one's personal relationship with God; and, (b) the religiosity reflecting the person's practice of his or her beliefs" (O'Brien, 2003b, p.110). In contrast of Landis's (1996) finding on the lack of significance of religious well-being, O'Brien's (2003a) referents of personal faith, spiritual contentment, and religious practice of spirituality in illness may assist in mediating coping with a chronic illness as it is related to the spiritual nature of patients and as a dimension, which influences how they experience illness.

Spirituality in terms of meaning and purpose is globally sensitive to the illness perception of patients in terms of quality of life and dignity of the patient. From a chronic illness perspective, research literature on spirituality supports its positive influence on chronic illnesses, such as heart disease, cardiac health, cancer, multiple sclerosis, and HIV and community-centered diabetes mellitus (Kim et al., 2000; Landis, 1996; McNulty et al., 2004; Meraviglia, 2004; Peletier-Hibbert & Sohi, 2001; O'Brien, 1992, 2003; Raholm, 2002; Tuck et al., 2001). In the case of studying type 2 diabetes with macrovascular and/or microvascular complications within a hospital outpatient setting, there is limited information on the mediating influence of spirituality among type 2 diabetic outpatients during the vacillating course of this chronic illness.

Conceptual Orientation: Spirituality in Illness

> The purpose of recognizing, sustaining, and strengthening these spiritual resources in relation to acute or chronic disease and nursing care is the influencing factor toward spirituality and spiritual well-being in illness (O'Brien, 2003a, p.108).

According to O'Brien (2003c), person's perception of illness will determine how reliant one's spirituality is. Knowing more about the patient's perception of illness can help with understanding his or her meaning of spirituality. O'Brien (2003c) described illness as not just a physical and emotional dilemma, but a spiritual encounter. The spiritual nature of patients must be considered as a dimension which influences how they experience illness. Spirituality cannot be separated from the understanding of illness. It is the foundation that is pivotal in influencing his or her ability to adapt or change the circumstances of an illness toward a positive and healing outcome. Patients have a bond with others to foster their spirituality in adverse life experiences. This bond can be with significant others, chaplains, or health professionals who have developed a rapport with the patient. Support for spirituality is a facilitating process dependent on spiritual needs which fosters encouragement and a sense of coping with the disease process (O'Brien, 2003c).

It is finding the meaning, within the experiences of illness and suffering, which become the basis toward a conceptual orientation in exploring the spiritual meaning of illness. The core component of spirituality is finding the spiritual meaning in the experience of illness (O'Brien, 2003a, 2003c). In examining the concept of spirituality, O'Brien (2003a) found spiritual well-being to be a component that defines an individual's spirituality. This

conceptual process was conducted through Walker and Avant's (1995) series of steps that identified the defining empirical referents of personal faith, spiritual contentment, and religious practice. The aim is to explore the concept of spirituality by describing its meaning in relation to experience of illness and suffering (O'Brien, 2003a, 2003c, 2003d).

In identifying the use of the concept, O'Brien (2003b) explored this concept in both the nursing and sociological literature and found spirituality to be identified with health, the existential assets of individuals, the ultimate value of God or Higher Power, and the central philosophical meaning of human life which influences all human behaviors. This can be conceptualized in terms of personal faith, spiritual contentment, and religious practice (O'Brien, 2003a; 2003c). Personal Faith is a reflection of an individual's transcendent values and philosophy of life with a personal relationship with God (O'Brien, 2003a). Religious Practice is operationalized in terms of "religious rituals such as church attendance, private prayer, meditation, reading of spiritual books, and charity work (O'Brien, 2003a, p.110). Spiritual Contentment is the opposite of spiritual distress which includes: "(1) living in the now of God's love; (2) accepting the ultimate strength of God; (3) finding peace in God's love and forgiveness" (O'Brien, 2003a, p.111). There are intervening factors that have a mediating impact on the spiritual meaning of a lived experience in chronically ill individuals which are the severity of illness, social support, and stressful life events (O'Brien, 2003a).

Hypotheses can be derived from the theory relating to the association between spirituality and illness. O'Brien (2003a, 2003c) proposed the following: (a) a significance between the degree of a sick person's personal faith and his or her perceived quality of life in an illness experience; (b) the activity of a sick person's religious practice and his or her

perceived quality of life in an illness experience; and, (c) the degree of a sick person's feeling of spiritual contentment and his or her perceived quality of life in an illness. Empirical findings from Dr. O'Brien's study, "*An Experiment in Parish Nursing: the Gift of Faith in Chronic Illness*" support the overall hypotheses correlating the spiritual well-being of spirituality as a "total concept and in its subcomponents; personal faith, spiritual contentment, and religious practice with quality of life, measured in terms of hope and life satisfaction" (O'Brien, 2003a, p.113).

In this study, O'Brien's (2003a) aims were: "(a) to test the effectiveness of a model in parish nursing on spiritual well-being and quality of life among ill persons marginalized from their faith practices; and (b) to explore the relationship between spiritual well-being and quality of life operationalized in terms of hope and life satisfaction"(p.215). The study sample included 45 chronically ill adults who lived in nursing homes, life care communities, or assisted care facilities and were "completely marginalized from their faith communities due to illness or disability or were minimally able to practice their faith, but not to their current desire" (O'Brien, 2003a, p.215). Study instruments included the following: (a) Spiritual Assessment Scale, a 21-item Likert-type scale which included the subscales on personal faith, religious practice, and spiritual contentment; (b) Miller Hope Scale, a 15-iem Likert-type scale measuring hope in terms of meaning of life and attitudes toward the future; and (c) Life Satisfaction Index-Z, a 13-item Likert-type scale measuring life satisfaction for an older population. The procedure included: (a) baseline data assessment of spiritual well-being and quality of life to plan for pastoral care intervention; (b) pre-post spiritual interventions of three or more pastoral visits within the years 2000 and 2001; and (c) spiritual

interventions tailored to the psychosocial needs of the participants such as large-print bibles, crucifixes, rosaries, religious books, and prayer books (O'Brien, 2003a).

Data analysis included the following: (a) Pearson's *r*, multiple regression, and paired *t*-tests for correlation and pre-post intervention data; and (b) Chronbach's alpha procedure for instrument reliability. The quantitative findings were: (a) overall changes in Time 1 of 2000 to Time 2 of 2001 Parish Nursing/Health Ministry intervention showed mean scale and subscales of the Spiritual Assessment Scale to increase from 91.84 to 97.27; (b) paired *t*-tests (i.e. Spiritual Assessment Scale overall: *t* 0.44=5.23, p=0.0005) revealed significant differences in positive increases on all three instruments indicating greater sense of spiritual well-being, more hope, and higher degree of life satisfaction; (c) an example of the Pearson's *r* statistic for the Spiritual Assessment Scale subscales with the total score at Times 1 and 2 had indicated the personal faith subscale correlates highest (0.94; 0.91) followed by religious practice subscale (0.93; 0.82), and the spiritual contentment subscale (0.83; 0.84); and (d) multiple regression analysis indicated that after controlling for the demographic variables of race and frequency of church attendance, spiritual well-being significantly predicts hope and accounts for 20 percent of the variance at Time 1 and 23 percent of the variance at Time 2 (O'Brien, 2003a).

The qualitative component of the study took into consideration the "uniqueness" of each participant in terms of physical, cognitive, and spiritual needs (O'Brien, 2003a). The project staff provided unique activities along with the intervention, such as health counseling, advocacy, education, and referral. The qualitative data were obtained from the participants' responses to the Spiritual Well-Being Interview Guide. Data came from tape-recorded

"patient-caregiver interactions, handwritten staff members' journal notes on anecdotes, health-related spiritual needs" (O'Brien, 2003a, p.224). Content analysis was performed on 15 sample case studies which revealed five themes: reverence, faithfulness, religiousness, devotion, and contemplation (O'Brien, 2003a). Through the parish/health ministry interventions, there were positive increases in spirituality in terms of personal faith, religious practice, and spiritual contentment.

Spirituality integrates into the healing process that diminishes the dysfunctional nature of illness. The integration is holistically interconnected, interpersonal, and transpersonal. Studying the role of spirituality in the lives of type 2 diabetic patients with macrovascular and/or microvascular complications will provide significant knowledge on the importance of spirituality in coping with this chronic illness.

Summary

In this chapter, an overview on the pathophysiology and epidemiology of type 2 diabetes mellitus detailed the abnormal metabolic processes of this chronic disease which leads to macrovascular and microvascular complications. A brief discussion on lifestyle changes and psychobehavioral responses revealed the importance of spirituality as a coping mechanism that canto empower and motivate chronically ill patients. Philosophically, spirituality is a metaphysical concept which includes the dual intricacies of mind-body-spirit and can be discussed from an eschatological and/or humanistic paradigm. The nature of spirituality in chronic illness is grounded on the spiritual resilience and transcendence to endure the negativity of life circumstances with chronic illnesses. Conceptually, one way to

view orientation of spirituality is to focus on the personal faith, spiritual contentment, and religious practice of chronically ill individuals by O'Brien (2003a, 2003c).

As a holistic profession, nursing has the responsibility to recognize the spirituality of patients with chronic illnesses, such as type 2 diabetes, as a critical resource in reducing the characteristics of anxiety and stress. The spirituality of patients should be assessed as a potential source of empowerment when living with a chronic illness. Another important consideration is to understand the lived experience of type 2 diabetic outpatients with complications as they face transitional changes and alterations in living with this chronic condition. From a phenomenological perspective, the patient's circumstances and severity of illness can influence nurses to be open to the meaning of spirituality in patients' lives and to implement this knowledge into daily nursing care (O'Brien, 2003c). To the extent of this literature review, no nursing study has been found to explore the meaning of spirituality in illness within the context of the lived experiences in type 2 diabetic patients with complications in a hospital outpatient setting.

Chapter III

Methodology

The purpose of this research entailed two aims: (a) to explore the lived experience of spirituality among type 2 diabetes mellitus patients with macrovascular and/or microvascular complications; and, (b) to describe the meanings of this phenomenon that are discovered in the descriptions of the lived experience of spirituality among type 2 diabetes mellitus patients with macrovascular and/or microvascular complications. The research question was "What is the lived experience of spirituality among type 2 diabetic patients with macrovascular and/or microvascular complications within a hospital outpatient setting?" With a conceptual understanding of spirituality as described by O'Brien (2003a, 2003c) the study explored the lived experiences of spirituality among type 2 diabetic outpatients with complications in terms of their chronic illness. A literature review revealed that most research in type 2 diabetes has been quantitative in design in identifying factors such as educational strategies, psychosocial support, and diabetic treatments with limited discussion on the specific life experiences of these patients (Katon et al., 2005; Ludwig-Beymer & Arndt, 1999; Kim & Oh, 2003; Landis, 1996). For this study, there was a need to investigate the essence of living with type 2 diabetes and related complications with specific inquiry into their experiences and perceptions of spirituality within the hospital outpatient setting. It would be useful to the professional nursing practice to examine the life experiences of spirituality among type 2 diabetic hospital outpatients with macrovascular and/or microvascular complications through the phenomenological methodology of Giorgi (1985)

Definition of Terms

Theoretical Definition of Spirituality

Describing the meaning of spirituality has a myriad of definitions that is characterized by existential and religious dimensions (Ellison, 1983). The existential dimension is depicted on the experience and expression of one's spirit reflecting a process in faith with God or a supreme being and/or connectedness with oneself, others, nature, art, music, or literature (Ellison, 1983; Koenig, 2001; Meraviglia, 2004; McSherry, 2000; McSherry, Cash, & Ross, 2004). As for the religious dimension or religiosity, reference is made to an organized system of religious beliefs and practices with indicators such as church attendance or prayers (Ellison, 1983; Koenig, 2001; McSherry, 2000; McSherry, Cash, & Ross, 2004) Spirituality is considered to be more inclusive and universal than religiosity (Koenig, 2001). According to O'Brien (2003a, 2003c), spirituality encompasses an existential and religious meaning, that is relevant to personal faith (transcendence and philosophy of life), spiritual contentment (spiritual peace from God), and religious practice (religious rituals).

According to Moberg (1979), spirituality relates to wellness and health from the perspective of an individual's central philosophy of life and transcendence (Moberg, 1979). In relationship to transcendence or guiding spirit, spirituality is true to the one experiencing it and helps transcend the stresses of life (Chiu, 2004; Molzahn, 2007; Narayanasamy,2003). It encompasses a meaning or purpose in life in respect to harmony and peace. According to Ellison (1983), spiritual well-being within the context of spirituality is an affirmation of one's life in relationship to God, self, community, and environment. In essence, the trichotomy of approaches in spirituality is transcendence, meaning and purpose, and the

structural behavioral approach associated with organized religion (Coyle, 2002). The meaning of spirituality echoes the conceptual orientation of O'Brien (2003a) spirituality and spiritual well-being theory where personal faith and spiritual contentment is intrinsic in relationship with God or Higher power and religious practice as existential.

Design

The aim of phenomenology is to produce a description of a phenomenon as experienced in daily life and to expand the meaning of this experience to its essential component of essence, which is the intentionality of consciousness (Husserl, 1925/1977, 1970; Giorgi, 1985, 2000, 2003, 2005). Giorgi's inspiration for phenomenological research was derived from Husserl (1925/1977) and Merleau-Ponty (1962). According to Giorgi (1985), phenomenology was developed by Husserl (1925/1977; 1970) to be "descriptive or eidetic focusing on consciousness, human existence, and the very nature of being itself" (p.76).

Husserl's *eidetic reduction* from particular facts to general essences was central intentionality of consciousness (Giorgi, 1985, 2000, 2003, 2005). The intentionality of consciousness was Husserl's epistemological basis which discovers the being or the essence of the phenomenon itself despite changing circumstances or characteristics (Giorgi, 1985, 2000,2003,2005). Simply phrased, Husserl sought to establish a logical method to gain an understanding in the experience of human consciousness. This was the foundation of Giorgi's (1985) descriptive phenomenology analysis. It described the human experience as it is opposite from the mechanistic perceptions of the natural sciences (Giorgi, 1985, 2000, 2003, 2005). Giorgi (1985, 2000, 2003, 2005) subscribed to Husserl's definition of

phenomenology as a theory of life-world, which constitutes a transcendental consciousness of the world as product of its experience. From Merleau-Ponty's perspective on existential phenomenology, there was a founding meaning on the prereflexive, lived experience of a human being in the sense of being thrown into the world dependent on the situation (Giorgi, 2000).

> Thus, the subjects are taken to be real human beings in the world, but the situations and objects toward which their consciousnesses are directed are taken merely as presences, not existences (Giorgi, 2000, p.6).

According to Giorgi (1985, 2000), the phenomenology of perceptions on the ambiguities of behavior was a continuous search of transformation in consciousness and experience. This process of transformation began with the researcher's own transformation as in a reduction of one's own natural attitude as in everyday life. Giorgi (2005) believed that the nurse researcher using the descriptive phenomenology method must have a disciplinary attitude that will allow him or her to see "the implications of everyday facts and meanings contained in the description in a disciplinary light which is their true experience" (p.81).

Giorgi (2005) reasoned that consciousness was a "medium between human beings and the world and the very nature of being in the world" (p.76). The intentionality of consciousness reflected all actions, gestures, habits, and human actions having meaning (2005). The experiences of intentionality included perceiving, desiring, imagining, fearing,

hoping, and other emotional essences (2005). By intentionality, every "act of consciousness has taken an object that transcends the act" (p.76).

> This means that consciousness is, among other things, a principle of openness. Because of consciousness, we are open to the world, to others, and even to ourselves. Consciousness actualizes presences (Giorgi, 2005, p.76).

Giorgi (1985) depicted consciousness not only with the realm of mental entities, but any entity can also be an intentional object in the sense of being within that experience or mode of consciousness. Such entities can be physical (e.g. glucometer), people (e.g. caregivers), lack of spatial or temporal location (e.g. numbers), universals (e.g. redness as in inflammation), or state of affairs (e.g. having a chronic condition). Giorgi (1985) interpreted these entities as "intentional objects being part of that experience toward it" (p. 548).

According to Giorgi (1985, 2005), the phenomenological method began by describing a state of affairs experienced in daily life. The description of this situation came from prereflexive thought of the researcher's personal lens of being within the person's experience of that particular situation (Giorgi, 1985, 2005) At that instance, the researcher held a phenomenological stance for keeping him or herself open to that Gestalt experience without judgmental interference (Giorgi, 1985, 2005). This placed the phenomenon in époché, as in the presence of "bracketing" allowing the researcher to focus on searching for its essence (Giorgi, 1985, 2005). Within the context of the experience, the époché was to discover the essence of cognition (Giorgi, 1985, 2005). The essence was the very nature of what is questioned (Giorgi, 1985, 2005). This was an alternative choice to the positive sciences

where phenomenology tries to reintegrate the world of science and the life-world (Giorgi, 2005). Although there was a high regard for the positive sciences, the empirics of science was not the only epistemological source of true knowledge. Giorgi (2005) had provided an analytic discussion on the meaning of phenomenology in human science. According to Giorgi (2005),

> human science is a knowledge-acquiring endeavor that uses a methodology that is faithful to unique qualities of human beings. It is completely nonreductionistic. No attribute can be assigned to the human participant in research, in principle, that the researcher is not willing to attribute to him or herself. The participant is an embodied conscious being who bestows meaning in the world, with an historical past in the midst of a socio-cultural environment capable of other modes of expression with respect to choices concerning his or her destiny (p.79).

In the natural sciences, principles in physical laws account for the relationships between an entity and its environment with no genuine "internality or interiority" that would motivate the discovery of new principles (Giorgi, 2005). In human science, the study of the "nonphysical characteristics of human beings will provide a transformation of principles in regulation related to the phenomena under investigation" (p. 79). The transformation was due to an examination on the psychosocial characteristics of humans in terms of meaning. The employment of the scientific phenomenological method was through description,

reduction, and the search for essential structures based on the contexts of the participants' experience (2005).

Phenomenological Reduction: Validity and Reliability

Phenomenological reduction was the process that facilitated transcendence in thematizing the world as life-world, a counterbalance to positive sciences (Giorgi, 2005; Husserl, 1925/1977; 1970). Validity was established through phenomenological reduction where the disciplinary attitude of the nurse researcher succumbed to "bracketing" or an "eidetic" reduction of presuppositions and the natural attitude outside the world of the participant's experience (Giorgi, 2005; Husserl, 1925/1977, 1970). The validity was the true experience of the participant being within the world (Giorgi, 2005). Despite the variations of experience in exploring the meaning of the phenomenon among the participants, the structural or thematic meaning was heightened due to the reduction and sharpens the meaning of actual experiences (Giorgi, 2005). The "eidetic reduction in phenomenology satisfied the scientific criterion that knowledge had to be general" (Giorgi, 2005, p.81). From a phenomenological philosophy perspective, "eidetic reduction was universality since context and content of the experience played such a pivotal role limits the generalization in scientific analyses" (Giorgi, 2005, p.81). In phenomenology, the researcher was required to perform phenomenological reduction by practicing radical self-introspection, which equates living the epistemological-ethical ideal in establishing the validity of qualitative research (Giorgi, 2000, 2005). For the researcher, this meant separating oneself from previous knowledge of the phenomenon in terms of theoretical and personal concepts, while maintaining the rigor with

which the experience was being described by the participants (Giorgi, 2000, 2005). It was the objective part of the research process that ensures validity (Giorgi, 2000, 2005).

As for reliability, Guba & Lincoln (1985) defined this to be the dependability of the qualitative data through auditability. The criterion for rigor was the auditability when dealing with consistency of data. (Guba & Lincoln, 1985; Morse & Field, 1995; Sandelowski, 1986). Auditability included strategies such as providing evidence of the audit trail, disclosing reflexivity, having detailed field notes with interview contexts, grounding thematic structures within the data by way of verbal excerpts of the interviews, and having accurate recordings and transcription (Guba & Lincoln, 1985; Morse & Field, 1995; Sandelowski,1986). Also, the auditing measures of data can be verified by an independent researcher (inter-rater reliability) to determine the degree of agreement on the coding strategies (Guba & Lincoln, 1985; Morse & Field, 1995; Sandelowski,1986). Emphasis was placed on the researcher to move intensively backward and forward between the data and the schematic thematic structures of the analysis without introducing bias by selective picking of the most vivid data from the interviews (Guba & Lincoln, 1985; Morse & Field, 1995; Sandelowski, 1986).

Phenomenology was an appropriate design for studying the lived experiences of type 2 diabetic patients with complications and extrapolating the sense of "being in the world" within the context or meaning of having a chronic illness. There was also a need to describe and to comprehend the emotions and behaviors of type 2 diabetic patients in terms of spirituality. Presently, no study has been found that provides a rich description of this phenomenon as it reflects the existence and the essences of "being in the world" in type 2

diabetic patients with macrovascular and microvascular complications and the spirituality experience.

Setting

This study was conducted in an outpatient clinic setting within one urban metropolitan hospital near the tristate of Washington D.C., Virginia, or Maryland. The outpatient clinical setting is located within this urban nonprofit hospital. This nonprofit hospital is considered to be a tertiary care teaching facility providing acute general and specialized services in medicine, surgery, neurology, and psychiatry. This urban hospital has a staff of 1,700 providing care to military veterans and treats over 50,000 veterans and has over 500,000 outpatient visits each year. This site would be considered to be a natural setting. According to Burns & Grove (2001), the researcher does not control, manipulate, or change the environment for the study.

The setting was uncontrolled and dependent on real-life hospital situations. The outpatient hospital settings were appropriate environments to explore the lived experience of spirituality of type 2 diabetic outpatients with macrovascular and/or microvascular complications. Limitations or potential barriers in conducting this study were: (a) lacking a familiarity with medical and nursing staff in the outpatient clinics; (b) arranging interview times to coincide with participants' clinic appointments; (c) locating an appropriate area to conduct the interviews with privacy and confidentiality; and (d) finding the time for this researcher to conduct this study taking into consideration diagnostic appointments and privacy of patients. Gaining rapport and assistance from the nursing and medical staff helped to circumvent these potential barriers.

Participants

Through purposive sampling, participants were selected from the medical sub-specialty outpatient providers of the hospital. All Subjects were military veterans. The purposive sampling criteria of potential participants with type 2 diabetic complications included: (a) a diagnosis of type 2 diabetes mellitus of five years or longer; (b) age 25 years and over (c) history of having microvascular complications such as nephropathy (acute or chronic renal insufficiency or failure), retinopathy, neuropathies (foot ulcers, lower extremity itching, burning, numbness, skin alterations, gastricparesis), and/or macrovascular complications such as peripheral vascular disease, myocardial infarctions, and angina; (d) alert and oriented to time, place, and person; and (e) if the patient was blind, this researcher read the survey to him or her. The researcher had sought the assistance from nursing staff and medical providers in identifying patients with type 2 diabetic complications. Other characteristics found in this study group were: (a) camaraderie as it pertains to specific war campaigns (World War II, Korean War, and the Vietnam War); (b) service-related medical disabilities (i.e. post-traumatic stress syndrome, Orange Agent related diabetes mellitus, heart disease, etc.); (c) personal resilience in survivorship while in active duty; and (d) faith in God or a Higher Power to sustain them during their military service.

According to Morse and Field (1995) and Munhall and Boyd (1999), there is no standard rule in determining sample size. Typically, sampling size is dependent on the achievement of information redundancy. According to Sandelowski (1995), sample size in qualitative research is a matter of experience and judgment with ongoing evaluation on the quality of the data and the research methodology. In fact, Patton (2002) emphasized "the

validity, meaningfulness, and insights generated from qualitative inquiry have more to do with information richness of the cases selected and the observational/analytic capabilities of the researcher than sample size" (Patton, 2002, p.245). For this study, redundancy in data was achieved with 25 participants.

Instrumentation

The researcher was also considered as an instrument in this study. As an instrument of this study, the researcher must undertake a process of reflection and intuition. This reflection had taken into account personal experience, knowledge of relevant literature, and generated data from previous studies. Through a process of phenomenological reduction, reflection had heightened awareness of presuppositions, assumptions, and bias. Reflexivity of the researcher was described further below in terms of professional experience, sociodemographic characteristics, lack of social support, and patient compliance with diabetic self-management and preventive care, and religious preferences.

The reduction began with the transparency of the researcher. This means bracketing all presuppositions which were part of the researcher's experience and knowledge of the research topic. Experience was based on the researcher's work with type 2 diabetic patients and on a personal note having a parent with type 2 diabetes. Knowledge of type 2 diabetes entailed the pathophysiology, patient care interventions, psychosocial behavioral attributes, and nursing theories which deal with concepts such as self-care, spiritual well-being, and adaptation.

Familiarity into the sociodemographic characteristics of the study population, such as education limitations, economic difficulties, lack of social support, and lack of compliance

were bracketed. Education limitations had reflected the level of health literacy which can impair the patient's understanding on the rudiments of diabetic self-management. Their ability to pay for their medical care is reflected by their military disability ratings, such as service-connected versus non-service connected ratings which determine eligibility in avoiding co-payments of treatment and medications.

Patients with little support systems tend to have difficulties in coping with type 2 diabetes which can lead to depression and lack of compliance. Cultural (African, European, Asian, Middle Eastern, etc.) and religious (denomination types) differences between the participants and the researcher may reflect altered perceptions. All these factors can influence the researcher's perceptions of veterans in an urban setting who have type 2 diabetes with complications. In turn, noncompliance must be also be bracketed by the researcher.

Reflexivity was also extended to personal religious preference and personal bias in patient non-compliance directing the researcher to keep a phenomenological stance in describing the context of this lived experience. The researcher's religious beliefs as a Christian and Catholic are essentially bracketed and cannot be debated with the study population. Respect for the patients' religious or secular beliefs was instituted consciously, openly, and with no partiality by the researcher.

Through reflexivity, the lived experiences of spirituality and chronic illness cannot be repudiated. The life experiences of the diabetic patient must be given wide latitude of elaboration during the interviews with a level of trust and respect from the researcher which was critical to the success of the phenomenological study. Bracketing can be seen as a

unique opportunity for the researcher to remain open to the meaning of living with diabetes and the lived experience of spirituality from the perception of the patient which was real to him or her.

Demographic Data Survey and Cordova's Interview Guide

The Demographic Data Survey included age, sex, education, religion, ethnicity, church attendance, marital status, employment status, number of years of being a type 2 diabetic, type of diabetic complications, diabetic medication changes, diabetic education, recent HbA1c, and a four point Likert scale item on severity of illness and control of type 2 diabetes (See Demographic Data Survey Appendix II). This Demographic Data Survey illuminates the spiritual and diabetic characteristics of this study group.

Interviews with the participants were based on semi-structured questions in Cordova's Living with Type 2 Diabetes with Macrovascular and/or Microvascular Complications Interview Guide. (See Cordova's Interview Guide Appendix III) The questions were on the experiences of spirituality in type 2 diabetics, spiritual activities, experiencing diabetic complications, lifestyle changes, future concerns and spiritual values in the outpatient setting of the hospital. The interviews were audio-taped and transcribed verbatim. Interviews took place the office of this researcher without interruptions. Probing questions facilitated further elaboration on the lived experiences of type 2 diabetic patients with complications and spirituality. The transcripts were analyzed through Giorgi's (1985) phenomenological method. A reflective diary of this investigation included personal observations and perceptions of the interviews.

Pilot Study

After receiving approval from the Institutional Internal Review Boards of The Catholic University of America and the hospital, a pilot study of four subjects was conducted to determine systematic bias as in clarity and misconceptions of the demographic survey and semi-structured interview tool. The researcher contacted four sub-medical specialty providers (3 medical doctors and 1 physician assistant) who were given information on the study which included the purpose of the study and the selection criteria of the participants. After the medical providers spoke to the interested participants, they contacted the researcher who was waiting in the clinic to talk with the interested participants. The researcher and the participant arranged for a convenient date and time to conduct the research.

On the day of the meeting, the researcher met with each participant in a private office and reviewed the purpose of the study, the informed consent, and the research procedure (i.e. demographic data survey completion, interview, freedom to withdraw from the study, and supportive services in case of emotional distress). The researcher also encouraged questions from the participants. After obtaining the informed consent, each participant completed the demographic survey followed by the interview. The average approximate length of time for the completion of the demographic survey (5 minutes) and the interview (1 hour and 15 minutes) was one hour and 2 minutes. The four pilot participants did not find the demographic survey or the semi-structured interview to be difficult. The results were shared with a PhD qualitative nurse researcher. The data of this pilot study group was added to this research analysis.

Procedure

This researcher was able to gain entry into the outpatient research site through the research coordinators at the hospital. Approval for the research study was obtained from the Institutional Internal Review Boards of The Catholic University of America and the hospital. The two procedural phases of this study were (a) enrollment and (b) data collection of the demographic survey and the interview. This researcher began this study with the enrollment phase, which entailed the following: (a) the researcher introduced herself to the nursing and medical staff in the medical specialty outpatient clinics; (b) the researcher provided flyers, which describe the purpose of the study and selection criteria of the participants to nursing and medical staff; (c) based on the selection criteria, the medical providers provided the names of interested participants to the researcher who was waiting in the clinic; (d) the researcher introduced herself to the participant and reviewed the purpose of the study; and (e) the researcher described the purpose of the study and the procedure which entailed completing a demographic survey and participating in an audio-taped interview. Appointments to conduct the research were made within a three week period and a reminder call was made a few days before the scheduled meeting.

Informed consent was obtained from the participant in the following manner: (a) the researcher and the participant arranged for a convenient time and date to conduct the research before or after lunch; at which time, informed consent was collected; (b) the researcher obtained permission from the participant to review the participant's chart for documented presence of type 2 diabetic complications and recent lab results on HbA1c; (c) the researcher discussed the risks (emotional distress) and benefits (potential to influence and change

patient care policy) of the study; (d) the researcher described the study to be voluntary and the participant may request to discontinue for any reason such as emotional distress with supportive resources (Chaplain, psychologist) offered; (e) the researcher emphasized that the study will not affect the participant's ongoing care in the outpatient clinic in the hospital; (f) there would be no monetary compensation for participation in this study; (g) the researcher explained that all information would be kept confidential to the extent that is legally possible and that the participant will not be identified by name; (h) all information would be presented in aggregate form; (i) all study materials would be stored under lock and key for five years at a secure location accessed only by this researcher at which time they will be destroyed; and (j) all identifying data such as the name and the informed consent form would be kept separate from questionnaires and interview transcripts, audio tapes destroyed after transcription, and demographic data stored separately (See informed consent Appendix I). The informed consent procedure preceded the data collection of the demographic data and interview process.

Following the informed consent procedure, the data collection phase included administering the demographic data survey and Cordova's Spirituality among Type 2 Diabetic Patients Interview Guide. During the data collection phase, the researcher maintained trust, empathy, and rapport with the participants throughout this process. After determining that there was no systematic bias in clarity and misconceptions of the demographic survey and semi-structured interview tool from the pilot study, this researcher began the data collection by first administering the demographic data survey. This was followed by Cordova's Spirituality among Type 2 Diabetic Patients Interview Guide. Each

of the 25 participants' interviews was tape recorded in the researcher's office, which was a private and quiet for approximately one to 1 1/2 hours. Participants had the right to stop the tape recording according to their discretion during the interview. Tape recordings were transcribed verbatim by this researcher the same day. Following transcriptions, tapes were destroyed to protect patient confidentiality. After completing the interviews, each subject received a small "Thank you" gift from the researcher as a gesture of gratitude for participating in the study. Nursing and medical providers received tokens of appreciation as well.

Protection of Human Subjects

The research proposal was referred to the Institutional Review Boards at The Catholic University of America and the hospital for approval. Informed consent was obtained from each subject on the day of his or her interview appointment with the researcher. Participants were identified by specified codes (i.e. 001, 002, 003, etc). The researcher kept identified data separated from coded data in two separate locked cabinets in her office.

Data Analysis

Giorgi's (1985) phenomenological method was selected for the data analysis. The aim of this analysis is to describe the intentional consciousness of type 2 diabetic patients with complications as it relates to the participant's world in living with this chronic illness, health history, knowledge, anxieties in illness, and spiritual well-being. Describing this phenomenon entailed classifying critical elements or essences common to the lived experiences of this particular study group. The analytical steps to Giorgi's (1985) phenomenological methodology are the following:

1. The interviews were read in its entirety to obtain a sense of its whole of the participants' experience with the phenomenon. Descriptions were reread.
2. After obtaining a sense of its whole, transition units or excerpts of meaning from the descriptions of the phenomenon were identified. At this time, themes were not apparent.
3. From intuitive insight, the researcher used the words of the participants to identify initial themes and common meanings. A period of reflection was conducted to make sure the essence of the experience was within the themes.
4. The researcher transformed the concrete descriptions of the participants into a scientific language of experience.
5. Finally, the researcher incorporated the transformed meaning of the phenomenon into a descriptive structural statement of the meaning of the experience.

In organizing the qualitative data, management included a "dwelling with the data" process which entailed reading and rereading transcripts, recalling observations and experiences, listening to tapes, and keeping detailed field notes (Burns & Grove, 2001; Speziale & Carpenter, 2003). Giorgi's (1985) content analysis of the transcribed tape recordings consisted of reading the entire description to get a sense of wholeness where the importance of the phenomenon is established by the intuitive insight or having a perceived cognition, feeling, or hunch by the researcher that can be assimilated from the lived

experiences of type 2 diabetic patients with complications which is true for them without reasoning.

An important aspect of the analytic process was phenomenological reduction where there was a deliberate bracket on the belief system of the researcher and the external world (Giorgi's 1985, 2005). In the first step, the researcher tried to comprehend the actual words of the participant's experience with no attempt to interpret the meaning (Giorgi's 1985, 2005). Rereading the transcript provided a deeper insight into the familiarity of the experience and a sense of its whole (Giorgi's 1985,1997, 2003). Determining the transitional units of meaning in the second step highlighted those separate entities which together form the whole meaning of the experience (Giorgi's 1985, 1997, 2003). The researcher must be reticent in noticing the participant's words and mannerisms (Giorgi, 1985, 1997, 2003). Each transitional unit of meaning was logged separately from the appropriate script (Giorgi, 1985, 1997, 2003).

After extracting the transitional units of meaning from the transcripts, the third step involved the researcher with an open-mind identified initial themes and common meanings from the transitional units of meaning as described by Giorgi (1985, 1997, 2003). To gain a fresh perspective in extrapolating themes from the units, the researcher felt a need to leave the segregated units and central themes alone for a few days (Giorgi, 1985, 1997, 2003). This provided for a fresh approach in finding meaning of the experience, but facilitating the process of phenomenological reduction (Giorgi's, 1985). In the fourth step, analysis begins in questioning the central themes and putting this data in a systematic articulation of the experience (Giorgi's, 1985, 1997, 2003). For example, some fundamental questions

expressed as scientific articulation of the experience for this study would be " What is the meaning of having type 2 diabetes?", "How does spirituality have meaning in your life as a type 2 diabetic?", and "Can you describe your meaning of spirituality as a type 2 diabetic patient with peripheral neuropathy?" Excerpts from these questions will lead to final themes generated by this researcher's inquiry, "what does this tell me about the lived experience of spirituality among type 2 diabetes with macrovascular and/or microvascular complications?" In the last step of the Giorgi (1985, 1997, 2003) analysis, the investigator integrated and synthesized the transformed meaning into a descriptive statement of essential themes in relation to this research study. The descriptive statement may not be universal but may be applicable to other situations of chronic illness (Giorgi, 1985, 1997, 2003).

After the analytic process was completed, an expert in qualitative methodology reviewed the extracted themes and structural description of the experience for reliability (Morse & Field, 1995). The degree of reliability was dependent on the percentage of agreement as in 80 percent and above on the thematic method of analysis, starting with the transcriptions, themes and common meanings, scientific language of the experience, and the descriptive structural statement of the meaning of the experience in ten cases. The percentage of agreement was determined by a scale with interval increments of 0 percent (no agreement) to 100 percent (full agreement). For this study, there was 91% degree of reliability determined by an experienced researcher with qualitative expertise. Following the data analysis, Chapter four presents the data analysis and findings on the lived experience of spirituality among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

Chapter IV

Presentation and Data Analysis

Introduction

The purpose of this research entailed two aims: (a) to explore the lived experience of spirituality among type 2 diabetes mellitus patients with macrovascular and/or microvascular complications; and, (b) to describe the meanings of this phenomenon that are discovered in the descriptions of the lived experience of spirituality among type 2 diabetes mellitus patients with macrovascular and/or microvascular complications. The research question was "What is the lived experience of spirituality among type 2 diabetic patients with macrovascular and/or microvascular complications within a hospital outpatient setting?" A conceptual perspective of spirituality was based on their orientation of spirituality as it related to their type 2 diabetes mellitus with macrovascular and/or microvascular complications. Through Giorgi's (1985,1997) descriptive phenomenological analysis, this design enabled a conscious perspective on the lived experience of spirituality among type 2 diabetes mellitus patients with macrovascular and/or microvascular complications.

The description of the participants and the following findings from their interviews are presented in this chapter. In Giorgi's (1985; 2003) descriptive phenomenology, the process of analyzing the interviews is a movement of sensing the whole essence and the discriminating units of meaning consistent throughout the analysis of interviews from type 2 diabetes mellitus patients with macrovascular and/or microvascular complications. The units of meaning are the raw data which are coded into formulated categories emerging from defined essential traits (Giorgi,1985; 2003). The categories were synthesized into themes in

the language of spiritual, psychosocial and/or, behavioral human science. The themes were combined into a descriptive structural statement of the meaning of the experience (Giorgi,1985; 2003).

Description of Participants

There were 25 participants in this study. Subjects were selected from the medical specialties (diabetes/endocrine, cardiac, renal, podiatry) outpatient clinic areas through purposive sampling. All the participants were male and military veterans from a metropolitan hospital. Age range was 52 to 85 years of age with a mean of 63.8 years and standard deviation of 7.14. Marital status included married (n=12), single (n=5), divorced (n=6), separated (n=1), and widowed (n=1). For ethnicity, eighty-four percent (n=21) of the participants were African-American while the rest were eight percent each for Asian or Pacific Islander (n=2) and Caucasian (n=2). In education, four percent (n=1) had partially completed high school versus 28% (n=7) with high school diplomas. Twelve percent (n=3) completed technical school education. The highest education achieved in this sample was in the undergraduate college level in which 28% (n=7) had completed 2 years versus 4 % (n=1) for three years. Twenty-four percent (n=6) held an undergraduate college degree. For work status, fifty-six percent (n=14) of the study sample were retired, 4% (n=1) was unemployed, and 20% (n=5) were disabled. Twenty percent (n=5) of the study sample were fully employed as a certified public accountant, a grounds keeper, an American legion representative, a salesman, and a management analyst.

In the area of religion, the sample consisted of Catholic (n=11), Protestant (n=10), Jewish (n=1), Islam (n=2), and Holiness (n=1). Church attendance varied from weekly

(n=12), daily (n=2), never (n=3), and others (n=8) describe their attendance as some, sometimes, some Sundays, or monthly.

For diabetic treatment, the range of years for treatment was 5 to 40 years with a mean of 18.9 and a standard deviation of 9.36. The types of diabetic complications in this sample were the followings: (1) peripheral neuropathy, n=21; (2) vascular/circulatory insufficiency to lower extremities, n=19; (3) nephropathy, n=17; (4) retinopathy, n=12; (5) myocardial infarct and/or angina, n=8; (6) feet ulcerations, n=4; and (7) stroke, n=1. In reference to changes in diabetic medicines within the past two years, the responses were yes (n=16) and no (n=9). As for the knowledge on the type of medications that the participants are currently on, fifty-six percent (n=14) participants knew the name of their diabetic medication, 40% (n=10) labeled their medications as a diabetic pill and/or insulin, and 4% (n=1) was not on a diabetic medication, but diet controlled. Among the 25 participants who had diabetic education, fifty-four percent (n=13) had diabetic education within one year. Seventeen percent (n=4) had diabetic education between 2 to 4 years ago and 29% (n=7) of the participants between 10 to 25 years ago. One participant declined to give me input on his diabetic education due to his uncertainty in this matter.

Perceptions of the severity of their present illness during this outpatient visit were accordingly: (1) 4% (n=1) not severe; (2) 16% (n=4) slightly severe; (3) 60% (n=15) moderately severe; (4) 20% (n=5) very severe. Perceptions on how well controlled their diabetes was at the time of the interview were the following: (1) 8% (n=2) well-controlled; (2) 28% (n=7) slightly controlled; (3) 52% (n=13) moderately controlled; and (4) 12% (n=3) not controlled. This investigator was granted permission from the study's participants to

collect their recent HbA1c results which ranged from 6.1 to 14.7 with a mean of 8.6 and a standard deviation of 2.15. Normal Reference range for HbA1c at this hospital is 4.3 to 6.1.

Giorgi's (1985) Analytical Procedure

The researcher began the interview with one broad phenomenological question directed toward the lived experience of spirituality among type 2 diabetic patients with macrovascular and/or microvascular complications: "what comes to mind when you think about your diagnosis and spirituality as a type 2 diabetic with complications?" This was followed with six semi-structured probing questions which included: (1) "how did you feel about making life changes as a type 2 diabetic patient?"; (2) "what are your concerns about your future as a type 2 diabetic patient with complications?"; (3) "how do diabetic complications make you feel about your spirituality?"; (4) " how has your spirituality changed for you since you have had this particular complication stemming from type diabetes?; (5) "what kinds of spiritual activities help you during the most difficult times in your life as a diabetic patient?"; and (6) "what are your spiritual values that are important in regard to living with type 2 diabetes?" From these questions, the participants were encouraged to elaborate their answers according to their own understanding of what spirituality meant to them and how type 2 diabetes with complications was reflected in this essence of their experience. The taped-recorded interviews were transcribed verbatim.

The transcriptions were analyzed according to Giorgi's (1985) phenomenological method of inquiry. The analytical steps to Giorgi's (1985) phenomenological methodology are as follows: (a) the researcher read the entire descriptions of the experience to obtain a sense of its whole; and later, the descriptions were reread; (b) transition units of meaning

from the descriptions of the phenomenon were identified; at this time, themes were not evident; (c) using the intuitive processes, identified initial themes and common meanings were identified; (d) the researcher then transformed the concrete language of the participants into a systematic language of experience; and (e) the researcher integrated and synthesized the transformed meaning into a descriptive structural statement of the meaning of the experience (Giorgi, 1985).

Under phenomenological reduction, the researcher bracketed all presuppositions by way of self-knowledge in religions, spirituality, diabetic education compliance, and socioeconomic barriers. The transcriptions were read and reread to obtain a sense of the whole. Transitional units of meaning from the descriptions of the study were extracted from the transcriptions. There were 5,450 transitional units of meaning. After dwelling with the transitional units of meanings, the researcher taking an intuitive stance extrapolated 704 formulated units into common meanings which were clustered and transformed into themes within the language of human science in terms of spiritual, psychosocial, and/or behavioral structure of meaning for type 2 diabetic patients with macrovascular and/or microvascular complications. The formulated themes were the essences which depicted the descriptive structural statement on the lived experience of spirituality among type 2 diabetic patients with macrovascular and/or micorvascular complications. These themes were discussed in the findings.

Findings

The essence and meaning of structure from the themes on the lived experience of spirituality among type 2 diabetic mellitus patients with macrovascular and/or microvascular

complications phenomenon are discussed in this section. From the descriptions of the participants, eight major themes had emerged which represented the essence and meaning structure on their lived experience of spirituality as type 2 diabetic mellitus patients with macrovascular and/or microvascular complications. The eight major themes were: (a) comprehending the vicissitudes of type 2 diabetic patients with macrovascular and/or microvascular complications: precursor to the spirituality experience; (b) spirituality helps explain the "Why Me?" question among type 2 diabetic patients with macrovascular and/or microvascular complications; (c) having a relationship with God or a Higher Power in spirituality supports living with type 2 diabetes mellitus and its macrovascular and/or microvascular complications; (d) spirituality promotes self-efficacy in the diabetic management of type 2 diabetic mellitus patients with macrovascular and/or microvascular complications; (e) spirituality generates faith with living among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications; (f) spirituality encourages optimism among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications; (g) spirituality remains unchanged if not stronger or enhanced in type 2 diabetic patients with macrovascular and/or microvascular complications; and (h) the religiosity component of spirituality supplements adaptation or coping in living with type 2 diabetes with macrovascular and/or microvascular complications.

The participants were military veterans and their descriptions of their lived experience of spirituality as type 2 diabetic mellitus patients with macrovascular and/or microvascular complications were sincere and forthright since many of them attributed their spirituality as a source to sustain them in living with this chronic illness. As such, the themes

were not exclusive experiences which tended to overlap a representative spiritual aspect of the participants' experiences with type 2 diabetes and its macrovascular and/or microvascular complications. This had provided an inclusive insight into their spirituality as reflected in their lives as type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

Themes and Thematic Clusters

1. Comprehending the vicissitudes of type 2 diabetic mellitus patients with macrovascular and/or microvascular complications: precursor to the spirituality experience.
    - 1a. Acknowledgment in living with type 2 diabetes mellitus and its macrovascular and/or microvascular complications.
    - 1b. Difficulties in managing type 2 diabetes mellitus and its macrovascular and/or microvascular complications
    - 1c. Fear of loss due to type 2 diabetes mellitus and its macrovascular and/or microvascular complications.
    - 1d. Burden of frustration in suffering with the challenges in living with type 2 diabetes mellitus and its macrovascular and/or microvascular complications.
2. Spirituality helps explain the "Why Me?" question among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.
    - 2a. Self-forgiveness in having type 2 diabetes mellitus with macrovascular and/or microvascular complications.

2b. Spiritual sense of the "test" to live with type 2 diabetes mellitus and its macrovascular and/or microvascular complications.

2c. Transcending the illness in type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

3. Having a relationship with God or a Higher Power in spirituality supports daily living among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

3a. Guidance from God or a Higher Power supports inner peace among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

3b. Having God or a Higher Power in one's life supports making the right choices in diabetic care among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

3c. God or a Higher Power's grace supports living with type 2 diabetic macrovascular and/or microvascular complications.

4. Spirituality promotes self-efficacy in diabetic management among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

4a. Spirituality promotes self-efficacy in healthy self-management among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

4b. Spirituality promotes self-efficacy by having discipline in diabetic management among type 2 diabetic mellitus patients with

macrovascular and/or microvascular complications.

4c. Spirituality promotes self-efficacy by providing encouragement in taking responsibility for behavioral changes.

5. Spirituality generates faith among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

5a. Faith in spirituality provides encouragement when living with type 2 diabetic macrovascular and/or microvascular complications.

5b. Faith in spirituality encompasses trust in God or a Higher Power when living with type 2 diabetic macrovascular and microvascular complications.

5c. Faith provides motivation to succeed in diabetic management among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

6. Spirituality encourages optimism in type 2 diabetic patients with macrovascular and/or microvascular complications.

6a. Optimism from having spirituality enhances a positive attitude among type 2 diabetic patients with macrovascular and/or microvascular complications.

6b. Optimism from spirituality deters depression among type 2 diabetic patients with macrovascular and/or microvascular complications.

7. Spirituality remains unchanged if not stronger or enhanced in type 2 diabetic patients with macrovascular and/or microvascular complications.

7a. Spirituality is enhanced through understanding of their type 2 diabetes with macrovascular and/or microvascular complications.

7b. Spirituality becomes stronger when living with type 2 diabetes and its macrovascular and/or microvascular complications.

7c. Spirituality is a constant factor for type 2 diabetic patients with macrovascular and/or microvascular complications.

8. The religiosity component of spirituality supplements adaptation or coping in living with type 2 diabetes with macrovascular and/or microvascular complications.

8a. Religion in spirituality provides reassurance and control of type 2 diabetic management.

8b. Religious rituals models as an analogy to "rituals" in caring for self as a type 2 diabetic patient.

8c. Prayer as an intercessory resource for praise, thanksgiving, comfort, and strength.

Description of Themes and Narratives

This section explores the eight themes in terms of their related clusters and supportive narratives as described by the type 2 diabetic mellitus patients with macrovascular and/or microvascular complications. Each theme is described by its related cluster themes and substantiated by the verbatim descriptions of the participants in this study. The eight themes are the essence of this study's focus on the lived experience of spirituality among type 2 diabetic mellitus patients with macrovascular and microvascular complications.

Theme One: Comprehending the vicissitudes of type 2 diabetic mellitus patients with macrovascular and/or microvascular complications: precursor to the spirituality experience.

To understand the lived experience of spirituality in type 2 diabetic mellitus patientswith macrovascular and/or microvascular complications is to understand their reflections of having this chronic illness in terms of the following thematic clusters: (a) acknowledgement in living with type 2 diabetes mellitus and its macrovascular and/or microvascular complication; (b) difficulties in managing type 2 diabetes with its macrovascular and/or complications; (c) fear of loss due to type 2 diabetes mellitus and its macrovascular and/or microvascular complications; and (d) the burden of frustration with suffering with the challenges in living among type 2 diabetes and its macrovascular and microvascular complications.

Acknowledgement in living with type 2 diabetes mellitus and its macrovascular and microvascular complications.

Since all of the participants have lived with type 2 diabetes for five years or more, acknowledgement was an important aspect in dealing with the day to day management of this chronic illness and its co-morbidities. There was a realization of acceptance and the need to just deal with the consequences of having type 2 diabetes mellitus. As a result, acknowledging type 2 diabetes mellitus with macrovascular and/or microvascular complications was an expectation that provided a sense of control over their chronic illness. Having this control over type 2 diabetes mellitus provided a type of normalcy to the extent that they understood the importance to take responsibility for their condition. It is a certain

destiny that becomes inevitable for these type 2 diabetic patients to accept this lifestyle and the subsequent macrovascular and/or microvascular complications that have ensued. This acknowledgement in living with type 2 diabetes mellitus and its macrovascular and/or microvascular complications was reflected in several participants' comments of having type 2 diabetes with macrovascular complications in terms of constancy and acceptance toward acknowledgement. One participant commented, "You know just get through it (type 2 diabetes with peripheral neuropathy) because it's constant. The biggest thing to realize that you have diabetes." Another participant concurred with "We just accept the fact that yeah we're diabetics. This is what we are supposed to do. This is what we are supposed to live and we lived that way."

Acknowledgement was also having the will to take control of type 2 diabetes which was perceived as having normalcy. One participant described, "I just feel I have to work at becoming a normal person. Diabetes is a lifetime change to your life; so., it's just something that I have to accept. This is just not something that I can turn over a leaf and be gone. I worked through it. I'll participate in anything like that to control it because I want to live a normal life. I'm sure I can live a normal life with diabetes."

The participants had commented on having a better appreciation in knowing that one had type 2 diabetes which acknowledged a sense of need in caring for one's diabetes. One participant appreciated this acknowledgement in this narrative: "I'm in a stage where I appreciate.... knowing that I have diabetes type 2. I wouldn't be aware of the food that I've been eating; taking care of myself better."

Difficulties in managing type 2 diabetes mellitus with macrovascular and/or microvascular complications.

The difficulties in managing their type 2 diabetes mellitus were challenges in lifestyle changes such as in diabetic medications, diet control, vacillating finger stick glucose readings, and hypoglycemic events. Lifestyle changes reflected the alteration and the manipulation of the social environment in how diabetic medications are self-administered and the maintenance of an appropriate diabetic diet. A predominant difficulty with the participants in general was maintaining a diabetic diet. The participants described old habits and temptations can easily make diet management difficult. One participant described the difficulty in maintaining good eating habits: “The only thing is I go on a Binge (food). Gets scared and I exercise and do right and then I'm back in getting good readings in my meter, but then I go back to eating.". Another participant expressed the same sentiments on eating habits, glucose control, and medication: “I have bad eating habits. I don't do much cooking. So I would eat a lot of fast foods. That's not good that being diabetic. Got to make better choices when I eat, go places, café. Liked fried chicken, got to get baked chicken or roasted chicken. Eat 3-4 times to avoid this up and down thing with my blood sugar and insulin.” There were social barriers in self-medication of insulin which can render self-consciousness and time management difficulties in a social or work environment. A privacy issue hindered patients in taking their insulin as scheduled. One participant commented: “Taking medication can affect social environment you don't want to take your insulin shots in public.” Another participant describes the difficulty in self- medication within the work environment: “But, some of these activities (diabetic care) slipped my mind. I'm engrossed in my

occupation and I grab something to eat and I forgotten to take my insulin or I didn't take a blood sugar reading before I ate something. It can complicate issues. Uh, I have to change my lifestyle for having insulin in my office, with insulin in my car, having insulin in my home, so that wherever I am it is time I can administer the insulin or uh chart it with the glucometer readings. It complicates a great deal, but I can imagine it's for my betterment." Diabetic medication changes can be challenging and leads to difficulties in stabilizing their blood glucose. This difficulty was not unusual especially with insulin resistance type 2 diabetic patients. A participant expressed his hardship to stabilize his diabetic medications due to their insulin resistance: "My diabetes actually instead of getting better, it got worst. But since I started taking the medicine, I started on 500mg of metformin one a day. It became double, double, double up to taking 1000mg metformin twice a day, three time a day, and that still didn't work and they started me with insulin which started at 5 units per day and now I'm taking only 6 units a day of insulin. Uh, Uh, otherwise, it's actually hard."

Type 2 diabetic mellitus patients who have macrovasular and/or microvascular complications described difficulties in maintaining control with glucose finger stick readings. A lack of control with glucose levels can lead to hypoglycemic or hyperglycemic episodes after taking diabetic medicines. It was common to hear from these participants about their struggles to stabilize their glucose finger stick readings and to avoid hypoglycemic or hyperglycemic reactions. The uncertainty of having hypoglycemic episodes was difficult, but the participants described their awareness of signs and symptoms which prompted them to take appropriate actions. One participant expressed a hypoglycemic episode: "Well sometimes when its (glucose) drop down too low sometimes and that's the hard part. It is

like you never know when it's (glucose) going to drop now. You will have to have something little bit sweet to eat, to bring it back up. But when it's (glucose) too high, Uh, you kinda go groggy and stuff. You got to do something." Another participant described a similar event: "I've been in the hospital three times because of low blood sugar. The first time was two years ago, where the emergency room at the VA hospital said I was lucky because my wife put a bag of biscuits in my bag all the time. And think, I came out there with 47 blood sugar. I had to get my wife to go inside the house and get me that glucagon."

Good control of blood glucose in type 2 diabetes did not always guarantee that one will not acquire a macrovascular or microvascular complication. This was evident in a comment made by one participant with metabolic syndrome: "It (diabetic retinopathy) bothers me, but I say looked my sugars have been good. Why am I having it (diabetic retinopathy) now."

Fear of loss due to type 2 diabetes mellitus and its macrovascular and/or microvascular complications.

Type 2 diabetic mellitus patients with macrovascular and/or microvascular complications expressed their fear of loss especially in terms of physical function and restrictions in activities of daily living. There were perceptions of self-deterioration when these participants described a fear of loss due to macrovascular and/or microvascular complications which lead to amputations, lost of sight, kidney failure, or heart failure. Exacerbating this fear of loss was witnessing relatives and friends with type 2 diabetes mellitus whom had amputations, blindness, renal dialysis, and cardiovascular events that left them either incapacitated or deceased. Amputations were a common fear of type 2 diabetic

patients with neuropathy and/or peripheral vascular disease. Lack of mobility and difficulty with ambulation was another related fear of neuropathy. One participant described the fear of loss in terms of amputations: "My father had both of his legs amputated so did my sister from diabetes type 2." Another participant made this hopeful reflection: "I know that it (amputation) happens to people who don't control the situation (type 2 diabetes), your circulation of the leg and all that. Hopefully that won't happen to me."

Other participants described their fear of loss in terms of lack of mobility and difficulty in ambulation. One participant described the discomfort with neuropathy; "Neuropathy. Your legs hurt sometimes, and sometimes you can't walk so far. And you have to stop." A second participant commented on mobility problems: If it (neuropathy of legs) starts to pain, it robs you on your ability to walk and I can't walk far. I can feel every piece of gravel. It (neuropathy of feet) is so sensitive."

Retinopathy and nephropathy are the other diabetic fears. Blindness and end-stage renal failure fears are addressed as main concerns by three participants. The first participant described retinopathy and vision deficits as: "Mostly my eyesight that changed some. And the eyesight, fear of blindness." The second participant found: "You lost your visions physically and lose your vision become blind." For nephropathy, the third participant referred to this fear as: "You can lose your kidneys; In terms of the diabetic condition, anxiety and the fear of the loss (renal failure)."

Burden of frustration in suffering with the challenges in living among type 2 diabetes.

In living with these challenges as type 2 diabetic mellitus patients with macrovascular and/or microvascular complications, these participants also expressed a burden of frustration in suffering with these challenges within the limits of this chronic illness. The burden of frustration reflected a personal suffering to the hindering effects of type 2 diabetes mellitus and its complications. This personal suffering was expressed as in irregular diabetic management, social interaction compromises, and lack of control. The burden of having to compromise lifestyle changes with diabetic management can be frustrating under social conditions as described by two participants. According to the first participant, "I felt like I was being confined with diabetes. It's sad sometimes you're moody and you go to your friends and they offering you this and you say no. It's sort of hindering your lifestyle sometimes." The second participant also referred to this burden of frustration as: "You can't eat everything. You can't drink everything. You just don't have everything. Every time you turn around, they tell you: you can't have this. You can't have that. You have to watch what you eat. You have to watch what you. Because basically, you are a diabetic."

There is a general agreement as expressed among the participants that there was a burden of frustration with suffering due to the perception of having diabetes and the ensuing limitations having macrovascular complications as one participant described: "Its (type 2 diabetes with neuropathy) such a burden. Anyone who has diabetes has a burden. They really, really suffer. Hope someday there will be a cure. That there wouldn't be anything such as diabetes because it's a nasty thing and it's just takes away everything from you."

Theme Two: spirituality helps explain the "Why Me?" question among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

Spirituality is an internal resource which accounts for how type 2 diabetic mellitus patients acknowledged living with this chronic illness as described from the first theme in terms of difficulties in managing type 2 diabetes with its complications, fear of loss, and burden of suffering in suffering with these challenges. For this reason, spirituality help explains the "Why Me?" question through (a) self-forgiveness in having type 2 diabetes mellitus with macrovascular and/or microvascular complications, (b) having spiritual sense of the "test" to live with type 2 diabetes mellitus and its macrovascular and/or microvascular complications, and (c) transcending the illness in type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

Self-Forgiveness in having type 2 diabetes mellitus with macrovascular and/or microvascular Complications.

Self-forgiveness in having type 2 diabetes with macrovascular and/or microvascular complications was a way to overcome bitterness and to accept this chronic illness with faith and confidence. Living with diabetic retinopathy can overwhelm one's reserves to rationalize the adverse circumstances with this microvascular complication. Yet, forgiveness with having type 2 diabetes with retinopathy eased the strain in acceptance of this chronic disease as rationalized by this participant: “Forgiveness. What does that have to do with diabetes? A person sees how to rationalize the bitterness, hatred. So forgiveness cleared it (type 2

diabetes with retinopathy); forgiveness in myself. That's when spirituality comes back in, without that, I can forget it."

For other participants, self-forgiveness is spoken as a source of encouragement to manage their diabetic care appropriately. One participant considered spirituality and forgiveness as: "It (spirituality) makes me focus on daily life. It makes me feel light you know. Everyone has problems and you think about things in your life that you have done wrong and I ask God for forgiveness. If things (diabetic management) are done wrong, I don't think about them, but I ask Him to please forgive me because I knew better." Another patient found: "God forgive me for this and God forgive one for that. So many times you make mistakes. You may not like it all the things you have to do it all right, but it's the right thing and you feel the better for it all. And to me if a body is sick and you do the right things or think you do the right things, you feel better."

Spiritual sense of the "test" to live with type 2 diabetes mellitus and its macrovascular and/or microvascular complications.

There was a spiritual sense of the "test*"* to live with type 2 diabetes and its macrovascular and/or microvascular complications. This spiritual sense of the "test" was the ability to have the fortitude to meet the trials of this chronic disease through God or a Higher Power. There was a repeated reference to "God does not put anything more than one can handle." Acceptance of type 2 diabetes with macrovascular and/or microvascular complications was described from the spiritual sense of the "test" as being focused on God or Higher Power's will for direction and guidance. The outcome is a hopeful confidence that spirituality had helped these participants to manage this "test" in their lives as articulated by

one participant: "My spirituality will help me to handle this test. Live life and experience it (type 2 diabetes with complication) the best we can." While another participant referred to the spiritual test to be: "Everything about it (type 2 diabetes with peripheral neuropathy), I see the importance of what I refer it as a trail or test from the spiritual sense. Because the fact is you can't correct a problem or control the quality and accept it so identifying the responsibility, to be accountable; to adjust to the diabetic lifestyle."

A third participant associated the spiritual sense of the "test" in this chronic illness and its complications as being closer to God or a Higher Power accepting His will and seeking guidance: "So that's what I first think about diabetes, a test. Anybody that has a test. Uhm, like any trial or test Uhm. One can pass or fail a test, subject to the Uh the preparation and how they associate their test with their life. Diabetics falls in this category to address spiritually, to accept the will of God and His direction and guidance."

An inner strength derived from the spiritual sense of the "test" in terms of self-control and its reflection to learn from this experience of having type 2 diabetes and its complications was described by another participant: "And I think that gives me that inner strength and the ability to take that diabetic situation as a test to stay above it, control the condition, and don't let the condition control you."

Transcending the illness in type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

Transcending the illness in type 2 diabetic mellitus patients with macrovascular and/or microvascular complications was another influencing factor in which spirituality helps explain the "Why Me?" question. Spirituality inspires patients to transcend the daily

challenges with living with type 2 diabetes mellitus and its complications by refocusing on positive energy toward a healthy and productive life. Through transcendence, there was a need to take a conscious control with reliance on God or a Higher Power for the participants to assist themselves toward a path of healing. In transcending the illness of having type 2 diabetes mellitus, the participants had described the meaning of spirituality through: (1) their insight into the will and guidance of God or a Higher Power; (2) relying on God or a Higher Power completely in reason for having type 2 diabetes mellitus and its complications; (3) having a significant balance toward healing by transcending the stresses of type 2 diabetes mellitus with macrovascular and/or microvascular complications. Two participants provided an insight into the will and guidance of God or a Higher Power with acceptance and self-help by placing their trust in God or a Higher Power. The first participant described the will of God: "I does the same things some other people have done and they don't have it and "why me?" God chooses of what He wants to choose for a particular reason so, I stopped to question that and accept it (type 2 diabetes and nephropathy)." The second participant also found: "That's what spirituality does it gives us insight. God reveals things we need to know and to help ourselves. ….. In that respect, it (type 2 diabetes with myocardial infarct) can be done with appropriate guidance I was always involved in so I didn't have a problem in adjusting from looking at it from a religious standpoint spiritual when I came to know. Once I accepted it (type 2 diabetes with myocardial infarct), it was much easier uh, to accept the will of God."

Many participants had described healing in terms of finding balance through transcendence and spirituality. Two participants made comments reflecting this balance of

transcendence and spirituality. One participant commented: "The powerful amount of medicine from within (spirituality). To live a good and healthy life and by not doing the things (improper diabetic self-care) that are negative we have the cause, spirituality, the body has a way to heal itself." While the other participant found spirituality and healing from a "higher order": "I've given these conditions (type 2 diabetes with neuropathy and myocardial infarct) for a reason for either show me that I can't like the old saying of the biblical text. 'Physicians heal thyself' Well I can't heal myself so I have to reach for a higher order of things to help me keep that balance knowing that there's some things that's going be complicated and I've learned that my spirituality helped me to think, to feel to certain thing like I said stress levels of this condition (type 2 diabetes)."

Theme Three: Having a relationship with God or a Higher Power in spirituality supports daily living among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

Having a relationship with God or a Higher Power was an important factor that convoluted the daily living among type 2 diabetic mellitus patients with complications through the intrinsic attributes of inner peace and grace from God or a Higher Power. A relationship with God or a Higher Power provided a supportive connection for patients to manage their diabetes. The three supportive cluster themes described by the participants are: (a) Guidance from God or a Higher power supports inner peace among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications; (b) Having God or a Higher Power in one's life supports making the right choices in diabetic care among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications; and (c)

God or a Higher Power's grace supports living with type 2 diabetic macrovascular and/or microvascular complications.

Guidance from God or a Higher Power supports inner peace among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

Dwelling on God or a Higher Power's guidance in the lives of type 2 diabetic mellitus patients with macrovascular and/or microvascular complications was a source of inner peace especially when directed toward the daily living of having type 2 diabetes. Inner peace was described as a submission to God's guidance in managing difficult diabetic mellitus complications such as renal failure, myocardial infarcts, or peripheral neuropathy which were common complications that were inherently difficult to ease the discomfort among these participants. God or a Higher Power's guidance encouraged a steadfast means to maintain an appropriate diabetic life. Insight into the guidance from God or a Higher Power supports inner peace among the participants with macrovascular and/or microvascular complications. It was found that the will of God or a Higher Power is guidance given to these participants as a source of inner peace. The participants described their inner peace as submission to God or a Higher Power's will in dealing with their type 2 diabetes and macrovascular and/or microvascular complications. One participant described inner peace as: "For ourselves, it's a total solution to the will of God. So once the person has total submission to God's will, than they are peace. So if there is peace, at least temporary to reach at a point that you have to think about extreme responses to my condition (peripheral neuropathy and myocardial infarct)."

The participants described the strain of having type 2 diabetes with macrovascular and/or microvascular complications. Relief of that strain was expressed by one participant in terms of inner peace from the guidance of God or a Higher Power with encouragement in their diabetic management: “It’s uh a lot that can’t be put to words when it come to living with diabetes every day, every morning, and worry about heart attack or kidney failure or, weight gain. It’s just too much for a normal human to deal with. I think that’s why a lot of people come off the wrong track because they don’t have that inner peace from God which can be reach out to that ultimate goal –faith. I feel like God talking me. He’s guiding me and, and, and in that alone when I get depressed or get upset about the medication I can go inside and listen to that voice and that little voice tells me it’s going to be alright. I’m taking care that I’m doing that (diabetic self-management) also God allows me the peace of mind and spirit and physical peace. It’s a load off."

Having God or a Higher Power in one's life supports making the right choices in diabetic care among type 2 diabetic mellitus Patients with macrovascular and/or microvascular complications.

Having a relationship with God or a Higher Power exerted a consciousness that supports making the right choices in diabetic care among type2 diabetic mellitus patients with macrovascular and/or microvascular complications. There was a sense of partnership with God or a Higher Power that assisted these participants in choosing appropriate choices in their diabetic care. This partnership was based on their reliance in God or a Higher Power to function toward making sensible decisions. Compliance was the outcome from making the right choices in diabetic care especially when taking medication, checking one’s glucose

finger sticks, diet control, or routine diabetic preventive maintenance. The main responsibility belonged to the participant to become successful with his diabetic care. The following references of God were emulated to be a partner in their health care by two participants. One participant found God to be involved with his diabetic care: "God is the center of my life. I can't function without asking God's intervention to send the Holy Spirit to guide me, to lead me, and to help me to make wise decisions with my diabetic care." While the other participant depended on a partnership with God: "I still am in need to believe in me you know that God is there to guide me. But, I still have to apply myself to do. It's not always God like some people think God does everything- No its not."

God or a Higher Power was described as a central figure in the lives of the participants to strive toward compliance and staying positive with diabetic preventive health measures as cited by two participants. Compliance with diabetic care meant for one participant: "So I stay compliant that is the Lord helping me to stay compliant, but it isn't to be easy uh compliant. I have to say that my significant other is always on my case, but uh that in itself is the Lord helping." While the other participant commented: "What He (God or a Higher Power) has continue to do for me are not missing medications or putting down medicines; for me, I know that God gives me the incentive to know that."

God or a Higher Power's grace supports living with type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

In a relationship with God or a Higher Power, there was an outpouring grace that supports living with type 2 diabetic macrovascular and/or microvascular complications. For the participants, there was a substance of thankfulness to have God or a Higher Power's grace

in living with macrovascular and/or microvascular complications. It was this grace that was expressed in terms of "making it to the next day", “don’t feel too bad with the diabetic complication", "leaning on the Lord for strength, "feeling God's comfort in living with diabetic complications", and "it's been hard but God's been good to me".

Having a diabetic complication may be out of their control, but having the grace of God or a Higher Power was a very supportive attribute for the participants. One of the participants commented on his survival with diabetes with God’s grace: “I'm going to follow the medical regime (for type 2 diabetes with complications). But far more to be taken medication, it's to stay with my relationship with God. Is it going to work out? It works for me. I'm still here through the grace of God and I will not negate that fact.” Another participant found God’s grace to cope with neuropathy and retinopathy: “God watching over me. I find myself leaning on the power of God and when I look at everything that is around me. I also find that limited control over what really takes place over my life. We can prepare to do this or that, but the bottom line certain things (diabetic retinopathy and neuropathy)are going to happen you can’t control. I don’t feel too bad right now even with the condition (type 2 diabetic retinopathy and neuropathy). So I’ll just lean on the Lord for the strength and I’ll do with the medication to help me. All this through the grace of God.”

Theme Four: Spirituality promotes self-efficacy in the diabetic management among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

Diabetic management was a constant challenge for type 2 diabetic mellitus patients who were faced with setbacks in striving to maintain a level of equilibrium despite their

macrovascular and/or microvascular complications. Self-efficacy enhanced motivation and perseverance through the persuasion of spirituality in assisting the type 2 diabetic mellitus patients in the following thematic clusters: (a) spirituality promotes self-efficacy in healthy self-management among type 2 diabetic mellitus patients,(b) spirituality promotes self-efficacy by having discipline in diabetic management among type 2 diabetic mellitus patients with macrovascular and microvascular complications, and (c) spirituality promotes self-efficacy by providing encouragement in taking responsibility for behavioral changes.

Spirituality promotes self-efficacy in healthy self-management among type 2 diabetic mellitus patients.

Spirituality promotes self-efficacy in healthy self-management *of* diabetes among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications. Spirituality supported self-efficacy as described by the participants in promoting healthy self-management through confidence and being compliant in managing their diabetes. One participant assessed his self-efficacy to be: *"*Spirituality is a way of life to me. It (spirituality) keeps me to do right in diabetic life." While another participant found God's assistance to be part of his self-efficacy: "I continue to do it (diabetic management) I know that I will be fine. So I stay compliant that is the Lord helping me."

Leading a spiritual life directs the participants toward a healthy practice in caring for oneself whether it's taking the prescribed medication or maintaining an appropriate diabetic diet to avoid exacerbation of present macrovascular and/or microvascular complications. The sentiments of spirituality were expressed by the participants to promote healthy self-management of type 2 diabetic mellitus with macrovascular and/or microvascular

complications. One participant believed that spirituality helped him in managing his diabetes: “Basically, it (spirituality) helps me with my chronic illness. I believe that my diabetes can be managed. You know He (God) (he points up to the ceiling) is up there. Following my medical instructions, taking my medication. I can handle that.” Another participant found a comparable insight into spirituality’s influence on health management: “I think spirituality does maintain health because I go back to that little voice. Uh I know that I’m not supposed to go out there and eat candy every day. So if I get that urge to eating. Tell me- you know you’re not too – Don’t do that. sitting down and about to eat, someone say ‘Eat a little bit later or something. I got a personal guide in me.”

Sprituality promotes self-efficacy by having discipline in diabetic management among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

Spirituality promoted self-efficacy by having discipline in diabetic management among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications. Since spirituality had an influencing factor in healthy self-management, spirituality also enhanced this self-management through discipline. Discipline was an integrative characteristic that empowered these participants to use their spirituality in being responsible for their own diabetic management. One participant described this as “It (spirituality) makes me stronger like a discipline. It helps me with the diabetes treatment." Another participant described spirituality's influence on discipline in diabetic management in terms of taking care of one’s body as a temple of God: “Taking care of the temple (body) which is you. You take care what He (God or a Higher Power) gave you, it will last a little

longer. Do the right things. Take my medicine, go to the doctor, take care of the body, eat right. I'll do the best I can with the information they gave me."

A good habit in following a diabetic diet was having a discipline in maintaining glucose control. The essential understanding of the participants was to consume a proper diabetic diet at appropriate times according to their diabetic medication schedules. Regular glucose checks are also part of this discipline. Spirituality provides the consciousness to be discipline in promoting self-efficacy as expressed by the narratives of two participants. This participant explained the discipline of maintaining a diabetic diet with diabetic medications: "Because you have to eat something that you really don't want to eat or supposed to be eating, but you have to eat a little bit of it so that medication won't affect you badly. Spirituality helps." The other participant explained how spirituality encourages discipline in glucose monitoring: "Yeah, because there is a ritual which means I have to go home to check the blood sugar you know; you know you have to have some discipline. That's discipline that carries over to other things you have to do for yourself. Spirituality helped me."

Spirituality promotes self-efficacy by providing encouragement in responsibility for behavioral changes.

A product of self-efficacy was behavioral changes which were enhanced by spirituality. One participant had described spirituality as a blessing to assist him in refocusing his responsibility toward taking better care of his type 2 diabetes: "think it (spirituality) kind of force me to pay attention, you know, what I put in my body and uh how I'm treating myself; So I look at it like a blessing." Other participants described how

spirituality is responsible for encouraging behavioral changes. Spiritual control with diet maintenance was illustrated by a participant; "The fact is free will to eat that Honey bun when you shouldn't be or add that extra cup of sugar in the coffee Uh, Uh, extra spoon you know. That is when we deliver the free will. You know, we got the choices. You can make the choices. So we contribute to our own demise by that lack of spiritual control. I think that it (spirituality) helps out a lot." As for taking responsibility for diet, medications, and exercise, another participant found encouragement with spirituality as dependable: "Tell me it (spirituality) won't get me down. I have to do my part. Eat right, exercise. That's it. I take the pills every day the same time."

Theme five: Spirituality generates faith with living among type 2 diabetic with macrovascular and/or microvascular complications.

Faith provided meaning and purpose in the spirituality of type 2 diabetic mellitus patients with macrovascular and/or microvascular complications. From this understanding of meaning and purpose, the spiritual value of faith was a common theme among these participants giving them an incentive to attend to the matters that had contributed to their physical well-being. Spirituality generates faith in these participants by: (a) faith in spirituality provides encouragement when living with type 2 diabetic macrovascular and/or microvascular complications; (b) faith in spirituality encompasses trust in God or a Higher Power when living with type 2 diabetic macrovascular and/or microvascular complications; and (c) faith provides motivation to succeed in diabetic management among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

Faith in spirituality provides encouragement when living with type 2 diabetic macrovascular and/or microvascular complications.

Faith in spirituality provides encouragement when living with type 2 diabetic macrovascular and/or microvascular complications is a resource of belief to persevere and have the strength to meet implicating crises of this chronic illness. Faith had provided a sense of balance in surviving type 2 diabetic mellitus and its complications. A participant had described a balance to maintain faith without doubt as follows: “Maintain the balance and Divine Mercy. Avoid doubt. Not to lose faith for that cure. " Faith in spirituality as a form of encouragement was described as a continued effort to abate the perception of discouragement and to deal with the trials of macrovascular and/or microvascular complications. The participants expressed their faith through spirituality in assisting them to cope with their macrovascular and/or microvascular complications. Spirituality helped this participant to accept the macrovascular and/or microvascular complications of type 2 diabetes: "The complications in diabetes out there and you can’t take that away, but with your faith you know that you can learn deal with complications (peripheral neuropathy, nephropathy, retinopathy).” Another comparable description of faith and coping by a participant is learning to live for some time with neuropathy and renal failure: “And I have faith that I can handle it and like I said with the real faith, that’s the first and only seriousness you have. I have the complications like neuropathy and renal failure for years and I learned to deal.” Living with kidney failure due to type 2 diabetes can be intolerable, but it is manageable due to faith as commented by this participant: “I know that my kidneys are

failing, but God is still granting me the time to do His work. My life could have been miserable having type 2 diabetes and not having faith."

Another consideration of faith was the generalizations of its meaning such as steadfastness to carry on in one's diabetic life with macrovascular and/or microvascular complications. One meaning of faith was steadfastness in terms of survival after many years of living with a type 2 diabetic complication: "You have to believe in something and my faith in Him (God) is restricted to do this and help me for this day by day to help fight this disease (type 2 diabetes with amputation). I've seen other people have it (type 2 diabetes) and their dead. I'm still here." Another participant found faith to be an incentive to live with type 2 diabetes: "Because faith has been the most important part of me. Cause with the diabetes, I got nothing. So Faith is the most important thing to have that is the most concern. So that's what I am after. It's important that we have that. I don't find faith to be a big thing that set you back. I think faith sets your forward. Uh, it's a wonderful thing to believe."

Faith in spirituality encompasses trust in God or a Higher Power when living with type 2 diabetic mellitus patients with macrovascular and/or microvascular Complications.

A second element of faith in spirituality was described by the participants as an encompassing trust in God or a Higher Power. A trust in God or a Higher Power was a central and personal core of spirituality when living with the challenges of type 2 diabetes mellitus and macrovascular and microvascular complications. Despite experiencing the discomforts of diabetic macrovascular and/or microvascular complications, faith is described as resilience from having a trust in God or a Higher Power. This is evident by one

participant who believes that faith in God or a Higher Power can be helpful in living with the life changes of type 2 diabetes and it complications: “I’m choosing the grace to have faith no matter what the body can go through I believe and that’s all I got. Even at best, God shows me that it's not the end of the journey. My faith is alright. My diabetes, it’s alright. I’m going to get better.”

A common sentiment among the participants with neuropathy was depicted in the following comment by one participant on faith and its steadfastness to follow the proper course of diabetic care with God or a Higher Power: “There’s not a cure for type 2 diabetes with neuropathy. So I’m depending on my faith. There are times that I don’t want to take the medicine. I stepped back from doing the things (non-compliance with diabetic care). I’m saying in doing the right thing and my faith and my God to let me stay a little bit longer.”

Faith provides motivation to succeed in diabetic management among type 2 diabetic mellitus patients with macrovascular and/or microvascular Complications.

Faith provides motivation to succeed in diabetic management among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications. Motivation was identified as an outcome of faith to accomplish the necessary tasks of diabetic management for these participants. The purpose of having faith in one's diabetic management was to succeed in improving the physical well-being of type 2 diabetes. An incentive to do better in caring for oneself with faith was describe by one participant:“I think that the faith that you have to do the thing to make it (type 2 diabetes with complications-neuropathy and heart disease) better. Faith does act make life better. I gave up smoking and drinking. I put it on my favor.”

The participants' descriptions depict their motivation to succeed by having faith to take the necessary steps to avert further deterioration on macrovascular and/or microvascular complications. As one participant described his faith to continue with the prescribed diabetic care to defer this deterioration: “I know that I have this disease (type 2 diabetes with transmetatarsal amputation). I know that if I let up, let’s say a day or so, but not to do the proper things about my diabetes that I would deteriorate in say such a way that I would not be here next year. So I used this (faith) to say, you must get up in the morning same things that you have to do.” Another participant relates the cross of having diabetes is more bearable with faith: “So my whole existence has been around my faith and I'm cognizant of the fact that every day I have a cross to bear and I come to terms with the fact that since I can't do anything about the diabetes (nephropathy complication) that's my cross. So I'm carrying my cross, but, I 'm a miracle ….. following the medical regimen that I have."

Theme Six: Spirituality encourages optimism in type 2 diabetic patients with macrovascular and/or microvascular complications.

Just as faith was generated from having spirituality, optimism was the extension of spirituality that embellishes commitment and acceptance of this chronic disease and the continuity of their diabetic care. Optimism was resistant to adversity and discouragement in this study group. The two cluster themes of optimism are (a) Optimism from having spirituality enhances a positive attitude among type 2 diabetic patients with macrovascular and/or microvascular complications (b) Optimism from spirituality deters depression among type 2 diabetic patients with macrovascular and/or microvascular complications.

Optimism from having spirituality enhances a positive attitude among type 2 diabetic patients with macrovascular and/or microvascular complications.

Optimism from spirituality is a perspective that promoted a positive attitude in the participants to accept living with the circumstances of this chronic illness and not to succumb to the disappointments and hurdles of having macrovascular and/or microvascular complications. One participant described this positive attitude of optimism within the realm of spirituality to be acceptance and willingness to care of one's diabetes: "Spirituality in knowing instead of looking that you have been afflicted with a disease that's debilitating, you look at it as a disease that you can managed and I think with that diabetes that spirituality is having an optimistic attitude. An optimistic attitude that I can managed this as opposed again to finding you a victim and that you been deal bad hand and you are not going to take care of yourself- the hell with it. I'm going to die anyway, but spirituality says I want to live and I'm going to do what it takes to live and not do anything that is detrimental to myself."

Optimism from spirituality deters depression among type 2 diabetic patients with macrovascular and/or microvascular complications.

Optimism from spirituality deters depression in 2 diabetic mellitus patients with macrovascular and/or microvascular complications. The daily care of a type 2 diabetic patient included the most routine tasks such as daily insulin administration, daily finger sticks for glucose monitoring, or for those with end-stage renal failure due to nephropathy attending weekly dialysis sessions. From this daily regimen of diabetic care, patients may experience a sense of depression due to this mundane need to be responsible for their diabetes during their lifetime. As such, the participants described how depression from daily insulin injections

and glucose finger sticks was deterred through spirituality as a source of optimism. Daily glucose finger sticks is one prime example that can lead to a depressed attitude and how spirituality can deter this depression as one participant explained: “When I get depressed about this every morning getting up taking up the needle. I don’t care attitude, but then I fall back and I sat down like I got up this morning to go up there to do this test and I said, ‘God I don’t feel like going then there is this whole voice that is outside of my head it's in my heart. It's like when you‘re a kid you do bad things and he feel bad and when do, do good things you feel good on that side. There’s something beyond us that makes you feel like that. It's suddenly it(spirituality) makes you said "I should done that." Diabetic patients who are on renal dialysis experience depression, but optimism from spirituality redirects that mental impairment through God: “When I first diagnosed with diabetes I was a little depressed about it, I really wasn’t having a lot of problems cause I was taking my insulin and everything. Now when I went to the renal failure, dialysis. I was really down about it. But like I said, I said, ‘Hey’ uh could be worst; dead people worst than me. I think God 's looking out for me."

Another participant had describe deterring depression by being optimistic in his sense of control over type 2 diabetes and its complications by allowing spirituality to dispel uncertainties.:“Downside, it's my depression about having diabetes and letting myself think you I got it. So why worry about it. You know. The upside is well I got it; I don’t let this control me. I can control it. Let me take charge of my life. Not let some symptom take charge or some disease you know let me control the disease. It (spirituality) helps at both ends that comes together at one equilibrium point."

Theme Seven: Spirituality remains unchanged if not stronger or enhanced type 2 diabetic patients with macrovascular and/or microvascular complications.

Spirituality had a facilitating influence on how patients perceive their quality of life when with living chronic illnesses. The question was on the quality of spirituality whether it was challenged among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications. Does spirituality changed when living with this chronic disease? The participants' reflections on this question reveal a steadfast spiritual belief that becomes stronger or enhanced. The three cluster themes supporting this are: (a) Spirituality is enhanced through understanding of their type 2 diabetes with macrovascular and/or microvascular complications; (b) Spirituality becomes stronger when living with type 2 diabetes and its macrovascular and/or microvascular complications; and (c) Spirituality is a constant factor for type 2 diabetic patients with macrovascular and/or microvascular complications.

Spirituality is enhanced through understanding of their type 2 diabetes with macrovascular and/or microvascular complications.

Comprehending the life of a type 2 diabetic mellitus patient can reflect how spirituality was enhanced in terms of improvement or change. Some participants perceived improvement as a personal growth which has been enhanced in their diabetic experience with macrovascular and/or microvascular complications. Spirituality is enhanced when living type 2 diabetic complications as depicted by this participant: “Spirituality is a growing process. I’m growing all the time. And at the end, I can come to a point that my spirituality will help me to handle this (type 2 diabetes with retinopathy, nephropathy, and neuropathy).”

Another participant found spirituality to be enhanced through encouragement in preventing reckless diabetic management: “I think it (type 2 diabetes with nephropathy) makes for a more spirituality because your emotions works with your health. So by knowing that it encourages me to be more spiritual about my condition than I would be that I didn’t have it and I would be reckless. So uh bring my spirituality to the forefront." One participant described spirituality as enhanced by being changed for the better: **“**It (spirituality) has changed. I mellowed out because I know that I can’t do the things like I used to do, but I also know it doesn’t stop me from trying. You know I will try. I won't give up on anything."

Spirituality becomes stronger when living with type 2 diabetes and its macrovascular and/or microvascular complications.

Spirituality became stronger when living with type 2 diabetes and it complications. The strength of spirituality had increased among type 2 diabetic mellitus patients enabling them to express a deeper sense of self-belief with living with macrovascular and/or microvascular complications. Spirituality becomes stronger when living with diabetes and it macrovascular and/or microvascular complications due to a reciprocating influence to believe in oneself as this participant describes: “The more I go through, the stronger belief in living with diabetes (with complication of coronary heart disease) , the stronger my spirituality. I had to overcome some. I don’t think it's (spirituality) weakened.” Strength in spirituality is also expressed in terms of acquiring a stronger sense of faith, which discussed previously is a spiritual value that is generated from spirituality. One participant describes his faith as a primary source from his strong sense of spirituality: “It (spirituality) just makes me stronger

with my faith and like I say it (spirituality) can give me more life. I just have to accept it (type 2 diabetes with renal failure)."

Spirituality is constant for type 2 diabetic patients with macrovascular and/or microvascular complications.

Spirituality was a constant factor for type 2 diabetic patients with macrovascular and/or microvascular complications. Spirituality remained steadfast in these participants despite having type 2 diabetes mellitus. This steadfast meaning of spirituality was defined by having a relationship with God which remained positive throughout the course of their lives. In this study, the participants found no challenge to their spirituality despite the vicissitudes of having type 2 diabetes mellitus with macrovascular and/or microvascular complications. The meaning and purpose of spirituality remained constant as expressed by this one participant: "Spirituality exists regardless you have diabetes. Spirituality evolves to another level of you to understand it(diabetes). The nature of the human being is created as a spiritual human being. So therefore, the spirituality does not diminish or increase by the disease (type 2 diabetes with neuropathy). It's (spirituality) constant."

Theme Eight: The religiosity component of spirituality supplements adaptation or coping in living with type 2 diabetes with macrovascular and/or microvascular complications.

Religiosity was the extrinsic part of spirituality that assisted patients to adjust their lives within the confines of living with chronic illnesses. The extrinsic part of spirituality was described through religious institutional rites and practices. The participants related religiosity with spirituality as compliments of each other in supporting their lives as type 2

diabetic patients with macrovascular and/or microvascular complications. Three cluster themes for theme eight are: (a) religion in spirituality provides reassurance and control of type 2 diabetic management; (b) religious rituals models as an analogy to "rituals" in caring for self as a type 2 diabetic patient; and (c) prayer as an intercessory resource for praise, thanksgiving, comfort, strength, and assistance.

Religion in spirituality provides reassurance and control of type 2 diabetic management religion in spirituality provides reassurance and control of type 2 diabetic management.

Participants in this study had recognized that their chronic illness with type 2 diabetic complications had placed challenges in managing their type 2 diabetes, but their reliance on their religion had sustained their willingness to adapt to these circumstances. Religion provides another source of control within the spirituality perspective as one patient explained: “I sort of like have some kind of control. I fought through that and being a diabetic I mean it just stems from my religion even more.” Another participant describe religiosity as providing reassurance in tandem with spirituality: “I know it (type 2 diabetes with neuropathy) would be extremely difficult without it (spirituality) with reassurance that there's somewhere that I can turn for help for assistance, for guidance, and my religion gives me that.”

Another patient described his ability to manage his diabetic nephropathy through his religious beliefs: “Like I said I go to church a lot more that I used to especially with this renal failure (type 2 diabetes nephropathy). I don’t know I guess after I had the renal failure,

seemed like I had an urge to go more that I used to go. You know it's those religious beliefs. Basically, helps me with my chronic illness. I believe that my diabetes can be managed." From two religious disciplines, two participants provided their rationale on how their religions helped control the negative habits in diabetic management. A participant of the Muslim faith explained how Islam reflects his dietary control as a diabetic: "Jihad related to how you control one's habits. If you can control our habits, you can control your impulses. Your passion. Oh…Do I love German chocolate cake. Oh, do I love ice cream. You know. With all the fudge on top. All the passion you have, the negative in relationship to your condition contribute to your demise. So Jihad, the struggle over yourself is the struggle over your inclinations. Appetite is check by knowledge. Those appetites that we have, emotional and responsive, they have no basis or rationality." A Southern Baptist participant described how a minister can promote healthy living: "I'm a Southern Baptist I, I go to church regularly and I listen to my minister. He is a fine believer in health. He teaches the congregation to be healthy. A good Christian is a good Christian so he's getting everybody to eat right.."

Religious rituals models as an analogy to "rituals" in caring for self as a type 2 diabetic patient.

During these interviews, the participants had made different analogies of religious rituals as examples of following their self-care "rituals" in managing their type 2 diabetes with diabetic complications. The basic understanding on their analogies was that if one had the discipline to follow the basic understanding of his or her church rules, then one can demonstrate the same discipline in the ritual self-care management of type 2 diabetes

mellitus. One participant believed that there is an analogy between living with diabetes and church beliefs: "Living with diabetes and the church is the same thing. The church has rules. Not only that, it (type 2 diabetes) has its rules …. things that you have to do. That a diabetic there is certain things that you not suppose to eat; and follow the church, there are certain days you are not suppose to eat certain foods." There is a sense of discipline in performing "rituals of diabetic care" as in having discipline with particular religious rituals as one participant explained: "Because there is a ritual which means I have to go home to check the blood sugar you know; there's some discipline like me reading the Daily Word. That's discipline that carries over to other things (diabetic care) you have to do for yourself. That helps me." The Ten Commandments are also described as religious tenets to base one's life on in general. One participant provides as example on the Commandment "Do Not Steal": "Complications play into like the Commandants. You do the same thing with diabetes. You know the best things in the work. Example: I have a orange. The commandant is Thou shalt not steal. I cut my orange in quarters. I eat one quarter. Then the phone rings. I eat another quarter and then another. I am allowed only one quarter, but you don't see me so I eat another. That's stealing in the sense you can't see me. Stealing in the sense that you are not doing your part."

Prayer as an Intercessory Resource for Praise, Thanksgiving, Comfort and Strength

The last cluster theme refers to a dominant form of religious practice which is prayer as an intercessory resource for praise, thanksgiving, comfort, and strength. A major source of communication with God or a Higher Power was prayer for these participants. There was

an expressed need as described by the participants for intercession, thankfulness, and praise to God or a Higher Power who provides support in facing the challenges of type 2 diabetes and its complications. The intercession need of prayer for comfort is a form of motivation as described by this participant: "It (prayer) helps me deal with everything related to diabetes. If I'm a diabetic, I don't know would be my comfort line because I would give up everything, to give up personally. I know prayer to get me up." One participant described praise and strength from prayers provide a belief that things can get better: "It (prayer) just something that I've always done. I think it (prayer) brought me out a whole lot. I think my prayers answer me in different ways like something that don't go right and I pray and something else go the other way for the better. You know it was bad a month ago and it (prayer) keeps me on trying." Being thankful for just living on a daily basis with diabetic microvascular complications is evident in giving thanks to God or Higher Power as one participant commented: "I pray. And I just put it (type 2 diabetic neuropathy) in God's hands. All I can say is take it one day at a time. I'm thankful for the next day. And if I have a next day, If I get up tomorrow I am very thankful to God. And I'm start that day giving the Lord thanks and praise and do the best I can to take care of what he gave me."

In addition, one participant had expressed prayer as a reciprocal aid from friends and/or family to provide emotional support when dealing with his management of diabetic nephropathy: "have families praying for me that they see me doing this (diabetic Management with Peritoneal dialysis [PD]). And hey you know, it's like discipline you know you have to follow. I pray my novena, my rosary. That's how I get through with it. It's really hard to do it by myself, but ….. of course my family and friends with their prayers go

with me that makes me stronger and they helped me too. And my family, they give me religious support."

Summary

This chapter described the lived experience of spirituality among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications. Demographic data described the study group. The verbatim descriptions of the participants' lived experience of spirituality were analyzed through Giorgi's (1985) phenomenological method. Through this phenomenological method, the units of meaning, cluster themes, and the essences or structural themes were explicated from type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

Data Analysis indicated the importance of spirituality in the lives of type 2 diabetes mellitus patients with macrovascular and/or microvascular complications. The essence or structural meaning of spirituality was the positive perception derived from the following major themes: (a) comprehending the vicissitudes of type 2 diabetic patients with macrovascular and/or microvascular complications through acknowledgment in living with type 2 diabetes and its complications, difficulties in diabetic management, fear of loss, and burden of frustration in suffering with the challenges in living with this chronic illness; (b) spirituality helps explains the "Why me?" question through self-forgiveness, having a spiritual sense of the "test to live this chronic illness, and transcendence; (c) having a relationship with God or a higher power though guidance which supports inner peace, making the right choices in diabetic management, and grace to live with type 2 diabetes and its macrovascular and/or microvascular complications; (d) promotes self-efficacy in healthy

self-management, discipline with diabetic management, and encouragement in taking responsibility for behavioral changes; (e) generating faith with living with type 2 diabetes mellitus by providing encouragement, trust in God or a Higher Power, and the motivation to succeed in diabetic management; (f) spirituality encourages optimism by enhancing positive attitudes and deterring depression; (g) spirituality remains unchanged, enhanced, or stronger; and (h) religiosity component of spirituality supplements adaptation through reassurance and control, modeling the meaning of religious rituals to the "rituals" in caring for self as a type 2 diabetic patients, and the application of prayer as an intercessory resource for praise, thanksgiving, comfort, and strength. The themes and clusters from the data analysis of this study provided the description on the lived experience of spirituality among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

Chapter V

Findings and Conclusions

The purpose of this research entailed two aims: (a) to explore the lived experience of spirituality among type 2 diabetes mellitus patients with macrovascular and/or microvascular complications; and, (b) to describe the meanings of this phenomenon that are discovered in the descriptions of the lived experience of spirituality among type 2 diabetes mellitus patients with macrovascular and/or microvascular complications. The research question for this study was: What is the lived experience of spirituality among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications within a hospital outpatient setting? Spirituality in illness was explored as a conceptual insight into the patient's spiritual resources to assist in his or her functional ability to adapt (O'Brien, 2003a). To comprehend the lived experience of spirituality among type 2 diabetes mellitus patients with macrovascular and/or microvascular complications, a phenomenological method designed by Giorgi (1985) was selected to produce a description of spirituality and its essence in the lives of type 2 diabetic patients with macrovascular and/or microvascular complications. Following a summary, this chapter will provide a discussion of the findings, implication for practice, recommendations, and a conclusion.

Summary

Twenty-Five diabetic mellitus outpatients with macrovascular and/or microvascular complications were willing participants in describing their spirituality. All the participants had at least one macrovascular and/or microvascular complication for five years or longer.

Microvascular complications such as neuropathy, retinopathy, and nephropathy were the predominant complications in this study group. Long term treatment of chronic illnesses such as type 2 diabetes mellitus and its macrovascular and microvascular complication have an influential affect on the psycho-behavioral well-being and self-management of these patients. (George et al., 2000; Hornsten, Sandrstrom, & Lundman 2004; Pouwer, et al., 2001) Due to such challenges, spirituality was explored as one internal resource in assisting the participants of this study to navigate with perseverance the changing circumstances of this chronic illness.

Eight themes were derived from the narratives using Giorgi's phenomenological analysis which were: (a) comprehending the vicissitudes of type 2 diabetic patients with macrovascular and/or microvascular complications: precursor to the spirituality experience; (b) spirituality helps explain the "Why Me?" question among type 2 diabetic patients with macrovascular and/or microvascular complications; (c) having a relationship with God or a Higher Power in spirituality supports living with type 2 diabetes mellitus and its macrovascular and/or microvascular complications; (d) spirituality promotes self-efficacy in the diabetic management of type 2 diabetic mellitus patients with macrovascular and/or microvascular complications; (e) spirituality generates faith with living among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications; (f) spirituality encourages optimism among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications; (g) spirituality remains unchanged if not stronger or enhanced in type 2 diabetic patients with macrovascular and/or microvascular complications;

and (h) the religiosity component of spirituality supplements adaptation or coping in living with type 2 diabetes with macrovascular and/or microvascular complications.

The participants eagerly shared their lived experience of spirituality as type 2 diabetes mellitus patients with macrovascular and/or microvascular complications. The phenomenological experience of spirituality with these participants began with theme one, comprehending of the vicissitudes of type 2 diabetic patients with macrovascular and/or microvascular complications: precursor to the spirituality experience. The participants' perceptions on self-management behaviors with type 2 diabetes with macrovascular and/or microvascular complications were similar to how diabetic individuals managed their diabetes (Searle et al., 2008; Veg, Rosenqvist, & Sarkadi, 2006). The cluster themes leading to theme one illicit this comprehension on the vicissitudes of type 2 diabetes with macrovascular and/or microvascular complications as a precursor to the spiritual experience. Theme one's cluster themes are: (a) acknowledgement in living with type 2 diabetes mellitus and its macrovascular and/or microvascular complications; (b) difficulties in managing type 2 diabetes mellitus and its macrovascular and/or microvascular complications; (c) a fear of loss due to type 2 diabetes mellitus and its macrovascular and/or microvascular complications; and, (d) burden of frustration in suffering with the challenges in living with type 2 diabetes and its macrovascular and/or microvascular complications.

This led to the second theme which incorporated the participants' spirituality in terms of explaining the "Why Me?" question. The cluster themes for theme two were: (a) self-forgiveness in having type 2 diabetes mellitus with macrovascular and/or microvascular complications; (b) spiritual sense of the "test" to live with type 2 diabetes mellitus and its

macrovascular and/or microvascular complications. From this understanding of the "Why Me?" question, the participants described a relationship with God or a Higher Power in spirituality which supports daily living with type 2 diabetes mellitus and its macrovascular and/or microvascular complications in the third theme. The clusters themes supporting the third theme are: (a) guidance from God or a Higher Power supports inner peace among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications; (b) having God or a Higher Power in one's life supports making the right choices in diabetic care among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.; and (c) God or a Higher Power's grace supports living with type 2 diabetic macrovascular and/or microvascular complications.

From this incentive in having a relationship with God or a Higher Power, the participants' spirituality promotes self-efficacy in their diabetic management which is the fourth theme. The contributing cluster themes of the fourth theme are (a) spirituality promotes self-efficacy in healthy self-management among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications; (b) spirituality promotes self-efficacy by having discipline in diabetic management among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications; and (c) spirituality promotes self-efficacy by providing encouragement in taking responsibility for behavioral changes. Besides spirituality promoting self-efficacy, spirituality generates faith.

The fifth theme refers to spirituality generating faith among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications. Faith is an important value of the participants' spirituality. The participants describe how faith is generated from three

cluster themes: (a) faith in spirituality provides encouragement when living with type 2 diabetic macrovascular and/or microvascular complications; (b) faith in spirituality encompasses trust in God or a Higher Power when living with type 2 diabetic macrovascular and/or microvascular complications; and (c) faith provides motivation to succeed in diabetic management among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications. From faith, optimism follows which is the sixth theme. The sixth theme is described by the participants to be optimism which is representative of two cluster themes. First cluster theme is optimism from having spirituality enhances a positive attitude among type 2 diabetic patients with macrovascular and/or microvascular complications. Second cluster theme is optimism from spirituality deters depression among type 2 diabetic patients with macrovascular and/or microvascular complications.

The seventh theme describes the state of the participants' spirituality as perceived when living with type 2 diabetes and its macrovascular and/or microvascular complications. The state of the participants' spirituality was described by three cluster themes: (a) spirituality is enhanced through understanding of their type 2 diabetes with macrovascualr and/or microvascular complications; (b) spirituality becomes stronger when living with type 2 diabetes and its macrovascular and/or microvascular complications; and (c) spirituality is a constant factor for type 2 diabetic patients with macrovascular and/or microvascular complications. The eighth and final theme is the religious component of spirituality which supplements adaptation or coping with living with type 2 diabetes and its macrovascular and microvascular complications. Although religiosity and spirituality are distinct in meaning, the religious aspect is described by the participants to part of their spirituality when adapting

to the life-changing circumstances of type 2 diabetes mellitus. The three cluster themes that support the eighth theme are: (a) religion in spirituality provides reassurance and control of type 2 diabetic management; (b) religious rituals models as an analogy to "rituals" in caring for self as a type 2 diabetic patient; and (c) prayer as an intercessory resource of praise, thanksgiving, comfort, and strength. The following section provides an in-depth discussion on related research and corresponding themes and cluster themes.

Discussion on Themes and Cluster Themes

Comprehending the vicissitudes of type 2 diabetic mellitus patients with macrovascular and/or microvascular complications: precursor to the spirituality experience.

The participants spoke of their personal observations on living with the vicissitudes of type 2 diabetes mellitus with macrovascular and/or microvascular complications. The purpose and meaning of spirituality is an integral part on the acknowledgement of having type 2 diabetes mellitus and its subsequent macrovascular and/or microvascular complications. It was not easy to integrate a chronic illness such as type 2 diabetes mellitus and its macrovascular and/or microvascular complications into a facsimile of normalcy. The acknowledgment of having type 2 diabetes mellitus with complications became a subsequent fact of life that was part of a chronic illness which these participants cannot avoid such as treatment alterations and co-morbidities. The participants shared that spirituality had been influential in accepting the long term effects of type 2 diabetes mellitus with complications. The inevitability of developing type 2 diabetic complications was not an easy prospect, but living with type 2 diabetes for more than 5 years

had encouraged these patients to rely on their spiritual strength to adjust and avoid self-pity. The majority of the participants were able to accept the lifetime change of type 2 diabetes mellitus by participating and taking control of their self-management requirements through spirituality. In their own words, the participants spoke of the difficulties in diabetic management, the fear of loss due to the progression of diabetic complications, and the burden of frustration in suffering with the challenges in living with type 2 diabetes and its macrovascular and/or microvascular complications.

According to Lubkin (2005), acknowledgement on the complexity of living with a chronic illness such as type 2 diabetes mellitus with macrovascular and/or microvascular complications poses a cognitive challenge toward physical functioning, limitations in activities of daily living, independence, emotional distress, and self-identity. Type 2 diabetes mellitus with macrovascular and/or microvascular complications shared commonalities of the chronic illness experience as in taking appropriate interventions for specific symptoms, lifestyle changes, and using coping strategies for pyschobehavorial consequences (Wagner et al., 2001; Whittemore & Dixon, 2008). The participants describe attitude as a prerequisite in acknowledging type 2 diabetes with its complications. As one participant stated, "a bad attitude does not help him with his diabetes."

Acknowledgement of type 2 diabetes with macrovascular and/or microvascular complications vacillated between 'living a life' and 'living an illness' (Whittemore & Dixon, 2008). Studies on chronic illness integration (2008) and acceptance and coping abilities of patients with diabetes mellitus (Richardson et al., 2001) established that acknowledgement and acceptance integrated with coping strategies reflect a personal meaningful life.

Whittemore and Dixon's (2008) qualitative study (sample N=26) on general chronic illness and the process of integration described the experience of facing a changed life by the following themes: "(1) 'shifting sands theme' in terms of changes in the participants' bodies and loss of body function; (2) 'staying afloat' theme describing management of illness with coping strategies such as spirituality which was important to participants with diverse race and lower socio-economic status; (3) 'rescuing oneself' theme engaging activities that give meaning albeit the difficult times as having faith in God through religion; and, (4) 'navigating life' theme is living a life by adjustment and expressions of inner strength and living an illness by recognizing the struggles and feelings of frustration" (p.181-184). These findings concurred with the other cluster themes of this study as in facing the difficulties of diabetic management and burden of frustration in suffering with the challenges of diabetic living. Difficulties in managing type 2 diabetes with macrovascular and/or microvascular complications had been perceived to be intrusive for the participants. Type 2 diabetic mellitus participants with macrovascular and/or microvascular complications acknowledged the difficulties of diabetic management as in diet control, medication changes, fluctuations of blood glucose, and diabetic lifestyle changes that affect social and work environments.

A common sentiment about diet control difficulties is evident in Samuel-Hodge et al. (2000, 2008) studies which found making life changes with type 2 diabetes and it complications can be "challenging" as the participants suggested. This is one factor why patients in general can be less compliant in following through with diabetic management such as diet control. Samuel-Hodge et al. (2008) found that the impact of diabetes on diet-related changes has presented a sense of deprivation and resentment in self-management.

Patients tend not to look at the big picture where no single food or meal makes or breaks a healthful diabetic diet (Samuel-Hodge et al. 2008). Instead, the total diet is the main focus with healthy food management for diabetics in general.

In health literature, acknowledgement of a chronic illness is also identified as part of acceptance cognition. Richardson et al. (2001) descriptive correlation study on acceptance and coping ability in persons with insulin-dependent diabetes mellitus (IDDM) explored "how persons with IDDM accept their disease, determine acceptance is related to his or her coping capabilities, and to determine whether acceptance of the disease and coping capability is related to the disease duration, the complications of the disease, metabolic control, and demographic data such as age, sex, work status, and educational level" (p.759). The random sample was 150 outpatients in an acute hospital in Stockholm. The three questionnaires were the demographic survey, The Acceptance of Disability Scale Modified (Cronback's α coefficient of 0.95; reliability α coefficient of 0.95), The Sense of Coherence questionnaire which explains "how to cope successfully with stressors and consists of three dimensions comprehensibility, manageability, and meaningfulness with Cronbach's α values varying from 0.79 to 0.90" (p. 760). Statistical analyses were Pearson's partial correlation coefficients, student's *t* test and the one-way analysis of variance to identify differences between two or more unrelated groups (sex, work, status, complications, and education). Insulin-dependent persons were found to have a high degree of acknowledgement based on the mean values of the Acceptance of Disability Scale Modified. Type 2 diabetic mellitus participants with macrovascular and/or microvascular complications who were insulin-dependent acknowledged acceptance of their type 2 diabetes and complications which is

plausible since Richardson et al. (2001) found that their subjects had no choice but to accept their disease. For metabolic control (HbA1c), patients in Richardson et al. (2001) study with one complication had better metabolic control than those with two or more complications. This finding coincided with an above normal metabolic control mean of 8.6 (normal HbA1c levels 4.3-6.1) for the type 2 diabetic mellitus participants who had two or more macrovascular and/or microvascular complications. An explanation for this would be that metabolic control is affective by the degree of insulin resistance in this study group. The educational level of type 2 diabetic mellitus participants with macrovascular and/or microvascular complications was not a factor in acknowledging type 2 diabetes with complications versus Richardson et al. (2001) study which found higher levels of education was an important factor for how well a person accepted this chronic illness. A possible explanation for this would be the participants' reliance on an extrinsic or intrinsic spiritual belief to accept type 2 diabetes mellitus with macrovascular and/or microvascular complications through spirituality despite their educational level.

Another common concern expressed by these participants is the fear of loss attributed to diabetic macrovascular and/or microvascular complications such as peripheral neuropathy, nephropathy, and retinopathy. Loss was expressed in terms of amputations, blindness, and renal failure. Ford et al. (2002) had found the perception of loss among diabetic patients in an urban health care system to be associated with the same fears of amputations and blindness. A fear of loss contributes to a psychosocial morbidity which can hamper resilience and a capacity to feel powerless with type 2 diabetic macrovascular and/or microvascular complications. Published studies have found that diabetic patients with macrovascular and/or

microvascular complications describe a psychosocial morbidity with a sense of loss that is determined by decrease self-efficacy and depression (Huang et al., 2008;Luckie et al.,2007;Patout et al.,2000; Robertson, Burden,Burden, 2006; Shiu & Wong, 2002). The type 2 diabetic mellitus participants with macrovascular and/or microvascular complications had expressed this fear of loss as being restricted in maintaining a quality of life, but have been resourceful in their cognitive behavior coping strategies to overcome that fear of loss. Spirituality as a resource provides a perspective for reassurance and faith with living among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications (Conner & Eller, 2004). This is not only limited to the awareness of having a fear of loss, but having a burden of frustration in suffering with the challenges of type 2 diabetic macrovascular and microvascular complications.

Type 2 diabetic participants do face a burden of frustration in suffering with the challenges in living with diabetic macrovascular and/or microvascular complications. This frustration of living with limitations and a changing lifestyle is a form of suffering that deters from normalcy in terms of privacy during medication administration of insulin, diet restrictions in social settings, experiencing hypoglycemia in public, and gait disturbances due peripheral neuropathy. Suffering has an ontological aspect of understanding its progression existentially (Rehnsfeldt & Eriksson, 2004). The progression of suffering among type 2 diabetic mellitus patients experienced implies that suffering never ends. Rehnsfeldt & Eriksson (2004) qualitative study on the progression of suffering indicated that “suffering could be seen as a movement in health from unbearable towards bearable suffering; although, suffering can be alleviated in relation to care from an integrated ontological-spiritual

existential perspective" (p.264). The burden of frustration in suffering among the participants with type 2 diabetes and its macrovascular and/or microvascular complications use their spiritual potential as a learning resource to deal with life changes and to be comfortable to lessen their sense of vulnerability. This is evident as described by the majority of the participants who understood the reasoning of following an appropriate diabetic care regimen and to make the necessary life changes to alleviate the frustration of this suffering. The participants are able to comprehend the difficulties, fear of loss, and burden of frustration in suffering in managing the vicissitudes of type 2 diabetes with macrovascular and/or microvascular complications through their lived experience of spirituality. Spirituality is the precursor to this comprehension in living with this chronic illness. As such, this leads toward the next theme on how spirituality helped to explain the "Why Me?" question in this study.

Spirituality helps to explain the "Why Me?" question among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

Through spirituality, the participants were able to explain the "Why Me" question through self-forgiveness, having a spiritual sense of the "test" to live with type 2 diabetic complications, and the ability to transcend the illness component of "Why me?" The essence of self-forgiveness is the motivational change on the part of the individual to bear no anger or resentment toward an offending circumstance (McCullough, 2001). The effectiveness of forgiveness is the acceptance of having a chronic illness and attuning oneself toward the progression of healing (Mickley & Cowles, 2001; Worthington, Berry, & Parrott, 2001). By incorporating the cognitive and emotional awareness of self-forgiveness, an

individual finds meaning and purpose with a positive attitude through faith and changes in behavior. This coincides with the descriptions of the participants that spirituality aids them in accepting type 2 diabetes with macrovascular and/or microvascular complications with minimal bitterness and increase faith and patience. Studies on forgiveness found that individuals who have a self-forgiving attitude were able to contribute to their good physical and psychological health by promoting self-esteem, faith, hope, and spiritual sense to meet the "tests" or challenges with chronic illnesses (Lawler et al., 2003; Romero et al., 2006; Ryan & Kumar, 2005).

Lawler et al. (2005) studied the effects of forgiveness on health by exploring four pathways (spirituality, reduction in negative effect, social skills, and reduction in stress) in 81 middle-aged community sample of men and women. Lawler's et al. (2005) study comprised of an interview on betrayal, physiological measurements (heart rate and blood pressure), and 7 questionnaires on forgiveness (Acts of Forgiveness and Transgressions scales), trait forgiveness (Forgiving Personality scale), health (rating 40 common physical ailments), social skills (competence in social situations scale), spirituality (Ellision [1983] religious and existential spiritual well-being scale), negative affect (Profile of Mood States measuring feelings of tension, depression, anger, fatigue), and stress (Perceived Stress scale). Forgiveness and health were significantly correlated (-0.29 to -0.45, $p<.01$) (i.e. medication use slightly strong related to forgiveness [2005]). Existential spirituality was a mediator between health and forgiveness. There were reductions in negative affect and stress associated with forgiveness (2005). A forgiving spirit within one's personality reduces the negative effect of anger, anxiety, and depression (2005).

Self-forgiveness from the descriptions of type 2 diabetic mellitus participants with macrovascular and/or microvascular complications reconciles the "Why Me?" question by promoting a "spiritual sense of the test" to live with this chronic illness. This insight of sustaining a "spiritual sense of the test" contributed to the psychological and physical well-being of the participants without bitterness. This is beneficial toward the acceptance of adverse circumstances of the diabetic disease process such as macrovascular and/or microvascular complications of type 2 diabetes. The Romero et al. (2006) correlation study on self-forgiveness, spirituality, and psychological adjustment in women with breast cancer resulted with a consistent similarity in explaining the "Why Me?" inquiry of living with chronic illnesses. Measures of the study included questionnaires on demographics, psychological adjustment (Profile Mood States scale) quality of life (Functional Assessment of Chronic Illness scale), self-forgiveness (Forgivess of Self scale, and spirituality (single item: "How spiritual/religious do you consider yourself?", (p. 31). The univariate relationship of spirituality, mood disturbance, self-forgiving, and quality of life were the following: "(1) a negative relationship between spirituality and mood disturbance ($p<0.0001$); (2) significant positive relationship between quality of life and spirituality ($p<0.0001$); (3) relationship between self-forgiving and spirituality was not significant ($p>0.05$)" (p. 33). Explanation for the lack of significance between self-forgiving and spirituality were "attributed to the spiritual ability of the women relying on their religious coping practices to manage their level of functioning- either way may be a viable means of coping with cancer" (p. 34). The type 2 diabetic participants with macrovascular and/or microvascular complications attributed their self-forgiveness from a spiritual perspective and

spiritual sense of the "test" to live with the "Why Me?" question. From self-forgiveness and having a spiritual sense of the "test" to live with type 2 diabetes and its macrovascular and/or microvascular complications, the participants were able to transcend this illness through spirituality.

The participants' spirituality transcended the illness of type 2 diabetes mellitus with macrovascular and/or microvascular complications toward "a spiritual perspective that refers to meaning and value, connectedness to others by helping and receiving help, having interest in learning, and adjusting to difficulties" (Runquist & Reed, 2007.p.6). Transcendence in illness as described by the participants deterred the difficulties in managing their diabetes and macrovascular and/or microvascular complications from the "Why Me?" question to a higher level of empowerment in strengthen one's present life in engaging adversities with the assistance of spirituality. Frankl (1963) found transcending an illness is to accept the reality that some difficult situations are unchangeable and is dependable on how an individual decides to transform those situations. Reed (1987b) described self-transcendence as an indispensable dimension of spirituality with serious life events. Similar results from other studies that focus on transcendence in chronic illnesses such as AIDs, rheumatoid arthritis, cancer, and liver transplant have provided patients with a greater sense of connectedness with themselves, others, and with God or a Higher Power (Bean & Wagner,2006; Farren, 2010; Mellors, Coontz, & Lucke, 2001; Neill,2002). The majority of the participants group had depicted a transpersonal transcendence which involves a sense of relatedness to God or a Higher Power.

Having a relationship with God or Higher power in spirituality supports the daily living among type 2 diabetes mellitus patients with macrovascular and/or microvascular complications.

In spirituality, a relationship with God or a Higher Power is a predominant reference in type 2 diabetic mellitus participants who emphasized spiritual support during the daily management of their type 2 diabetes with macrovascular and/or microvascular complications. This spiritual support provides inner peace from the guidance of God or Higher Power, encourages the right choices in diabetic management, and supports living with type 2 diabetes mellitus and its complications through God's grace. The participants have a positive perception with their relationship with God which enhances their coping abilities. According to Greenway et al. (2007) study on spiritual and religious coping strategies with transcendence, a relationship with God or a Higher Power incorporated a perception of a caring God or Higher Power which is a positive collaborative effect in living with chronic illnesses. The participants described the dissonance of having type 2 diabetes mellitus with macrovascular and/or microvascular complications as being converted to an inner peace through positive religious coping strategies (i.e. religion, scripture, church) and the connectedness with God or a Higher Power. This finding is collaborated with studies on spiritual turning points and perceived control over life course in geriatric people, African-American spirituality and honoring of God, and prostate cancer and spirituality of men. (Fiori, Hays, & Meador, 2004; Lewis et al., 2007; Walton & Sullivan, 2004) Many of the participants describe their relationship with God or a Higher Power in terms of submitting their trust to His will making life with diabetic macrovascular and/or microvascular

complications bearable. Inner peace derived from God or a Higher Power was an existential contributor to well-being (Fry, 2000). Inner peace from spirituality postulates the existential influence of God or Higher Power's relationship with the participants toward self-esteem and a positive self-direction in maintaining their health in supporting the right choices of diabetic care as type 2 diabetics.

These participants described a relationship with God that was perceived to be positive especially when supporting the right choices in diabetic care in terms compliance with medications, diet, exercise, glucose monitoring, and preventive maintenance (i.e. foot exams, retinal exams, kidney function tests). Polzer and Miles's (2005) study found that African Americans' spirituality provided a framework for health and illness and that God or Higher Power as the " 'controller of illness and health' has a partnership with type 2 diabetic individuals to instill some responsibility in managing their health care" (p.236). Another qualitative study on spirituality as a motivator in treatment adherence was conducted by Kremer, Ironson, and Porr (2009) with 79 HIV positive people and found that more than half (43/79, 54%) indicated spiritual/mind-body beliefs were related to treatment decision-making and treatment adherence. Kremer, Ironson, and Porr (2009) also found that there was not a specific spiritual/mind-body belief from the coded themes of " 'God/Higher Power controls health,' 'Spirituality enhances will to live,' and 'God helps those who help themselves' which were identified as motivators that adhere to a treatment; on the contrary, it was found that a belief in God/Higher Power can be a barrier to adhere to treatment due to the individual's perceived personal agency in his or her controlling health" (p.130-132). This was not the case in the lived experience of spirituality among type 2 diabetic participants with

macrovascular and/or microvascular complications who describe their spiritual beliefs and the grace of God to be an influential factor in adhering to their diabetic care.

Grace does not disconnect ourselves from others and God. It is always present. Grace is that spiritual attribute in accepting God's presence especially during times of hardships, trails, challenges faced in life (Carver, 2007). The goal is to support greater spirituality and personal development in times of adversities for those with chronic illnesses. There is a dependency yet gratefulness toward God's grace which sustains the resilience of these participants to adapt to the struggles with type 2 diabetes and macrovascular and/or microvascular complications. There has been little research into the health aspects of God's grace, but Krause (2006) and Chao, Chen, and Yen (2002) found that grace was embraced as gratitude to God's love and favor. Krause (2006) longitudinal survey study on older Whites and older African Americans found the following results: "(1) highest observed score on the scale assessing gratitude toward God; (2) older women felt more grace and gratefulness than older men; and (3) the stress-buffering function of gratitude toward God's grace emerges only among older women" (p.173-180). Church attendance and increased social contact have been found to bolster their gratitude for God's grace and decrease perceptions of stress in Krause's study (2006). In contrast to this research study on type 2 diabetes mellitus and spirituality, the participants were mostly comprised of men whom had indicated gratefulness for God's grace in their lives even when church attendance was minimal. Chao, Chen, and Yen (2002) hermeneutic study on the essence of spirituality in terminally patients found in one of their themes, "Communion with a Higher Being", a reference to gratitude as amazing grace for the capacity to be thankful to a Higher Being's mercy and goodwill with terminal

illness. Similar sentiments were noted from type 2 diabetic participants with macrovascular and/or microvascular complications who expressed God's grace to accommodate their challenging experiences with nephropathy (i.e. renal insufficiency, renal failure), retinopathy (blindness, limited vision), and neuropathy (amputations, foot ulcers, pain) with gratefulness. In spirituality, a relationship with God or a Higher Power supports the daily living among of type 2 diabetic with macrovascular and/or microvascular complications which could explain their self-efficacy capability in diabetic management.

Spirituality promotes self-efficacy in the diabetic Management among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications.

Adherence to appropriate diabetic care is dependent on an individual's personal capabilities to achieve health-promoting behaviors. Self-efficacy is a construct that applies numerous determinants of human behavior and change (Cherrington ,Walston, & Rothman, 2010). Self-efficacy is a part of Bandura's (1986, 1997) social cognitive theory. This theory specifies that individual beliefs and personal capabilities reflect behavior performance (Bandura, 1986). Spirituality has an influential effect on the self-care perception in these participants. Many of the type 2 diabetic participants with macrovascular and/or microvascular complications have described spirituality to be significant in their compliance with self-management, discipline, and encouragement in taking responsibility for behavioral changes. A relationship with God or a Higher Power and a deep belief in their spirituality provides a conscientious effort to deter the negative psychological impact which causes poor

health self-management (Cherrington, Walston, & Rothman, 2010; Dye, Haley-Zitlink, & Willoughby, 2003).

Studies have found that poor self-efficacy and depressive symptoms in diabetic mellitus patients have a significant relationship with glycemic control and self-care management (Cherrington, Walston, & Rothman., 2010; Dye, Haley-Zitlink, & Willoughby, 2003; Mann et al., 2009). Dye, Haley-Zitlink, & Willoughby's (2003) qualitative study on older adult type 2 diabetic patients: making dietary and exercise changes have found that willpower through a belief in God and one's spirituality is necessary for effective behavioral changes. This reference collaborates with the majority of the type 2 diabetic mellitus participants' descriptions of self-efficacy in controlling dietary habits and proper medication management through spirituality. An example of this consensus is stated from one participant, "diabetes can be managed through spirituality and God by following medical instructions and taking medications." Meaningful reinforcement of spiritual beliefs strengthens the discipline component of self-efficacy. Callaghan's (2003) descriptive multivariate study of a convenience sample of 379 adults found that spirituality lead to discipline in health promoting self-care behaviors and had a greater relationship with self-care self-efficacy. This coincided with the participants' spirituality in promoting encouragement by assuming responsibility for behavioral changes in deterring the progression of present diabetic macrovascular and/or microvascular complications. The faith value may be another factor in spirituality that promotes self-efficacy.

Spirituality generates faith with living among type 2 diabetic mellitus patients with macrovascular and/or microvascualr complications.

Spirituality helps to promote self-efficacy, but one basic spiritual value, faith, enhances the internal means of control to live with type 2 diabetes mellitus with macrovascular and/or microvascular complications. In this study, faith is a predominant value that enveloped a trust in God of Higher Power, encouragement in living with type 2 diabetic macrovascular and/or microvascular complications, and motivation to succeed in diabetic management. Faith provided a locus of control to handle the most common diabetic complications such as neuropathy, nephropathy, and retinopathy with perseverance. The participants described this perseverance as encouragement to believe with faith and take personal control to deal with their type 2 diabetic complications. Instead of dwelling with the misery of having type 2 diabetes with macrovascular and/or microvascular complications, the participants depended on their faith to provide meaning and purpose in life. Ai et al. (2005) when studying on locus of control and faith found a multidimensional phenomenon of affect on an individual's health and well-being in a group of middle-aged and older cardiac patients. The multidimensional phenomena of affect was based on sociocultural values of the faith-based as in "(a) personal control embedded in the religious ethic (i.e. Protestant ethic), and (b) spiritual surrender inherent in traditional religious faiths" (Ai et al., 2005, p.477). At an individual level, faith is tied with "event-specific coping intention leading to personal control and general spiritual experiences, encouraging spiritual surrender to a higher power" (Ai et al., 2005, p.477). The type 2 diabetic participants described an encompassing trust in

God or a Higher Power with their spiritual faith to gain greater control with the direct outcomes of type 2 diabetes as in macrovascular and/or microvascular complications.

Other studies on faith-based education programs which focus on diabetes, cardiovascular disease, stroke, pregnancy, homelessness, and cancer have made references to faith and a trust in God or Higher Power's support (Frank & Grubbs, 2008; Jesse, Schoeneboom, & Blanchard, 2007; Popoola, 2005; Soothill et al., 2002; Washington et al., 2009). Findings from these studies illustrate how faith and spirituality can buffer the difficulties and challenges of chronic illnesses. Having a trust in God and a Higher Power is a common theme in these studies and that God or Higher Power is central in the encouragement of these participants to use their faith by believing in their capabilities to take control of their diabetic care and to cope with their macrovascular and/or microvascular complications. Some of the participants illustrate their faith as: (a) "I have faith that I can handle the neuropathy and renal failure"; (b) "I learn to deal with it in faith"; (c) "Faith is my strength and faith gets me through crisis after crisis"; (d) "I know my kidneys are failing, but God is granting me time to do His work."; and (e) "God helps me to keep focus." These illustrations of faith guide their motivation to succeed in diabetic management. As such, faith was a motivation within the human health experience. (Dyess, 2008)

Faith sustains the motivation to succeed in diabetic management. Consistent diabetic management can be tedious and discouraging leading to lapses of non-compliance with diet, exercise, glucose monitoring, and preventive diabetic care as in daily feet evaluations, yearly eye exams, and other renal evaluations. Vigilance in their diabetic management is essential to avoid exacerbation of the macrovascular and/or microvascular complications. Participants

described their faith as a higher power to assist them with their diabetic management. Faith provides these participants a sense of mindfulness to sustain self-assurance and positive health behaviors. Pargament and Mahoney (2005) found that an individual's spirituality with relevance to faith has a sacred responsibility in the care of one's body. Faith orientation studies on self-management discovered spiritual practices (i.e. prayer, strength from God, and church) were effective strategies to maintain self-management of one's health (i.e. diet, exercise, medication maintenance, doctor visits) (Harvey 2006; Leach & Schoenberg, 2008; Polzer & Miles, 2005; Samuel-Hodge et al., 2000). The basic essence of faith and the motivation to succeed with diabetic management from the perspective of type 2 diabetic participants in this research is the continuity of care to maintain optimal well-being and health. From this perspective of spirituality, optimism also prevails.

Spirituality encourages optimism in type 2 diabetic patients with macrovascular and/or microvascular complications.

Optimism is another extension of spirituality which is conceptualized as a positive outcome expectancy and positive self-efficacy (Fournier et al. 2003). Positive outcome expectancy is the belief that one will "generally experience positive outcomes in life and are assumed to be stable over time, but will decrease when confronted with a succession of severe adversities" (Fourneir et al., 2003, p. 278). Outcome fluctuations may occur over time in patients with chronic illness, but the participants described optimism as having a positive attitude through their spirituality despite the challenges faced with macrovascular and/or microvascular complications. A positive attitude derived from optimism reflects a will to manage their chronic illness. Optimism attributes a positive attitude necessary in attaining a

quality of life despite the limitations and negative outcomes of having a chronic illness (Carver et al., 2005).

The rationale of having a positive attitude from optimism is insuring that negative outcomes are minimized or instill a sense of adaptation and acceptance of disease-related stressors (physical symptoms, disease duration, depression, physical impairments, and life events) (Fourneir et al., 2003). Positive self-efficacy expectancy is having "a positive estimation of one's skills and are perseverant in attaining one's goals" (Fourneir et al., 2003, p. 278). The Fourneir et al. (2003) study on type 1 diabetes mellitus and multiple sclerosis have shown optimism's positive efficacy expectancy to be stable across time in a number of chronic illnesses.

Baker's (2007) prospective study examined optimism in daily experiences of health status, symptoms and behaviors, and the influence of daily events (uplifts, hassles) and attitude (positive, negative) on optimism-health relationships of 39 psychology students. Optimism was defined as positive outcome expectancy. Findings found the following: "(a) individuals with higher than average optimism tended to experience lower day-to- day negative attitude, better global health status, likely to exercise, and lower probability of drinking and smoking than those with below average optimism; (b) individuals with higher than average positive attitude reported better health status; and (c) positives of daily life (uplifts and mood), but not negatives had a moderate impact on optimism on daily health" (439-444). A positive mood has a positive effect on the attitude of individuals which is a characteristic of optimism (2007). A limitation of Baker's (2007) study was the focus on young optimistic individuals who may have a sense of invincibility or immortality.

Yet, studies on optimism that focused on cardiac, breast cancer, fibromyalgia, and stress have a relevant positive effect on health behaviors and psychological well-being (AI et al., 2008; Minton et al., 2009; Morea, Friend, & Bennett, 2008; Peterson et al., 2008). Spirituality encourages one to have a positive attitude as confirmed among type 2 diabetic participants with macrovascular and/or microvascular complications. This positive attitude in optimism is extenuated through spirituality and deters depression in chronically ill individuals.

Depression is considered to be a negative outcome when dealing with chronic illnesses. With depression, there is a low optimism which reflects a disconnection on the psycho-behavioral well-being of an individual (Whiting et al., 2006). Depression is associated with "pathophysiological changes that contribute to increased susceptibility of type 2 diabetes patients to macrovascular and/or microvascular complications" (Whiting et al., 2006, p.176). The overall effect adversely interferes with glycemic control, self-care diabetic activities and threatens the quality of life in type 2 diabetic patients (Kilbourne, Cummings, & Levine, 2009; Whiting, 2006).

Spirituality invigorates the self-esteem of the individual to overcome adversities and depression which can hinder his or her psycho-physical well being. Macrovascular and/or microvascular complications such as renal failure and peripheral neuropathy can challenge the self-efficacy of diabetic management on a daily basis. On the contrary, the participants have found spirituality with reference to God or a Higher Power and infusion of religiosity had provided a source of encouragement and equilibrium. Greenway, Milne, and Clarke's (2003) correlation study on personality variables, self-esteem and depression, and perception

of God with 201 Anglicans established that "(a) the positive self-characteristics (accepting and liking oneself) and the feeling of God as caring, go together; (b) self-liking correlated significantly negatively with distrust, self-doubt, irritability, and depression and positively with serenity, fitness, and self-competence; (c) Self-esteem on the positive side included sense of well-being, being at peace with oneself, and feeling competent; and (d) focusing on God as a source of support and strength counteracted feelings of depression and frustration" (p. 54-57).

The participants related similar sentiments that God is looking out for them and encouraging them to take care of their diabetic needs. They also echo similar sentiments of Greenway, Milne, and Clarke's (2003) study in terms of positive well-being and being optimistic. Other supportive literature on the relationship of depression and spirituality to specific illnesses, such as prostate cancer, anxiety, lung and colorectal cancer, and HIV have been positive in terms of coping strategies as optimistic opportunities in promoting inner peace and support toward adjustment with chronic illnesses (Clay, Talley, & Young, 2010; Hodge & Roby, 2010; Kilbourne, Cummings, & Levine, 2009; Nelson et al., 2009; Philips et al., 2009). Greater optimism from spirituality has been found to improve an individual's self-esteem and acceptance of one's responsibility in health maintenance. Spirituality is part of the optimistic process in these participants with macrovascular and/or microvascular complications which remained unchanged if not stronger or enhanced.

Spirituality remains unchanged if not stronger or enhanced in type 2 diabetic patients with macrovascular and/or microvascular complications.

The spirituality in this study has been found to be unchanged, stronger, and enhanced in light of their type 2 diabetic complications. The innate quality of spirituality within an individual is unique and personal. Spirituality is a constant internal resource which is reflected by intrinsic and extrinsic beliefs of spirituality and inherent self-worth despite the challenges of living with type 2 diabetes and its macrovascular and/or microvascular complications. The spirituality of these participants remains a positive asset that is constant. Craig et al. (2006) studied the relationship of spirituality and chronic illness among rural dwelling people and established that spirituality was not shown to be an independent factor in well-being, but rather the group as a whole with active spiritual and religious lives remains constant which influences well-being. Craig et al. (2006) conceded that this finding was attributed to a small sample size and lack of variation in scores of spirituality. A power analysis indicated a need for 240 participants to detect a weak effect for spirituality; this study had 111 subjects (Craig et al. 2006). For these participants, spirituality exists regardless of the type 2 diabetes with macrovascular and/or microvascular complications. Other participants in this study found their spirituality to be enhanced and stronger as part of their past life experiences as veterans and their reliance on God or a Higher Power which reflects their coping abilities to deal with type 2 diabetes and its complications. In two correlation studies on spirituality and religion of HIV/AIDS patients (Cotton et al., 2006; Szflarski et al.2006)), they described their illness as strengthening their spirituality and faith. Type 2 diabetic participants with macrovascular and microvascular complications confirmed

in their descriptions that spirituality was strengthen and enhanced due to this chronic illness. This is confirmed by such descriptions as "spirituality increased despite the circumstances of diabetic retinopathy; now, I generate whole faith" and " I think it (type 2 diabetes with nephropathy) makes for more spirituality because it works with your health". Spirituality remains constant, enhanced, and stronger according to the perceptions of these type 2 diabetic patients; but in their descriptions of spirituality, there is the religiosity component of spirituality that also aids in their adaptation of living with their type 2 diabetes with macrovascular and/or microvascular complications.

The religiosity component of spirituality supplements adaptation or coping in living with type 2 diabetes with macrovascular and/or microvascular complications.

As previously documented in the literature review, spirituality can be defined as being intrinsic and conceptualized to be the individual's framework of meaning and purpose of life's challenges with extrinsic spirituality as being based on religious rituals and practices, such as attending church, prayer, meditation, or works of charity (Dyson, Cobb, & Forman 1997; Ellison, 1983; Tanyi, 2002). The extrinsic spirituality in the lives of the participants was depicted as part of their lived experience of spirituality in terms of reassurance and control of their diabetic management, how religious rituals emulated rituals in caring for self, and the use of prayer as an intercessory resource for praise, thanksgiving, comfort and strength. Previous research into religiosity and spirituality indicated a positive correlation to better health "despite the limited delineation between religious and spiritual as being related but distinct" (Campbell, Yoon, & Johnstone, 2010, p.4).

Religious adaptation does provide for reassurance and control in adjusting to chronic illness management. Although researchers have different conceptual approaches in the multiple scopes of religiosity, religious adaptation or religious coping has been one strategy explored to manage the demands of illness (Gall, 2004; Sherman et al., 2009). The Sherman et al. (2009) longitudinal study on religious coping in adaptation of undergoing autologous stem cell transplantation for 94 myeloma patients examined the role of general religious orientation and positive and negative cancer religious coping. It was found that religious struggle or alienation ensued disruptions in psychosocial and functional well-being (2009). Greater negative religious coping in "adaptation had indicated more adverse outcomes in physical and psychosocial spheres of functioning" (p.125). As for positive religious coping, "the study did not find strong effects for positive religious coping for reasons of culture and personal factors (i.e. hope, ethnicity,) and not including measures for personal growth (i.e. benefit-finding, forgiveness, generativity)" (p.126). In contrast, the participants found the religion component of spirituality to be supportive in reassurance and control of their type 2 diabetic management through religious beliefs and guidance. The participants' descriptions of reassurance and control reveal similar perceptions in the Choumanova et al. (2006) qualitative study on religion and spirituality in coping with breast cancer of 26 Chiliean women. Choumanova et al. (2006) used a constant comparative method to analyze the religious and spiritual coping of Chilean women with breast cancer and found that religion through faith in God, strong reliance on prayer, and the support of the Church and its rituals have profound effects on their self-care management, well-being, and recuperation.

The basic belief on religious tenets and rituals in association with health care practices is the respect and care of the temple of God or Higher power which is the human body. The participants of this study described their religious faith and the religious beliefs of their church leaders as it relates to healthy self-management in diet and exercise (i.e. fruits, vegetables, less meat, less fat, gluttony, etc.) and observance of sacred religious days, such as Lent and Ramadan to fast, sacrifice, and meditate on the meaning of self-control. The Islamic teaching on health is based on a holistic framework on physical, spiritual, psychosocial, and environmental needs (Rassool, 2000). The rituals of religion as described by this study's participants are church attendance, diet protocols, and scripture (i.e. The Ten Commandants). The spiritual connection of this analogy models with faith-held beliefs and values that emphasized self-discipline in selecting the right choices in life. The value of religiosity is described by some of the participants to be an imitation of religious life which respects the body and deters unhealthy practices that threatens their well being. The intention of religiosity was found to enhance protective health behaviors as in smoking cessation, exercise regimens, and dietary changes (Armitage, 2004; McNamara et al., 2010).

Studies in this area have been broad to describe the efficacy of religious practices in terms of health outcomes such as lower blood pressure, less depression, stronger immune system in those who use their religious beliefs as examples of healthy living versus those who are not religious (Campbell, Yoon, & Johnston, 2010; Marks, 2004; Parsons et al., 2006). The diabetic participants describe the utilization of their religious beliefs and rituals to be part of their discipline to make the appropriate health behavior adjustments in their lives. One religious practice that encourages adherence to health care management is prayer.

Prayer is a predominant form of communication to God or a Higher Power and as an intercessory resource for praise, thanksgiving, comfort and strength which adheres to a person's will to adapt to life's challenges with chronic illness. Studies on older medical inpatients, heart surgery, depression, and diabetes have shown a decrease in depression, pain, and greater engagement with medical treatments in patients who use prayer as part of their spirituality/religiosity (Ai et al., 2009; Contrada et al., 2004; Deatcher, 2002; Kilbourne, Cummings, & Levine, 2009; Koenig, 2007). Deatcher's (2002) small study on prayer with nine type 2 diabetic patients completed a 3-month period of using a prayer wheel which encourage the patients to use several distinct components of prayer (giving thanks, singing love, requesting protection and guidance, asking for forgiveness for oneself and others, asking for needs, asking for inspiration, and surrendering to Divine will). There was a holistic influence of prayer on the motivation factor to empower diabetic patients maintain their diabetic self-care needs. Prayer described by type 2 diabetic participants with macrovascular and/or microvascular complications reflected their description of connectedness with God or a Higher Power through praise and thanksgiving in receiving comfort and strength in adapting their lives to this chronic illness. As one participant describes, "Prayer helps me deal with everything related to diabetes. It is my comfort line because I would give up personally. I know prayer to get me up."

In summary, the results of this phenomenological study on the lived experience of spirituality among type 2 diabetic patients with macrovascular and/or microvascular complications provided a rich insight into their consciousness and intentionality within their meaning of this chronic illness. The essence of this experience is highlighted in the eight

predominant themes previously described in the findings. Moberg (1979) defines spirituality as being related to wellness and health from the totality of the inner resources of people central to their philosophy of life and transcendence. An important aspect of these participants in this study is their ability to transcend the difficulties, challenges, and macrovascular and/or microvascular complications of diabetes. Their spiritual resilience is the ability to endure the stresses and negativity toward a personal reflection of well-being (Mackinlay,2008; Ramsey & Bleisner, 2000). Self-transcendence empowers chronically ill patients to attain a capability that is functional and progresses beyond the stresses of disability (Mackinlay, 2008). O'Brien (2003a) describes this transcendence as part of the spirituality concept to be "two dimensional which is transcendence on a personal level and religiosity reflecting practice of faith with or without participation in an organized tradition" (p.110).

The participants descriptions of their lived spirituality as type 2 diabetic patients with macrovascular and microvascular complications can be categorized under O'Brien's conceptual definition of spirituality in terms of personal faith (transcendent values and philosophy of life with a personal relationship with God), spiritual contentment (accepting strength from God, finding peace and forgiveness), and religious practice (prayer, church, spiritual scripture). The validity of the research belongs to the voices and verbal descriptions of their lived experience of spirituality within their world as type 2 diabetic mellitus patients with macrovascular and/or microvascular complications. Such validity can be further enhanced within the context of evidence-based practice as it relates to implications of practice.

Implications of Practice

Nursing Education

Despite the conceptual elusiveness of spirituality, there is still a need for reinforcement in educating nurses on the spiritual dimension of patient care. Lemmer's (2004) survey of U.S. baccalaureate nursing programs found that teaching the spiritual dimension of nursing care "had a lack of clarity in understanding the conceptual definition of spirituality and the uncertainty about faculty knowledge and comfort with teaching this topic" (Lemmer, 2004, p. 482). Yet, the American Association of Colleges of Nursing recent edition of The Essentials of Baccalaureate Education for Professional Nursing Practice (2008) indicated that graduates should have the education and the skills to complete a holistic assessment into the spirituality of patients with sensitivity to culture, age, race, gender, socioeconomic status, and health disparities. Another emphasis is placed on "the nurse to recognize one's own spiritual beliefs and values and how they impact health care" (American Association of Colleges of Nursing, 2008, p.32). Without this self-understanding, nurses would not be able to administer or evaluate the spiritual needs of their patients. The process of this understanding begins with nursing research.

Nursing education is enhanced from the findings of nursing research. The findings of nursing research on spirituality are inherent in the practice and knowledge of the nursing profession to implement spirituality as part of the holistic discipline of patient care. The education of nurses to the spiritual dimension enhances an understanding on how spirituality can influence the health and healing of patients. The study on the lived experience of spirituality among type 2 diabetic mellitus participants with macrovascular and/or

microvascular complications is a prime example on how nurses can educate themselves with an intuitive reflection on the participants' struggles with this chronic illness and the role of spirituality as a mediating factor toward adaptation and coping.

The findings of the lived experience of spirituality among type 2 diabetic patients with macrovascular and/or microvascular complications are the eight themes which provide evidence-based information on spirituality's influence in the lives of 25 participants with this chronic illness. Nursing education is augmented from the following findings: (a) a comprehensive understanding on the vicissitudes of type 2 diabetes mellitus with macrovascular and/or microvascular complications as a precursor to the spirituality experience in terms of acknowledgement, difficulties in managing type 2 diabetes mellitus and its macrovascular and/or microvascular complications, fear of loss, and burden of frustration in suffering with the challenges in living with type 2 diabetes and its macrovascular and/or microvascular complications; (b) spirituality helps explain the "Why Me?" question through self-forgiveness, spiritual sense of the "test to live with type 2 diabetes and its macrovascular and/or microvascular complications; (c) a relationship with God or a Higher Power in spirituality supports daily living with type 2 diabetes and its macrovacular and/or microvascular complications with inner peace, making right choices in diabetic care, and having God or a Higher Power's grace to support living with type 2 diabetic macrovascular and/or microvascular complications; (d) spirituality promoting self-efficacy in healthy self-management, discipline, and encouragement in taking responsibility for behavioral changes in diabetic management; (e) spirituality generates faith among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications by

providing encouragement, trust in God or a Higher Power, and motivation to succeed in diabetic management; (f) spirituality encourages optimism by enhancing a positive attitude and deterring depression among type 2 diabetic patients with macrovascular and/or microvascular complications; (g) spirituality remains unchanged if not stronger or enhanced in type 2 diabetic patients with macrovascular and/or microvascular complications; and (h) the religiosity component of spirituality supplements adaptation or coping in living with type 2 diabetes with macrovascular and/or microvascular complications by providing reassurance and control of type 2 diabetic management, religious rituals models as an analogy to "rituals" in caring for self as a type 2 diabetic patient, and prayer as an intercessory resource for praise, thanksgiving, comfort, and strength. These findings are the descriptive evidence on the meaning of spirituality and its influence on a specific group of participants. From this evidence, nursing education gains one more perspective on the meaning of the lived experience of spirituality and its influence on the health and well-being of type 2 diabetic mellitus patients with macrovascular and microvascular complications. One aspect that nursing education is expanded from these findings is the spiritual perspective of African-Americans which make up 84 percent (n=21) of the participants. The spiritual perspective of the 21 participants parallels their descriptions of spirituality to the global attributes of Newlin, Knafl, and D'Eramo (2002) meta-analysis study on African-American spirituality.

Newlin, Knafl, & D'Eramo's (2002) aim of their research was to perform a formal conceptual analysis of African-American spirituality to "clarify if spirituality encompasses culturally prominent attributes as well as global attributes" (Newlin, Knafl, & D'Eramo, 2002 p.60). The target sample included quantitative or qualitative studies from the

disciplines of nursing, psychology, and sociology that examined African-American spirituality. The most notable finding was the overwhelming congruous description of spirituality across the multiple studies from varying disciplines which revealed antecedents, attributes, and consequences. The predominant antecedents were "cultural influences, life adversities, faith in God, and belief in divine intervention. Attributes included: (a) transcendence; (b) connectedness with God; (c) supportive; (d) peace; and (e) source of healing and personal growth" (Newlin, Knafl, & D'Eramo, 2002, p.68). Categorical consequences included: "(a) faith; (b) heightened interpersonal connectedness; (c) attenuation of stress; and (4) better physical health (Newlin, Knafl, & D'Eramo, 2002, p.68). There are prominent global attributes that reflect spirituality for both white and black Americans (transcendence, hope, interconnectedness with God); while, cultural prominent attributes for African-Americans were guidance, coping, and peace (Newlin, Knafl, & D'Eramo, 2002) . Implications for nursing education reflect a need model that identify spiritual resources that "transform the experience of illness through hope, positive interpretation, internal guidance, active coping, and supportive relationships" (Newlin, Knafl, & D'Eramo,2002,p.68). Findings of Newlin, Knafl, and D'Eramo (2002) study provide some reliability support to the structural descriptive essence on the lived experience of spirituality among type 2 diabetic mellitus participants with macrovascular and microvascular complications. The findings on the lived experience of spirituality among type 2 diabetic participants contribute to the nursing education of nurses to address the significance of spirituality to health and healing. The essence from the descriptions of type

2 diabetic mellitus participants with macrovascular and/or microvascular complications adds to body of knowledge in nursing.

Nursing education on spirituality must begin in nursing schools and reinforced in all health care settings. All nurses must examine their spiritual perspective in terms of personal faith, spiritual contentment, and religious practice as emphasized in O'Brien's (2003a) conceptual orientation of spirituality. Ethically, nurses must also recognize to avoid self-imposing spiritual/religious beliefs in assessing the spiritual needs with patients and their families. The nurse educator is a facilitator for nurses to encourage a communal dialogue on the concept of spirituality and provide reliable multidisciplinary resources for sensitive cases that display spiritual resilience or distress. One important factor to recognize in spiritual education is meeting the needs of the student and the professional toward self-exploration, research-based evidence, and spiritual training.

Nursing Practice

In nursing practice, holistic care is the interconnection of body, spirit, and mind. Spiritual assessment based on the findings on the lived experience of spirituality among type 2 diabetic participants with macrovascular and microvascular complications should be considered as part of nursing practice implemented in diverse clinical settings. Such spiritual assessment of these findings could be developed into tools that address areas in: (a) self-actualization (comprehension of the vicissitudes of type 2 diabetes mellitus and its macrovascular and microvascular complications, plans for the future, personal achievements, roles, concerns of present circumstances, coping strategies); (b) self-efficacy (healthy self-management, discipline, encouragement); (c) connectedness (keeping in touch with nature

and the world, keeping in touch with the sacred [God or Higher Power], relationship with others); (d) faith (trust in God or a Higher Power, motivation; (e) optimism (positive attitude, deters depression); and (f) religious or humanistic activities (church, prayers, rituals, activities that gives sense of peace, hope, harmony). Patient participation according to this type of spiritual assessment provides the individual empowerment and a personal choice in his or her spiritual care. Foremost, nursing practice is dependent on nursing perceptions of spirituality and resolving common barriers that may hinder the implementation of spirituality in nursing care.

Fletcher (2004) study on health care providers' perceptions of spirituality while caring for veterans found common themes that are barriers to nursing and medical practices, but provide opportunities to resolve these barriers through effective education in spirituality and reconciliation with the meaning of spiritual care. The qualitative study included five focus groups at two Veterans Administration Medical Centers. Five professions were chosen deliberated due to the close proximity of patient care: nurses, physicians, social workers, psychologists, and chaplains. Results were the issues pertaining to meeting the spiritual needs of veterans as in "(a) definitions of spirituality; (b) benefits to patient; (c) barriers to spiritual issues in the health care setting; (d) roles of those addressing spiritual issues; and (e) how to facilitate the discussion of spiritual issues" (Fletcher, 2004, p.550). The discussion on barriers lead to themes in providing for spiritual care which were "(1) being a neutral caregiver by acknowledging a patient's spirituality, having good listening skills, being sensitive to cues of spirituality from patients as they described their strengths; (2) allowing the patient to lead the discussion about spiritual values and religion; and (3) patient advocacy

in allowing the patient to practice his faith with family in a private area, praying with the patient per his or her request, refer to a chaplain for assistance" (Fletcher, 2004, p.554-556). The findings on the lived experience of spirituality among type 2 diabetic patients with macrovascular and/or microvascular complications offer evidence on the importance of spirituality in addressing such strengths as self-efficacy, faith, optimism, or religiosity. In support of Fletcher (2004) study, the benefits based on the findings of the lived experience of spirituality among the type 2 diabetic mellitus participants with macrovascular and/or microvascular complications provide the evidence that the inclusion of spirituality in nursing practice is an asset in health-promoting behaviors.

The research on the lived experience of spirituality among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications demonstrate the importance of research and education in influencing the practice of nursing. There is a need for a systematic approach in educating nurses and nursing students on the importance of spirituality toward the physical and psychosocial-behavioral health of chronically ill people in terms of disease management. In Butler et al. (2003) Heritage Lectures, Dr. Puchalski's lecture on spirituality for the Heritage Foundation describes the goal of spirituality education for healthcare practice is to understand "spirituality's role in a patient's life and how to respond to his or her spiritual concerns; but also, understand their own spirituality and how to nurture that in their profession" (p.9).

The participants in this study describe their spirituality to be a positive asset despite having the macrovascular and/or microvascular complications of type 2 diabetes mellitus. Through phenomenology, the intentionality of consciousness is Giorgi's (1985, 2005)

epistemological basis which discovers the being or the essence of the phenomenon spirituality in the lives of these patients. This is the logical method to understand the experience of spirituality through human consciousness and to implement the findings in nursing practice. This is their voice of validation that spirituality gives meaning and purpose in living with type 2 diabetes mellitus and macrovascular and/or microvascular complications, connectedness with God or a Higher Power, self-efficacy, and transcends the illness through faith, optimism, adaptation, and religiosity.

Nursing Research

It is evident that quantitative studies are one aspect of scientific inquiry which is empirical, objective, and statistical. Qualitative studies provide a deeper insight into the inductive inquiry that provides meaning and uniqueness based on individual descriptions and interpretations. The findings of the study revealed how spirituality was interwoven into their diabetic lives especially when this was the source of strength and self-efficacy in managing their diabetes. The role of spirituality is further explored in the lives of these people with chronic illness.

From a self-management perspective, diabetes is managed through self-regulation and supported by the interventions of endocrinologists, diabetic nurse educators, and the individual's support systems (i.e. family, friends, health insurance plans). Self-regulation still remains the main responsibility of the patient. The outcome is to impede the progression of macrovascular and/or microvascular complications. Gonder-Frederick, Cox, and Ritterband (2002) emphasized that diabetes and self-regulating behavior can be controlled through a holistic approach. Future directions in a holistic approach can overcome psycho-

behavioral (i.e. motivation, depression, fear) and social-environmental barriers (i.e. diet compliance, insulin administration in public spaces). This is evident in reference to the themes in this research in which spirituality does overcome these barriers.

Despite the lack of conceptual clarity, Spirituality is commonly defined by its intrinsic and/or extrinsic attributes. Studies describe the efficacy of religious practices as part of spirituality in terms of health outcomes such as lower blood pressure, less depression, stronger immune system in those who use their religious beliefs and rites as examples of healthy living versus those who are not religious (Campbell, Yoon, & Johnston, 2010; Marks, 2004; Parsons et al., 2006). Sustained vigilance in diabetic patients is the core of self-regulation in managing hypoglycemic and hyperglycemic reactions, daily blood glucose monitoring, diet compliance, medication administration, exercise, and maintaining medical appointments (Gonder-Frederick, Cox, and Ritterband, 2002). The holistic approach of spirituality in the participants' descriptions of this study influences their diabetic self-regulating behaviors to persevere and to adapt with their macrovascular and/or microvascular complications. Type 2 diabetes mellitus with macrovascular and/or microvascular complications does place a greater demand on the psycho-behavioral aspect of self-monitoring and challenges the empowerment of the patient to maintain control. Future nursing research on this concept of spirituality will enhance nursing education and nursing practice.

Gonder-Frederick, Cox, and Ritterband (2002) attributed the health behavioral impact of diabetes in terms of individual variables, such as personal health beliefs and self-efficacy on self-regulation and self-management. Personal health beliefs of the type 2 diabetic

participants have been described in the first theme which is comprehending the vicissitudes of type 2 diabetic patients with macrovascular and/or microvascular complications in terms of acknowledgement, management difficulties, fear of loss, and burden of frustration in suffering with the challenges of living with type 2 diabetes and its complications. Cognitive distortions (i.e. fear of loss and burden of frustration in suffering with type 2 diabetic challenges) and attitudinal processes (i.e. acknowledgement and management difficulties) in personal health beliefs can be associated with poor metabolic control (Christenson, Moram, & Wiebe, 1999). As such, self-efficacy has a positive role in countermanding these personal health distortions. For participants who have lived longer (greater than 5 years) with type 2 diabetes and have macrovascular and/or microvascular complications, there is a need for autonomous self-regulation which Gonder-Frederick, Cox, and Ritterband (2002) conceived as locus of control in light of negative outcomes. Autonomous self-regulation and self-regulation were found to be predictors of adherence with self-management of diabetes (Gonder-Frederick, Cox, & Ritterband, 2002). Social and environmental variables may enhance or interfere with behavioral management. The participants have moderate social avenues of support, but this was not a predominant theme in this research. Their concerns were being compliant with dietary needs in social environments and depended on their faith to sustain their self-regulation in their diabetic management. Literature has shown that family support is an important variable that shares with the responsibility to assist diabetics in maintaining their health (Denham et al., 2007; Epple et al., 2003). Family support was a minimal factor in the majority of the participants in this study who have few relatives to depend on. As for health care delivery factors, the participants in this research were

fortunate to have the support of the Veterans Administration Health care system which has an evidence-based multidisciplinary diabetic program to support their diabetic care. Nationwide, there is a need to encourage health care policy to provide continued systematic chronic disease management in diabetes.

Evidence-base research has been one systematic approach to influence health policy on diabetes mellitus. Public health policy on diabetes mellitus will be examined nationwide as the growing epidemic of obesity persists. From the congressional Diabetes Caucus record (cited in www.house.gov/degette/diabetes/facts.shtml, from 7-12-2010),"one out of ten health care dollars is spent on diabetes and its complications; and in 2007, as estimated 174 billion was spent on medical and loss of productivity costs." Health policy formulation is complex which "involves both science and art in relation to policy-relevant evidence from quantitative data (epidemiological) and qualitative information (narrative accounts)" (Brownson, Chriqui, & Stamatakis, 2009, p.1576). Yet, policymakers are not trained scientists to interpret data to be significant or not significant especially when it is presented by special interest groups. Trusted sources of data would be state-by-state comparisons and systematic reviews (i.e. *Guide to Community Preventive Studies* or the Cochrane Reviews) to "present decision rules of primary scientific studies that meet precise criteria" (Brownson, Chriqui, & Stamatakis, 2009, p.1577). Qualitative sources from participant observation and focus group interviews can influence health policy agendas in shaping the delivery of diabetic care programs.

The Congressional Diabetes Caucus has 250 members in the 111th Congress which is the largest caucus in the nation's capitol and its mission is to educate and support legislative endeavors in research, education, and treatment. Such efforts included legislative passage of

Equity and Access for Podiatric Physicians Under Medicaid Act of 2009, Medicare Diabetes Self-Management of Training Act of 2009 recognizing certified diabetes educators as Medicare providers to care for patients with varied cultural requirements and of those who reside in rural areas, and *Preventing Diabetes in Medicare Act of 2009* extending coverage to medical-nutrition services with pre-diabetes and risk factors for developing diabetic complications. In addition, legislation for funding at the Center for Disease Control and National Institutes of Health found ways to eliminate the dependency on insulin injections by reprogrammed adult stem cells replenishing insulin-producing beta cells, the use of genomic technologies to collaborate 21 studies of over 46,000 patients in defining a new approach in diabetic risk gene identification for future treatment of people with risk factors, and a study on gestational diabetes mellitus which can increase later risk of obesity and type 2 diabetes in the offspring in adulthood (cited in the congressional Diabetes Caucus record www.house.gov/degette/diabetes/facts.shtml, retrieved on 7-12-2010). Other legislative priorities have lead to education and prevention of diabetic complications which would be cost-saving in health care expenditure nationwide.

Health initiatives of public health policy have included holistic programs that are faith-based. Faith-based organizations in partnership with the communities are valuable in implementing the Healthy People 2010 initiative in health promotion and prevention. There is a connection between faith and health which encourages health screening, counseling, and education (Kotecki, 2002; Weaver & Flannelly, 2004). Faith-based programs which screen for diabetes mellitus and providing counseling, education, and medical care with follow-up have been effective in lowering blood pressures, weight, and finger stick glucose (Boltri et

al., 2008). Besides encouraging health promotional strategies in the community, faith-based programs sensitized health care workers to the importance of spirituality and its benefits to psychosocial-behavioral health.

Nurses have been patient advocates in developing health care policies in state legislatures and as political action groups influencing health care reform. The role of nursing in the political arenas served as interpreters of holistic nursing practice and nursing research in shaping national issues such as diabetic management programs and monitoring tools that evaluate the effectiveness and cost of diabetic health care. As such, the findings on the lived experience of spirituality among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications will contribute to the development of diabetic management programs and monitoring tools based on comprehending the vicissitudes of type 2 diabetes mellitus and its macrovascular and/or microvascular complications, forgiveness and transcendence, relationship with God or a Higher Power, self-efficacy, faith, optimism, and religious practice. Nurses are the first-line managers of patient care and patients feel confident in the nurses' abilities to assist them in their diabetic management. Policymakers are also aware that the nursing profession is the largest group of health professionals that can articulate the implications of health policies for patients. In understanding the sociopolitical responses associated with diabetes mellitus, nurses are engaged with legislators to promote effective changes in health care accessibility, continued diabetic education , use of telehealth monitoring devices on diabetic glucose control, and funding for diabetic programs for high risk populations. The outcomes for nurses are expertise on the political process and influencing public health policy toward health cost containment and health improvement for

those with diabetes mellitus. Furthermore, the nurses' expertise and knowledge on evidence-based research of type 2 diabetic patients with macrovascular and/or microvascular complications as demonstrated from Giorgi's phenomenological analysis of the 25 participants' descriptions on their lived experiences of spirituality enhances the epistemology of nursing.

Limitations

There were actual limitations of this study that must be acknowledged. All subjects were recruited from a single facility, an urban hospital. Generalizability of results on this sample was limited to that specific population. The subjects were military veterans with an over-representation of African-Americans and all were male. Low income and limited education could influence the study's results since these variables had been shown to be major limitation factors as in under inflating or over inflating their personal perceptions. This was referred to as self-presentation bias or wanting to be impressive or not forthright with the interviewer. (Butler et al., 2003; Patton, 2002) Length of time for coping with type 2 diabetes was not controlled. Finally, there was a possibility that some eligible subjects may decline to participate in the study since they may not consider faith beliefs or practices important in their lives.

Recommendations for the Future

This is a phenomenological study on the lived experience of spirituality among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications. Recommendations for further study on the phenomenon of spirituality among type 2 diabetes mellitus patients with macrovascular and/or microvascular complications are as follows:

1. Replication of this study on Giorgi (1985) method to explore the lived experience of spirituality among type 2 diabetes mellitus patients with one macrovascular and/or microvascular complication. This is to explore a different reality with one specific diabetic complication and the lived experience of spirituality.
2. Explore the lived experience of spirituality among type 2 diabetic patients at the time of the initial diagnosis of having a macrovascular and/or microvascular complication and five years later to determine any change of perceptions with spirituality.
3. Describe the meaning structures of faith, optimism, and self-efficacy of this study separately through Giorgi (1985) phenomenological method within the experience of spirituality.
4. Explore the essence of religiosity and its impact on the spirituality of type 2 diabetic patients with macrovascular and/or microvascular complications.
5. A triangulation study (descriptive and phenomenological method) on their perceptions of spirituality and how spirituality can be implemented into the daily care of the type 2 diabetic patients with macrovascular and/or microvascular complications.
6. Replication of this study to determine dependability and trustworthiness of meaning in spirituality among type 2 diabetic patients with macrovascular and/or microvascular complications.

7. Further research into the spiritual culture of one ethnic group of type 2 diabetic patients with macrovascular and/or microvascular complications.

Conclusions

The existential value of spirituality is manifested in the lives of these type 2 diabetic participants with macrovascular and/or microvascular complications. This manifestation of spirituality is individualistic, yet common in the derived themes of this study which is the essence of their lived experience of spirituality. Type 2 diabetes mellitus with macrovascular and/or microvascular complications is a chronic illness imposed with varied medical treatments and constant diligence with lifestyle changes. With these challenges, spirituality is a mediating factor in the adaptation and coping ability of these patients. The conceptual definition of spirituality as noted in literature remains elusory and abstract, but the researcher has determined the descriptive structural statement of the meaning of the participants' experience to be the following essence: (a) comprehending the vicissitudes of type 2 diabetic patients with macrovascular and/or microvascular complications: precursor to the spirituality experience; (b) spirituality helps explain the "Why Me?" question among type 2 diabetic patients with macrovascular and/or microvascular complications; (c) having a relationship with God or a Higher Power in spirituality supports living with type 2 diabetes mellitus and its macrovascular and/or microvascular complications; (d) spirituality promotes self-efficacy in the diabetic management of type 2 diabetic mellitus patients with macrovascular and/or microvascular complications; (e) spirituality generates faith with living among type 2 diabetic mellitus patients with macrovascular and/or microvascular complications; (f) spirituality encourages optimism among type 2 diabetic mellitus patients with macrovascular

and/or microvascular complications; (g) spirituality remains unchanged if not stronger or enhanced in type 2 diabetic patients with macrovascular and/or microvascular complications; and (h) the religiosity component of spirituality supplements adaptation or coping in living with type 2 diabetes with macrovascular and/or microvascular complications. The themes were formulated from intuitive insights of varied cognitive-behavioral perspectives, but remain descriptive within the lived experience of participants.

From the above themes, Spirituality was more related with a relationship with God or a Higher Power to circumvent the vicissitudes of type 2 diabetes with complications with the purpose to adapt and find meaning in terms of fear of loss, frustration, and suffering into a sense of self-forgiveness and transcendence in this test to live with this chronic illness. The existential outcome is attaining balance with inner peace and grace to support their self-efficacy through faith and optimism. Thoughts of "Why me?" become less self-inhibiting due to spiritual reflections and support of religiosity through prayer and religious rituals. The concept of connectedness is the sense of not being alone and attaining a sense of wholeness with God or Higher Power's assistance. Spirituality's intent is to motivate these participants to prevent further deterioration of their type 2 diabetes by inversely affecting depression and burnout which can hinder diabetic self-care. This is particularly true with type 2 diabetes mellitus which reflects living with renal failure, amputations, retinopathy, heart failure, and the constant monitoring of blood glucose and changes with medication which can generate self-doubt and anxieties leading toward self-integrity alterations. Spirituality provides that inner resource for these participants which are found to be constant to begin with or becomes

stronger in the event of diabetic crises. The meaning and purpose of spirituality is the positive asset that encourages favorable diabetic practices and coping skills.

Spirituality has been found to contribute to the quality of life from an existential paradigm which focuses on health and healing through intrinsic and extrinsic spiritual convictions of individuals with chronic illnesses such as type 2 diabetes mellitus. The ethereal concept of spirituality is examined through the personal meanings of type 2 diabetic patients with macrovascular and/or microvascular complications. The descriptive analysis of their lived experience of spirituality through Giorgi's (1985) phenomenological method is their validation of spirituality's contribution to their quality of life and coping capabilities in dealing with chronic adversities of type 2 diabetes with macrovascular and/or microvascular complications. Despite the lack of conceptual clarity of spirituality, the themes of this study depicts the essence of this phenomenological study, yet contribute to the reliability of the themes in O'Brien's (2003c, 2003d) theoretical definition of spirituality in terms of personal faith, spiritual contentment, and religious practice. Also, the philosophical orientation of spirituality in literature was emphasized as it pertains to the mind-body-spirit dualism and the eschatological versus humanistic paradigms, which spirituality is a source of coping in finding meaning and purpose in the lives of type 2 diabetic patients with macrovascular and/or microvascular complications.

Appendix I

The Catholic University of America
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INFORMED CONSENT FORM: PATIENT

Name of Study: The Lived Experience of Spirituality among Type 2 Diabetic Mellitus Patients with Macrovascular and/or Microvascular Complications.

Investigator: Cynthia M. Cordova, MSN, RN
Doctoral Candidate

Supervisor: Sr. Mary Elizabeth O'Brien, Ph.D., RN, FAAN
Telephone: (202)-319-6459

Questions: Cynthia M. Cordova
Telephone: 703-960-0298
E-mail: 91cordova@cua.edu

DESCRIPTION AND PURPOSE OF THE STUDY: I understand that I am being asked to participate in this research study. I understand that the purpose of the study is to explore the lived experience of spirituality among type 2 diabetic patients with macrovascular and/or microvascular complications. The results of this study may assist in the evaluation and improvement of services currently provided to patients. It may also assist nurses in their nursing practice. I understand that this study is being carried out to fulfill partial requirements for a Doctor of Philosophy degree at The Catholic University of America School of Nursing.

DESCRIPTION OF PROCEDURES: I am being approached for participation in this study after being referred by a hospital staff member or clinic nurse involved in my care. The researcher has discussed the study and reviewed the informed consent with me. I understand that I am to complete a Demographic Survey and will be participating in an audio-taped interview for approximately 90 minutes. The investigator has my permission to review my

patient record to verify the documented presence of complications of type 2 diabetes and lab results on HbA1c.

FORESEEABLE RISK, INCONVENIENCES, OR DISCOMFORTS: I understand that participation in this study is voluntary. I understand that I can request to discontinue my participation at any time for any reason such as emotional distress. If needed, supportive resources will be offered. This will not affect my ongoing care during my time in the outpatient clinic in the hospital.

BENEFITS THAT MAY OCCUR: Although my participation may not benefit me directly, I understand that my participation in this study has the potential to influence and change policy related to patient care. I understand there is no monetary compensation for my participation in this study.

CONFIDENTIALITY OF SUBJECT IDENTITY/RESEARCH RECORDS: I understand that the questions asked do not identify me by name. I understand that my privacy will be secured. I understand that all information provided by me in relation to this study will be confidential to the extent that is legally possible. I understand that my research records may be subpoenaed by court order or may be inspected by federal regulatory authorities. I understand that all of the information obtained will be presented in aggregate (group) form.

USE OF AUDIO/VISUAL EQUIPMENT AND SUPPLIES/STORAGE OF STUDY TOOLS: I understand that all study materials will be stored under lock and key for five years at a secured location controlled by investigator, at which time they will be destroyed. Identifying data, such as my name and informed consent form, will be kept separate from the questionnaires and interview transcriptions. Audio tapes will be destroyed after transcription. Demographic data will be stored separately. Only the investigator will have access to the documentation related to the study.

TERMINATION OF PARTICIPATIONS: I understand that participation in this study is entirely voluntary. I understand that I may refuse to participate or may withdraw my consent at any time during the study without penalty or loss of benefits to which we may be entitled.

I have had the opportunity to ask any questions about the research and my participation in the research, and these have been answered to my satisfaction.

If I desire, I may have a copy of the consent form.

I volunteer to participate in this study.

_____ _____

Participant's Signature Investigator's Signature

_____	_____
Date	Date

Any complaints or comments about your participation in this research project should be directed to the Secretary, Committee for the Protection of Human Subjects, Office of Sponsored Programs and Research Services, The Catholic University of America, Washington, DC 20064; Telephone: 202-319-5218

Appendix II

Type 2 Diabetic Patient with Macrovascular and/or Microvascular Complications Demographic Data Survey

1. Sex : ___ Male ___Female

2. Age: ___

3. Marital Status (Choose one)

___ single
___ married
___ divorced
___ separated
___ widowed

4. Ethnicity: (Check one)

___ Asian or Pacific Islander
___ Hispanic/Latino
___ African American
___ American Indian or Alaskan Native
___ White
___ Other:_____

5. Education: (Highest level completed)

___ Grade school: __1 ___2 ___3 ___4 ___5 ___6
___ Intermediate school ___7 ___8
___ High school ___1 ___2 ___3 ___4
___ Technical School
___College (Undergraduate) ___1 ___2 ___3 ___4
___ Graduate school ___Masters ___Doctorate

6. Work Status: (Check one) Type of occupation if working _____

___ Full-time
___ Part-time
___ Retired
___ Unemployed
___ Disabled

7. Religion: (Choose One)

___ Catholic
___ Protestant
___ Jewish
___ other _____

8. Church attendance:
___ Weekly
___ Daily
___ Never
___ Other _____

9. How many years have you been treated for diabetes? ___years

10. The following are considered to be complications of type 2 diabetes. Please mark yes or no if you had any of the complications.

	Yes	No
a. eye retina disorder	___	___
b. renal (kidney) disorder kidney failure	___	___
c. nerve damage- pain, burning, numbness, itching to extremities	___	___
d. foot ulcers	___	___
e. heart disease heart attack angina (heart pain)	___	___
f. circulation problems to legs	___	___
g. stroke	___	___

11. Has your diabetic medicine changed within the past 2 years? ___yes ____no

12. What type of diabetic medications are you currently taking?

_____

_____

_____

_____

13. Have you had any diabetic education? ___yes ___no

If yes, when did you have it? _____

14. How do you view the severity of your present illness during this outpatient visit?

Not severe ____
Slightly severe ____
Moderately severe _____
Very severe ____

15. How well controlled do you think your diabetes is at this time?

Well controlled ____
Slightly controlled ____
Moderately controlled ____
Not controlled ____

For Researcher only:

16. Recent HbA1c _____

Appendix III

Cordova's Spirituality among Type 2 Diabetic Patients Interview Guide

What comes to mind when you think about your diagnosis and spirituality as a type 2 diabetic with complications?

A. How did you feel about making life changes as a type 2 diabetic patient?

   Please explain.
   What is your opinion on ……?

B. What are your concerns about your future as a type 2 diabetic patient with complications?

   Can you describe more about …..?

C. How do diabetic complications make you feel about your spirituality?

   Can you give me a few examples?

   Tell me more about……

D. How has your spirituality changed for you since you have had this particular complication stemming from type 2 diabetes?

   Please explain.

   How does your personal spirituality influence this?

E. What kinds of spiritual activities help you during the most difficult times in your life as a diabetic patient?

   Please explain further how it helps you.

F. What are your spiritual values that are important in regard to living with type 2 diabetes?

   Tell me more about….

Closing Question:
Thank you for answering these questions. Now, is there anything you care to add or is there something that I didn't think to ask?

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