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The Moderating Effect of Religion on Death Distress and Quality of Life between Christian Cancer patients in the United States with Muslim cancer patients in Saudi Arabia

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The Moderating Effect of Religion on Death Distress and Quality of Life among Christian cancer
Patients in the United States with Muslim cancer patients in Saudi Arabia

by

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A dissertation submitted in partial fulfillment
of the requirements for the degree of
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Abstract

Cancer is an illness that knows no international boundaries. There are more than eight million global cancer deaths each year. A life-threatening diagnosis generates significant emotional problems for many patients across cultures. Death distress—consisting of death depression, death anxiety and death obsession—often results in poorer treatment adherence and lower overall health and quality of life. The purpose of this study was to determine whether religiosity has a moderating effect on the relationship between death distress and quality of life among patients facing a life-threatening cancer diagnosis.

The study sample consisted of 118 cancer patients: 82 cancer patients from a National Guard hospital in Saudi Arabia and 36 cancer patients from H. Lee Moffitt Cancer Center, Tampa, Florida. Three validated scales were used to obtain data from study participants: the Death Distress Scale, the Belief into Action Scale; and the Functional Assessment of Cancer Therapy Scale. After a Pearson correlation were conducted and results indicated a moderately strong inverse relationship between death distress and quality of life among both the Christian ($r=-.45, p <.001$) and Muslim ($r=-.39, p <.001$) patient samples. The degree of religiosity among study participants did not alter the effect of death distress on quality of life. Results reveal that the interaction term was not statistically significant ($b=.005, p=.32$). However, quality of life correlated with degree of religiosity in both the Christian($r=.39, p=.018$) and Muslim patient groups ($r=.24, p=0.034$). This finding reinforces the importance of religious involvement among cancer patients found in earlier research.

The current study highlights the importance of a holistic treatment approach that includes a spiritual component for these vulnerable individuals and their loved ones. This holistic emphasis is particularly important for nurses, who often spend more time with cancer patients than other health care professionals. By proactively discussing common issues surrounding death distress with patients and families, nurses can provide much needed education and emotional support and make appropriate referral. Given that death distress appears to be a nearly universal experience among cancer patients regardless of religious affiliation, future research should develop evidence-based nursing protocols to address this vital topic.

Chapter One:

Introduction

Cancer is an illness that knows no international boundaries. The World Health Organization reported 8.2 million annual global cancer deaths (International Agency for Research on Cancer, 2015). The number of cancer deaths is projected to increase 58% from 2012 to 2030 unless dramatic breakthroughs in early detection and treatment are seen. Both the United States and Saudi Arabia, the two countries examined in the current study, are seriously affected by this disease. In the United States, 1,688,780 new cancer cases and about 600,920 deaths were expected annually (Siegel, Miller, & Jemal, 2017). In addition, there are approximately 14.5 million cancer survivors living in the United States currently (Desantis et al. 2014), and this number is expected to increase to 19 million by 2024. The toll of cancer in Saudi Arabia is more difficult to verify because researchers are denied access to official medical data. According to the latest government figures, there were 90,000 cancer-related deaths in 2014 throughout the country (World Health Organization, 2015). There is, however, no reliable estimate of the number of cancer survivors currently residing in Saudi Arabia.

Despite medical advances in reducing the negative physical effects of cancer treatments, a life-threatening diagnosis still generates significant psychological distress for many patients across cultures, resulting in poorer overall health and quality of life (Almari, 2010; Gonen, 2010; Mhaidat, Ai-Sweedan, Massadeh, & Alhusein 2009; Sherman, Norman, & Mesherry, 2010; Tang, Chiou, Lin, Wang, & Liand, 2011; Tavoli, Montazeri, Roshan, Tavoli, & Omidvari, 2007; Tavoli et al., 2008; Solomon, Greenberg, & Pyszczynski, 2000). Research indicates that death

distress—consisting of death depression, death anxiety, and death obsession—negatively affects a broad spectrum of physical and mental factors for some high-risk cancer patients (Assimakopoulos et al., 2009; Pasquini & Biondi, 2007; Sherman, Norman, & Mesherry, 2010). This emotional upheaval may also reduce treatment compliance. Patients overcome by negative feelings about their diagnosis are less likely to follow-up with appropriate medical care than patients who are accepting of their illness (Pasquini & Biondi, 2007). Ravichandran et al. (2011) reported that cancer patients who delay seeking available treatment because of death distress can create a self-fulfilling prophecy where the disease progresses to an incurable stage. Individuals who wait until the cancer reaches an advanced stage often require more intensive treatment, producing increased side effects and further death distress (Dubayova et al., 2010; Almari, 2011).

Numerous studies demonstrate that strong religious convictions and regular practices ameliorate stress and improve quality of life during a health crisis (Atef-Vahid et al., 2011; Babagi, 2009; Hossain & Siddiqi, 2008; Park et al., 2011; Tarakeshwar et al., 2006). When facing a serious diagnosis, an individual's spiritual engagement helps provide meaning to life, increases treatment compliance, and fosters higher overall physical and emotional health status (Assimakopoulos et al., 2009; Atef-Vahid et al., 2011; Bussing, Ostermann, & Mathhiesen, 2005; Monod et al., 2010; Thune-Boyle et al., 2006). Despite this evidence, researchers have only recently begun exploring *how* religiosity/spirituality influences quality of life measures among seriously ill individuals (Assimakopoulos et al., 2009). Thus, there is a lack of death distress research focused specifically on cancer patients. Given that many cancer patients live with a life threatening diagnosis for months or even years, the lack of empirical evidence about how they regard death constitutes a significant research gap. For these individuals, their

emotional and spiritual wellbeing is often as important as their physical condition (Brown, 2014; Harold , 2012). Thus death distress has a significant negative impact on quality of life.

Statement of the Problem

Individuals living with a serious cancer diagnosis often experience death distress. This emotional turmoil, surrounding both the life-threatening condition itself and its impact on loved ones, can significantly decrease daily functioning and wellbeing causing daily coping problems beyond the physical toll of the illness. Most oncology professional's focus on alleviating physical symptoms rather than the psychosocial concerns and suffering that often arise as well (Almarri, 2010; Balboni, 2014; Harold, 2014). Accompanying this lack of clinical attention is uncertainty about what factors may moderate the relationship between death distress and overall quality of life. Preliminary research suggests these factors might include religious/spiritual beliefs and practices.

Despite increased professional interest in providing holistic oncology care, patient emotions and beliefs often go unaddressed. For many physicians and nurses, interjecting the topics of religion or spirituality into clinical discussions of illness and death is taboo (Campbell & Ellis, 2008; Ellis 2002; Hickey & Quinn, 2002; Koeing, 2013). Reluctance persists despite research indicating that many patients desire to discuss these matters with their healthcare providers (Koeing, 2013). This is a crucial shortcoming given that open, supportive relationships with providers tend to improve quality of life for cancer patients (Steinhauser et al., 2006).

Statement of the Purpose

The purpose of this study is to evaluate whether religiosity moderates the relationship between death distress and quality of life among patients facing a life-threatening cancer diagnosis. Specifically, this research compares the impact of religion among Christian cancer

patients in the United States and Muslim cancer patients in Saudi Arabia. It is hypothesized that patients in both cultures who are more religious will suffer less death distress and enjoy a higher quality of life. To test this hypothesis, this study will address the following questions:

Specific Aim

Identify the relationship between death distress (i.e., death depression, death anxiety, and death obsession) and quality of life among Christian cancer patients in the United States and Muslim cancer patients in Saudi Arabia with religiosity as the moderating variable. The following *research questions were addressed*:

1. Is there a significant relationship between death distress and quality of life among Christian cancer patients in the United States?
2. Is there a significant relationship between death distress and quality of life among Muslim cancer patients in Saudi Arabia?
3. Adjusting for religious affiliation, is the relationship between death distress and quality of life moderated by religiosity?

Definitions of Relevant Terms

For the purpose of this study the following terms are defined

Death anxiety: Distressful feelings or negative emotions related to an abnormal fear of one's own death or the death of a significant other (Abel-Khalek, 2012; Neimeyer, 1998).

Death depression: Persistent and pronounced sadness associated with contemplating the death of oneself, the death of others, or death in general (Abdel-Khalek, 2012; Templer, Lavoie, Chalgujian, and Thomas-Dobson, 1990).

Death obsession: Frequent thoughts about dying or death, directed towards oneself or significant others, that cause significant psychological distress (Abdel-Khalek, 1998).

Religion: A structured set of rituals, beliefs and traditions related to worship of the sacred, often involving the congregating of like-minded people on a regular basis at an established location (Woll, Hinshaw, & Pawlik, 2008). In this study two religions will be studied: Christianity and Islam.

Religiosity: The degree to which an individual subscribes to the principles and follows the practices of a particular organized religion (Reich, Oser, & Scarlett, 1999).

Quality of life: A person's feelings of comfort and happiness related to his or her life, feelings often at-risk with the onset of a serious illness (Cochinov et al., 2011; Donovan, Kanson-Fisher, & Readman, 1989; Hall, Edmonds, Harding, Chochinov, & Higginson, 2009; Lin & Bauer-Wu, 2003).

Significance of the Study

Research indicates that patients with advanced cancer seek supportive relationships with their medical providers (Tanyi, 2002). Such consumer-centered care helps alleviate spiritual distress among patients (Murray et al., 2010). As with clinical settings, palliative care programs that implement spiritually focused psychosocial interventions can more effectively meet the holistic needs of late-stage cancer patients (Murray et al., 2007). Empathetic environments which allow cancer patients to freely discuss religious issues provide the therapeutic support needed to reduce health-related anxieties and spiritual distress (Edwards, Pang, Shiu, & Chan, 2010). Such evidence-based practice models also support the wellbeing of family members and significant others (Steinhauser et al., 2006).

Leading medical organizations in the United States recognize the importance of incorporating these psychosocial elements into patient treatment planning. For example, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) calls on clinical settings to

“identify patient cultural, religious, or spiritual beliefs and practices that influence care” (The Joint Commission, 2010, p. 5). In addition, many Western palliative care organizations emphasize the need to address patients’ spiritual or religious concerns and desires (Dahlin, 2014).

Given the vast religious and cultural diversity in the United States and most other Western countries, it is impossible to develop a single culturally sensitive intervention for use with all population groups. This is especially true because death distress affects different ethnic groups to varying degrees (Abrahm & Hansen-Flaschen, 2002). Even if nurses and other healthcare providers are willing to incorporate spiritual discussions into the treatment setting, there exists a knowledge gap regarding the belief systems and practices of certain population groups in the United States, for example, U.S. clinicians know little about Islam’s view of health, illness, and death. As a result, Muslim oncology patients experiencing death distress rarely receive religiously respectful and inclusive care in American medical facilities (Anderson, 2003; Laird, 2007; Padela, 2011).

Given population projections, this is not a small-scale concern. Globally, there are about 1.6 billion Muslims, comprising approximately 23% of the world population (Grim & Karim, 2011). In the United States, the Muslim population is currently estimated at 2.6 million, or 0.8% of the total population (Pew Forum on Religion & Public Life, 2008). By 2030, U.S. Muslims are expected to number approximately 6.2 million, or 1.7% of the population (Grim & Karim, 2011). Thus, unless new culturally sensitive interventions are developed, an increasing portion of Americans facing a serious cancer diagnosis will receive little if any spiritual support from nurses and physicians unfamiliar with Islamic healthcare beliefs.

This research project is designed to bridge this cultural gap by contrasting the impact of religious/spiritual beliefs and practices of Christian oncology patients in the United States with Muslim oncology patients in Saudi Arabia. In particular, death distress is examined in these distinct but equally vulnerable populations. This study is the first to explore and compare the manifestation and consequences of death distress in Muslim and Christian oncology patient groups. Results from this research should help oncology professionals in the United States and Saudi Arabia provides more culturally respectful and responsive treatment to both Muslim and Christian patients. Crucially, non-Muslim healthcare providers may become better educated about Islamic beliefs regarding illness and death. This knowledge should translate into increased spiritual support in both clinical oncology and palliative care settings. A more holistic treatment approach, embracing the physical, psychological, social, and spiritual components of wellbeing, may help to contribute to a higher quality of life for all patients facing a life-threatening cancer diagnosis.

Chapter Two:

Review of Literature

Chapter two summarizes and synthesizes the research on the theoretical construct of death distress and its three components: death anxiety, death depression, and death obsession. The focus is on quality of life among seriously ill cancer patients, particularly the impact of spiritual concerns. The important distinction between spirituality and religion is discussed. The conceptual framework for the study is presented first. This is followed by an examination of the contrasting Christian and Islamic perspectives on illness, death and patient autonomy. Finally, the literature is summarized and key research gaps in the death distress literature are identified.

A systematic search was conducted to locate studies addressing the impact of religion/spirituality on death distress among terminal cancer patients. Databases utilized included Psych INFO, PubMed, Web Knowledge, and CINAHL. The following search term combinations guided the literature collection: spiritual and terminally ill cancer patients, religion and terminally ill cancer patients, death distress, death anxiety, death depression, death obsession, religion and health in Christianity, religion and health in Islam.

Conceptual Framework

This study hypothesizes that the relationship between two variables, predictor and outcome, is dependent on the value of the moderator. When death distress only affects the overall quality of life in the presence of Religiosity, Religiosity is considered a moderator. When the moderator influences the effect of a predictor on an outcome, then the moderator is said to interact with the predictor. Hence, the Religiosity moderator changes the

relationship between death distress and quality of life. This knowledge is paramount in that it may lead to a better understanding of how the process works. The current study examined the degree in which religiosity moderates the relationship between death distress and quality of life in this vulnerable population. Utilizing two diverse patient groups helped test findings across cultures and religions.

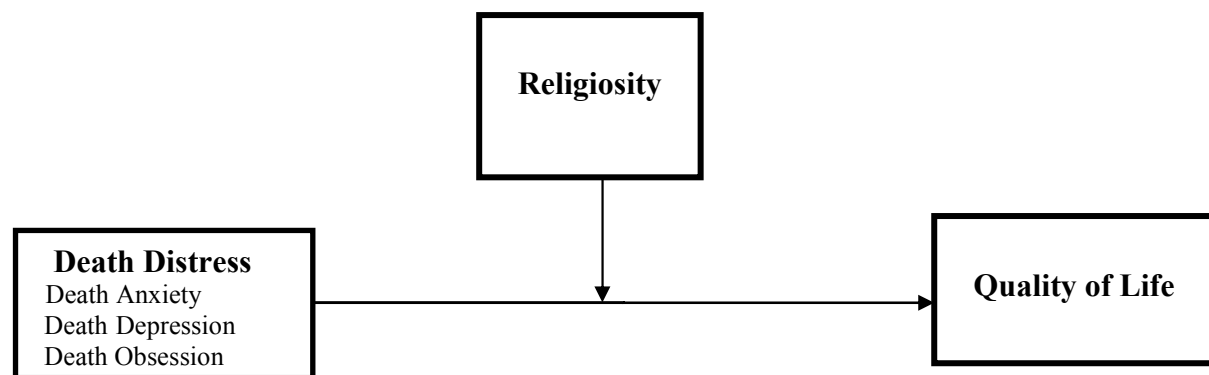


Figure 1. Conceptual frame work.

Death Distress

Across cultures, individuals diagnosed with life-threatening cancer often face extreme fears and psychological distress (Almari, 2010; Sherman, Norman, & Mesherry, 2010; Tang, Chiou, Lin, Wang, Liand, 2011; Tavoli, Montazeri, Roshan, Tavoli, & Omidvari, 2007). In addition to its toll on patient wellbeing, this emotional upheaval can reduce treatment compliance. Patients preoccupied with negative feelings about their conditions or survival time are less likely to follow-up with appropriate medical care than patients at peace with reality (Pasquini & Biondi, 2007; van Laarhoven, Schilderman, Verhagen, Vissers, & Prins, 2011). Ravichandran and colleagues (2011) reported that cancer patients who delay seeking available treatment because of inner anguish can create a self-fulfilling prophecy in which the disease progresses to an incurable stage (Dobson, Russell, & Rubin, 2014). Even if they seek help in time, individuals who wait

often require more intensive treatment, producing increased physical side effects and emotional turmoil.

Several researchers have identified death distress. Templer, Lavoie, Chalgujian, and Thomas-Dobson (1990) introduced the concept of death distress to study the relationship between critical life events and resulting sadness, depression, and fear of death. Further research by Abdel-Khalek (1998) separated death distress into three closely related dimensions: death anxiety, death depression, and death obsession. These components often manifest simultaneously, creating indistinguishable negative emotions (Al-Sabwah & Abdel-Khalek, 2006; Salmanpour & Issazadegan, 2012). More recently, Abdel-Khalek (2012) introduced the Death Distress Scale to measure the three separate components.

Death Anxiety. Death anxiety emerged as a topic of scientific inquiry in the late 1960s. Neimeyer (1998) defined death anxiety as a cluster of discomforting feelings or negative emotions related to a fear of dying. Abdel-Khalek (2012) states this unique type of anxiety is “a response centered on death and dying of the self or significant other” (p. 172). Recent studies have concluded that death anxiety develops over time and is not a normal aspect of a serious cancer diagnosis. Further, unhealthy fears about cancer and death anxiety often co-exist (Gonen, 2012; Tang, Chiou, Lin, Wang, and Liand, 2011). The Death Anxiety Scale (DAS) is currently the most widely utilized assessment instrument (Abdel-Khalek, 2012). Over the past four decades, abundant research has appeared on death distress, though rarely focused exclusively on cancer patients (Dougherty, Templer, & Brown, 1986; Gibbs & Lawlis, 1978; Robinson & Wood, 1983; Sherman, Norman, & McSherry, 2010).

Death Anxiety and Religion. Studies exploring the connection between religious beliefs and death anxiety have produced mixed results. Wen (2010) investigated the relationships among

gender, age, death anxiety, and religion in 165 study participants ranging in age from 18 to 88. Both genders exhibited a negative correlation between religiosity and death anxiety, with more religious individuals reporting less death anxiety. Research by Suhail and Akram (2002) conducted among 132 Pakistani adults of both genders found increased death anxiety among female, less religious, and older participants. In a similar study, Kraft, Litwin, and Barbra (2001) examined death anxiety and religiosity among 107 undergraduate students. Again, individuals with high levels of intrinsic religious beliefs tended to report less death anxiety. Other research has validated this connection as well (Harding et al., 2005; Rasmussen & Johnson, 1994; Thorson, 1991).

Not all studies, however, support these findings. Abdel-Khalek and Lester (2003) also found no relationship between religiosity and death anxiety among 162 college students in Kuwait. Other studies have likewise found the religiosity-death anxiety connection lacking (Abdel-Khalek, 1997; Abdel-Khalek, 2007; Alvarado, Templer, Bresler, & Thomas-Dobson, 1995; Templer & Dotson, 1970). Further complicating this dynamic, some researchers suggest certain religious beliefs are more likely to produce death anxiety. For example, Roshdieh, Templer, Cannon, and Canfield (1999) found that overall levels of spiritual convictions and death-related fears—contributing factors to death anxiety—vary from religion to religion. Even within the same religion, Roshdieh and colleagues (1999) emphasized that demographic factors such as age tend to impact individual distress levels.

Death Depression. The current concept of death depression was introduced more than 25 years ago (Templer, Lavoie, Chalgujian, and Thomas-Dobson, 1990). Death depression is defined as frequent sadness or somber reflection about the death process (Abdel-Khalek, 2012). This emotion can be experienced by a seriously ill or dying person, significant others, or by

otherwise healthy individuals not currently encountering a death. Currently there are only two instruments for measuring death depression: the original 17-item Templer Death Depression Scale and the 21-item Death Depression Scale-Revised (Templer et al., 2002).

Death Depression and Religion. Limited research has focused exclusively on the relationship between death depression and religious beliefs. Instead, most studies have used death anxiety and death depression scales concurrently to assess religious impact on both domains combined. One such study, Alvarado and colleagues (1995) used a sample of 200 men and women from diverse religious backgrounds. Findings revealed people with stronger beliefs in God and an afterlife experienced less death depression and death anxiety. In a sample of 500 undergraduate and graduate college students from a broad array of religions, Harville, Stokes, Templer, and Rienzi (2004) reported that less depressed individuals displayed stronger spiritual convictions about death, including belief in an afterlife. Overall findings revealed a negative correlation between religiosity and death depression.

Roshdieh et al. (1999) examined the intersection of death anxiety, death depression, and religion among Iranian students, with a specific focus on stressors related to the war with Iraq between 1980 and 1988. Utilizing a Muslim-specific religious questionnaire among other instruments, researchers found that people with weak or uncertain religious beliefs experienced higher levels of death anxiety and death depression. In addition, this research documented a strong relationship between death anxiety and death depression.

Death Obsession. A preoccupation with death is constant throughout human history (Salmanpour & Issazadegan, 2012). Explanations and justifications for death and dying are integral to many religions' overall perspective on life and humankind (Maltby & Day, 2000). Abdel-Khalek (2005) defined death obsession as “repetitive thoughts or ruminations, persistent

ideas, or intrusive images that are centered around death to the self or significant others” (p. 138). People with a death obsession continually think about death-related images (e.g., corpses) or imagine disturbing scenarios in which the individual or a significant other encounters death. The Death Obsession Scale (Abdel-Khalek, 1998; Maltby & Day, 2000) is a commonly used assessment tool.

Death Obsession and Religion. Across cultures, including populations with relatively little death obsession, women are more preoccupied with death than men (Abdel-Khalek, Al-Arja, & Abdalla, 2006). But gender alone does not predict such thought patterns. Research reveals a strong link between religious beliefs and degree of death obsession. For example, a study among 156 undergraduate students in England reported a positive correlation between having a death obsession and having an extrinsic religious orientation (Maltby & Day, 2000). Conversely, there was a negative correlation between death obsession and an intrinsic religious orientation.

More recently, Salmanpour and Issazadegan (2011) surveyed 484 students at the University of Iran to explore the relationships between (a) religiosity and death obsession, (b) personality and death obsession, (c) gender and death obsession, (d) personality and religiosity, and (e) religiosity orientation (i.e., extrinsic or intrinsic) and personality in predicting death obsession. Study findings revealed that for these students, the higher the degree of intrinsic religiosity, the less death obsession they experienced. Conversely, extrinsic religiosity corresponded to elevated death obsession levels. The authors speculate that people with intrinsic religiosity have developed cognitive processes to effectively deal with death. They noted that an intrinsic orientation is associated with protective personality traits such as conscientiousness,

agreeableness, openness, and extroversion. By contrast, people with extrinsic religious beliefs regularly experience non-protective, high arousal emotions like sadness, fear, anger, and guilt.

Quality of Life. As a relatively recent theoretical construct, death distress remains largely unstudied in certain key populations. For example, little research exists examining its impact among seriously ill oncology patients. Early studies indicate death distress negatively impacts quality of life among these individuals. For those facing a life-threatening diagnosis, strong religious or spiritual beliefs can significantly offset the negative influence of death distress. In addition to instilling a sense of optimism and improving quality of life, such beliefs can help individuals cope with various stages of their illness, including when facing imminent death (Atef-Vahid et al., 2011; McClain, Rosenfeld, & Breitbart, 2003; Zhang, Nilsson, & Prigerson, 2012)

Upon receiving a serious cancer diagnosis, many patients experience major challenges in multiple areas of daily life. Physically, patients may endure exhaustive and complicated medical testing and treatment, along with associated side effects such as fatigue and nausea (Atef-Vahid et al., 2011; Montazeri, Tavoli, Mohagheghi, Roshan, & Tavoli, 2009). As a result of their illness, many oncology patients also face new physical requirements and limitations (Murray et al., 2010; Murray et al., 2007). In the psychosocial realm, common stressors include loss of social status and interactions, employment reduction or termination, financial difficulties, lack of support from loved ones, and a sense of increased isolation and alienation from mainstream society (Edwards et al., 2010; Hall, Chochinov, et al., 2009; Lin & Bauer-Wu, 2000; (Hulbert-Williams, Neal, Morrison, Hood, & Wilkinson, 2012). These factors, coupled with an increased dependence on caregivers to help with daily activities, can result in feelings of diminished dignity and personal worth. This loss can trigger depression, hopelessness, and suicidal thoughts,

decreasing the cancer patients' will to live (Chochinov et al., 2011; Hall, Edmonds, Harding, Chochinov, & Higginson, 2009; Ernst, Gotze, Brahler, Korner, & Hinz, 2012). Taken together, the multifaceted stressors associated with a serious cancer diagnosis can challenge an individual's belief in existential meaning or the value of religion or spirituality in their new circumstances. Significant life reevaluation or inquiries into spiritual beliefs are common (Steinhauser et al., 2006). Regardless of a patient's religious affiliation, the often unpredictable course of a life-threatening illness or uncertainty about the death process can generate considerable spiritual distress (Al-Sabwah & Abdel-Khalek, 2006; Vigano et al., 2004). This is not a minor clinical consideration. Numerous studies with cancer patients near ends of life demonstrate that spiritual distress adversely impacts overall quality of life (Ben Zur, 2001; Breitbart et al., 2012). This can include the manifestation of significant somatic conditions such as insomnia (Edwards et al., 2010). By contrast, oncology patients who maintain a strong spiritual foundation despite their challenging circumstances often exhibit an increased sense of enthusiasm, emotional wellbeing, and personal achievement (Atef-Vahid et al., 2011; Chochinov & Cann, 2005; Puchalski, 2012). For both Muslim and Christian oncology patients, positive religious engagement results in less anxiety, depression, and other indications of psychological turmoil (Harold G. Koenig, 2014; Koenig, 2012).

Difference between Spirituality and Religion. One challenge of providing adequate psychosocial care within clinical oncology settings—including addressing death distress among patients and significant others—is recognizing the different but interconnected concepts of spirituality and religion (Edwards, Pang, Shiu, & Chan, 2010). This is complicated by the lack of a broadly accepted differentiation between the two terms (Holloway, Adamson, McSherry, & Swinton, 2011). Although scholarly definitions differ, in general *religion* refers to a structured

system of rituals, beliefs and traditions, while *spirituality* refers to a personal quest for purpose and meaning in life regardless of religious connection that is the modern definition of spirituality; the traditional definition emphasizes that those who are spiritual are a subset of deeply religious people (Koenig, 2008). Formal religions make organized efforts to congregate people with similar spiritual concerns, conventions, and practices on a regular basis and often at an established location (Woll, Hinshaw, & Pawlik, 2008). Although it is not necessary; many people pray, meditate, read or recite religious scriptures on their own, privately, without engaging with others; religion should not be limited to only institutional religion (Koenig, King, & Carson, 2012) . Spirituality, by contrast, includes few such formalities and consists primarily of an individual's personal belief system. Again, this is the modern view of spirituality (Ellison, Bradshaw, & Roberts, 2012).

This confusion regarding terms is particularly apparent in multicultural Western countries such as the United States. Among Americans born as Christian or Jewish, many identify themselves as spiritual but not religious. For example, one study examining patient beliefs at a New York cancer center found 66% of individuals identified themselves as spiritual but not a regular follower of their faith (Astrow, Wexler, Texeira, He, & Sulmasy, 2007). Among Christians, the degree of this disparity varies greatly depending on the region of the country. For example, in stark contrast to the New York study cited, a survey of advanced-stage cancer patients in Houston, 88% of whom were Christian, found 98% regarded themselves as *both* spiritual and religious (Delgado-Guay, Hui, Parsons, Govan, De la Cruz, Thorney, & Bruera, 2011) this is true in the Western world among liberal Christians and secular Jews, but not the Middle East.

This religion/spirituality distinction does not appear to impact most Muslim individuals. In Islam, God (Allah) is infused into everything that happens everywhere, from the most social to the most personal, from birth to death and beyond (Al-Shahri, & al-Khanizan, 2005; Sachedina, 2005). Whether a Muslim chooses to call a particular behavior or thought *spiritual* or *religious* is largely a matter of semantics; all human activity revolves around Allah alone, with no intermediary influence or entity. Studies in the United States confirm this lack of a religion-spirituality distinction, with Muslims often self-reporting as both the most spiritual and most religious group surveyed (Johnstone et. al, 2012). Conversely, Muslims score very low on measures of religious skepticism and struggle compared to other religions (Astin et al., 2005). As most Muslims living in Western countries are first- or second-generation immigrants, it remains to be seen if ongoing exposure to these largely secular societies will eventually cause a religion-spirituality distinction to appear in Islam as well.

Similarities and Differences between Islam and Christianity. Islam and Christianity, two of the world's three major monotheistic religions, share many common beliefs. Both faiths believe in a single omniscient, omnipotent God who created the universe and exerts ultimate control over the fate of humankind. These religions trace their common origin back to the prophet Abraham, the father of Judaism as well. Islam and Christianity both hold that God sent numerous messengers to earth to instruct humans on divine principles, including the need to live a moral life according to the Ten Commandments. Both religions believe in the existence of Satan, the center of evil in the universe, and of heaven and hell (Gauss, 2009).

Among the divinely inspired prophets, Jesus Christ occupies a special position for both Muslims and Christians. There is no dispute that Jesus is the Messiah, born through the immaculate conception of the Virgin Mary. Likewise, there is agreement he was a miracle

worker while on earth. On the Day of Judgment, both religions believe Jesus will descend from heaven to kill the anti-Christ (Gauss, 2009; Josh McDowell 2013)

While Islam and Christianity share these tenets, there are also significant differences between the two faiths. Unlike Christians, Muslims refer to God as “Allah,” the name provided in the holy Quran. Muslims worship only Allah, rejecting the Christian concept of the Trinity (i.e., God simultaneously manifests as the Father, Son, and Holy Ghost). Muslims believe that Jesus was a flesh and blood human, not a divine being. (Because Allah alone creates all life, every man and woman can be referred to as “son of God” or “daughter of God.”) As with the other prophets—from Abraham to Moses to the final prophet, Mohammed—Jesus was sent to earth to provide moral instruction, not to be worshipped. And while Christians believe Jesus was crucified and later resurrected, Muslims believe he never died but rather ascended directly into heaven (Denny, 2011; Kathir, 2003).

There is also disagreement on the manifestation and ramifications of sin in this world. As punishment for the original sin committed by Adam and Eve, Christians believe all humans are born as sinners, with this innate moral impurity and disgrace passed from one generation to another forevermore (Gauss, 2009). Muslims, on the other hand, believe Adam was forgiven by God. As a result, there is no generational transmission of sin and no person is punished for the wrongdoing of others (Kathir, 2003).

Religious Beliefs among Christians. Christians believe in life after death if they follow the path that Jesus set out for them. “Salvation is found in no one else than Jesus, for there is no other name under heaven by which we must be saved” (Acts 4:12). Paul wrote to the Christians in Corinth telling them that “Death has been swallowed up in victory; where oh death is your victory? Where oh death is your sting?” (1st Corinthians 15:54-55). The Christian Bible states,

“Now the dwelling place of God is with mankind, and he will live with them. They will be his people, and God Himself will be with them and be their God. He will wipe every tear from their eyes. There will be no more death or mourning or crying or pain...” (Revelation 21:3-4). God told his people, “I am the alpha and omega, the beginning and the end. To him who is thirsty, I will give to drink without cost from the spring of the water of life” (Revelation 21:6-7). Jesus reminded His followers to “rejoice and be glad, because great is your reward in heaven” (Matthew 5:12). This reassurance of life after death can be comforting to Christians with cancer. While Muslims share this faith in eternal life, they hold distinct beliefs about the crucial relationship between God, human beings, and death.

Religious Beliefs among Muslims (With a Focus on Saudi Arabia). Islam is the state religion of Saudi Arabia and influences all political and cultural decisions. Islam situates God as the sole creator of life and death (Sarhill et al., 2001). Devout Muslims believe that God predetermines the exact time for everyone’s death, information humans cannot know in advance. The Quran (the sacred text of Islam) states that: “His is the kingdom of the heavens and the earth; He gives life and causes death; and He has power over all things” (Surah Al Hadid, 57:2). God states in the Quran that illness is not a punishment but rather a way to test a Muslim’s faith. “And we will surely test you with something of fear and hunger and a loss of wealth and lives and fruits, but give good tidings to the patient” (Surah Al Baqarah, 2:155).

According to Islam, after people die God will revive them on the Day of Judgment, at which time they will be held responsible for the deeds committed during their worldly life. If one does not keep proper faith and do good deeds, he or she will be pushed into hell as proper punishment (Babagi, 2009; Hossain & Siddique, 2008; Sarhill et al., 2001). Conversely, the righteous shall be rewarded with eternal existence in heaven. For Muslims facing serious illness,

it is vital to remember that only God can make life and death decisions. “And when I sicken, then He healed me, and who caused me to die, gives me life” (Surah Ash-Shuara, 26:80-81).

In sum, Islam emphasizes all-encompassing divine predestination. Muslims believe that everything happens for a reason and by divine design. No Muslim is tested by disease, fear or approaching death unless it is the will and word of God. Faced with serious illness, one should pray as prescribed to get well soon and overcome this test. At the same time, however, patients are directed to seek proper medical treatment for their condition (Sarhill et al., 2001).

An overview in Religion and health in Islamic Societies and Christian Population

Christian View of Illness and Death. Within a highly diverse Western country such as the United States, there are vast arrays of Christian denominations (Pew Forum on Religion & Public Life, 2008). This ranges from conservative groups that believe in a literal interpretation of the Bible to liberal groups that believe the proper religious focus is ethical living rather than scriptural adherence. In addition, many Americans self-identify with a particular Christian denomination but are not involved with organized religious activities (Pew Forum, 2008).

Given this national diversity, there is no dominant Christian perspective on serious illness and death. Most Christians do not believe a life-threatening illness signifies divine punishment for moral or religious shortcomings. This contrasts with pre-modern times, when many believed physical or mental disease indicated demonic possession caused by sin (Iosif, 2011). Most devout modern Christians believe that humans experience suffering—including a serious cancer diagnosis—to reawaken their connection to Biblical teachings, including the suffering of Jesus on behalf of humankind and the potential for divine healing (Beck, 2007; Connors & Smith, 1996; Engelhardt, 1996). Regardless of the medical outcome, it is all part of God’s design for the universe, with the faithful rewarded with eternal life in heaven.

On the other hand, for devout Christian oncology patients, deep spiritual beliefs and regular practices help provide meaning to a life-threatening illness (Harold G. Koenig, 2014). Most research indicates that a strong Christian faith correlates with diminished depression (Dein, 2013; Payman & Ryburn, 2010; Wachholtz & Pargament, 2008), anxiety (Walker, Walker, & Leach, 2014), and suicidal ideation (Hilton, Fellingham, & Lyon, 2002; Rasic et al., 2009), along with elevated self-esteem and overall wellbeing. However, a few studies report no correlation between the degree of Christian religiosity and levels of depression anxiety, and other indications of mental health problems (Moadel et al., 2007; Yamaoka, 2008). Research indicates that during a health crisis many individuals turn to religion for emotional comfort, strength, and hope. Spiritual beliefs and practices can provide a sense of meaning and purpose when facing negative health circumstances largely beyond one's control (Richardson, 2014; Stein, Kolidas, & Moadel, 2015; Zhang et al., 2012).

Islamic View of Illness and Death. For many of the estimated 1.5 billion Muslims worldwide, Islam is far more than just a religion. The faith's founder, the prophet Muhammad, proclaimed Allah's sole authority over life and death (Sachedina, 2005; Sarhill, LeGran, Islambouli, Davis, & Walsh, 2001). Demanding a high degree of religious observance, Islam offers an ethical guide to one's life from the cradle to the grave. (al-Shahri & al-Khanizan, 2005). In conservative countries such as Saudi Arabia, where Islam is the state religion, the teachings found in the holy Quran influence all political and cultural decisions.

According to the Quran, serious illness is not a divine punishment but rather part of God's predetermined universe (Al-Shahri, 2005; Sachedina, 2005). Even when facing a life-threatening cancer diagnosis, devout Muslims believe life is always infused with meaning (Tayeb, Al-Zamel, Fareed, & Abouellail, 2010). At such moments, Allah shows Himself most

clearly, dispensing divine mercy and enlightenment to those who seek forgiveness of sins as a means of purification and rededicating themselves to the teachings of the Quran (Sachedina, 2005). As the prophet Muhammad states: “When God intends to do good to somebody, He afflicts him with trials” (Sachedina, 1999). Existential dread—including spiritual distress—is only experienced by those whose faith in the comfort and healing powers of Allah wavers, who doubt His omniscient hand in all matters of life and death.

However, devout Muslims believe in God’s power to heal illness and generate health in the human body. They also believe in eternal life for one’s spirit after death. Despite these bedrocks of faith, some Muslims experience an existential crisis in the face of a life-threatening cancer diagnosis (Al-Amri, 2013; Aljubran, 2010). This loss of meaning often accompanies a restricted role in family, reduced independence, and other psychosocial stressors. In addition, Muslim oncology patients can experience pronounced fear related to the unknown, unpredictable, and potentially painful course of their illness or of death itself (Al-Sabwah & Abdel-Khalek, 2006). Several researchers have studied the relationship between religiosity and mental health in Islamic societies. Results suggest that more religiously engaged individuals are less likely to suffer from depression and anxiety (Ahmed M. Abdel-Khalek & Eid, 2011; A. M. Abdel-Khalek & Lester, 2012). Faced with a health crisis, possessing a strong spiritual foundation helps reduce stress, encourages acceptance, and improves overall quality of life (Filazoglu & Griva, 2008; Sabry & Vohra, 2013; Taleghani, Yekta, & Nasrabadi, 2006). This inner strength and faith also helps seriously ill Muslims find existential meaning, increase self-esteem, and reduce social isolation and its negative consequences. There is little research to date, however, examining the impact of religiosity on the physical health of Muslim oncology patients (Harold G. Koenig, 2014). This deficiency includes studies aimed at determining overall

physical wellbeing or disease prognosis. Currently, most health-oriented studies in this population focus on the impact of fasting during the holy month of Ramadan. The results of these studies are mixed. For example, several studies discovered that Ramadan fasting lowers blood pressure among participants (Bernieh et al., 1994; Saleh et al., 2004). Some research links fasting to improved health for diabetic individuals, with a reduction in blood sugar levels and an increase in insulin levels (Khaled, Bendahmane, & Belbraouet, 2006; M'Guil et al., 2008). However, other Ramadan-focused studies found fasting may increase the hypoglycemia rate (Loke, Rahim, Kanesvaran, & Wong, 2010). Added to that, Research has failed to document a consistent effect on heart disease (Al Suwaidi et al., 2006) or immunity function (Latifynia, Vojgani, Gharagozlou, & Sharifian, 2008).

Summary

Receiving a serious cancer diagnosis is often one of the biggest challenges in an individual's life. Along with physical problems, exacerbated by treatment side effects, the illness can generate the added burden of death distress. While research indicates the importance of religion or spirituality for good mental and physical health in the general population, little evidence exists to clarify how these personal beliefs and practices affect individuals living with a life threatening illness. The lack of cancer-specific research on religiosity is a significant shortcoming, especially as global cancer rates show no sign of declining. If medical professionals are to provide sensitive, holistic care in oncology settings, it is essential to understand the largely unexplored relationship between religiosity, death distress, and quality of life. This study seeks to address this knowledge gap.

Chapter Three:

Methods

Chapter three describes the research methods and procedures for this study which examined the relationship of death distress (i.e., death depression, death anxiety, and death obsession) and quality of life among two distinct groups of cancer patients. The two study cohorts will be Christian patients in the United States and Muslim patients in Saudi Arabia, with religiosity as the mediating variable. This chapter describes the research methods. First the design is presented. This is followed by a description of the settings and sample. Instruments are described and procedures are detailed. Finally, the data analysis is explained.

Research Design

This study used a descriptive, cross-sectional design which is an effective research approach for determining the association between two characteristics at a single point in time (Nancy Burns & Grove, 2008). Given the study participants' advanced stage of cancer, along with the existing cultural sensitivity towards death distress in both study groups, this research design appears to be the most logical option.

Setting and Sample

Two research sites were utilized for recruitment. In Saudi Arabia, 82 subjects were recruited from the National Guard Hospital in Jeddah. This hospital has 531 beds and an outpatient facility in which cancer patients are seen. In the United States, 36 subjects recruited from the H. Lee Moffitt Cancer Center and Research Institute in Tampa. This large cancer center has 201 beds and a large outpatient clinic that sees thousands of patients annually.

Inclusion criteria at both sites included the capacity and willingness to consent to participate in the study. All potential participants were expected to have a diagnosis of stage III or IV cancer, of any type, individuals of both genders who were 18 years or older were eligible. In Saudi Arabia, patients must be able to read and understand Arabic to participate, and in the U.S. they must be able to read and understand English.

Exclusion criteria included patients who had a recent treatment history for a significant psychiatric condition such as major depression or bipolar disorder. The rationale is that research participation might exacerbate existing psychological distress for these cancer patients. Individuals recently experiencing a brain injury such as a stroke were also excluded. The rationale is that their condition might render truly informed consent to participate impossible. Finally, a statistical power analysis was performed for sample size estimation using GPower 3.1 software. This was based on a medium effect size correlation of .30. To obtain an $\alpha = .05$ and power = 0.80, the projected sample size required is approximately $N = 82$ for each of the two study groups, for a total of 164, and 118 completed a survey questionnaire.

Instrumentation

Three validated measurement scales were used for this study: the Death Distress Scale (Abdel-Khalek, 2011), Belief into Action Scale (Koenig et al., 2015) and the Functional Assessment of Cancer Therapy Scale–General (Cella et al., 1993) to measure quality of life. In addition, a Demographic Data Form was used with all participants. Scales were available in English and Arabic and have been used with the target populations.

The Death Distress Scale (DDS). The DDS, is a 24-item designed to measure Death distress by assessing three independent sub-components—death anxiety, death depression, and death obsession—that account for 42% of the total variance of the construct. Each of the three

subscales consists of 8 items utilizing a 5-point likert type scale, resulting in subscale ranges of 8 to 40 and a DDS composite score ranging from 24 to 120. (Higher subscale scores indicate a greater degree of death anxiety, death depression, or death obsession for the individual.). Cronbach's alphas ranging from 0.83-0.93 demonstrated high internal consistency while retest reliabilities ranged between .76 and .91 (Abdel-Khalek, 2012). The correlations between the three subscales and death distress scale ranged from 0.40 to 0.57 demonstrating their discriminant validity. To date, few studies have examined the three elements of death distress within an integrated instrument (Abdel-Khalek, 2007; Lester, 2003), with, most research exploring the elements in isolation (Salmanpour & Issazadegan, 2012).

Death Anxiety Sub-scale (DAS). The DAS is an abbreviated version of the Death Anxiety Scale and designed to measure death anxiety, a widely used instrument developed over four decades ago (Templer, 1970). The DAS has exhibited consistent reliability (Cronbach alpha = 0.83), good temporal stability with test-retest reliability ($\alpha = 0.82$), and factorial validity with significant correlation ($r=0.74$), $p < .001$ to the death distress construct (Abdel-Khalek, 2012). The English and Arabic version correlated .87, test-retest reliability .70 for Arabic version, and factorial validity was demonstrated. Alpha coefficients for Arabic version ranged between .78 to .85 (Al-Sabwah & Abdel-Khalek, 2006).

Death Depression Sub-scale (DDS). The DDS is used to measure depression about impending death or death in general, and is derived from the 21-item Death Depression Scale-Revised (DDS-R; Templer et al., 2002). To create an abbreviated version, Abdel-Khalek (2012) conducted a factorial analysis on the DDS-R items to determine which eight items had the highest factor loadings on death distress. The depression subscale has high reliability, demonstrating internal consistency (Cronbach alpha reliability was 0.87), test-retest reliability $r =$

0.85), and factorial validity ($r = 0.82, p < .001$) (Abdel-Khalek, 2012). For Arabic version alpha reliabilities of the DDS-R were .83 and .85 (Abdel-Khalek, 2005).

Death Obsession Sub-scale (DOS). DOS is a 15-items **scale** used to measure repetitive and persistent thoughts about death, the DOS (Abdel-Khalek, 2012). The DOS has high internal consistency (Cronbach $\alpha = 0.93$), temporal stability ($r = 0.88$), and significant factorial validity ($r = 0.85, p < .001$) (Abdel-Khalek, 2012). where Cronbach $\alpha = 0.91$ and test- retest =.92 Arabic version. The correlations between the death obsession scale, death depression, and death anxiety scale ranged from 0.57 to 0.67 demonstrating their discriminant validity (Abdel-Khalek, 1998)

Belief into Action (BIAC) scale. This 10-item instrument measures the degree to which individuals translate religious beliefs into practices that support those beliefs higher scores indicate greater religious involvement. These include organizational activities, such as attending religious services, and non-organizational activities, such as praying in private. Financial contributions are also assessed. Nine of the 10 questions rate participant responses on a 1-10 scale. For the first question, which asks what is most important in a person's life, the answer "Relationship with God" is scored a 10, while any other response is scored a 1. Total BIAC scale scores therefore range from 10 to 100.

This instrument has both high Cronbach's alpha ($r = .89$) and test-retest reliability ($r = 0.95$). Strong correlations between the BIAC and other religiosity measures indicate high convergent validity. In addition, high correlations ($r = .58$ to $.80$) between individual BIAC items and total BIAC scores demonstrate construct validity.

Functional Assessment of Cancer Therapy—General (FACT-G). This 27-item instrument was designed to measure quality of life for adult cancer patients, regardless of age or cancer type (Cella et al., 1993). The FACT-G assesses four domains: Physical wellbeing (7 items);

social/family wellbeing (7 items); emotional wellbeing (6 items); and functional wellbeing (7 items). It utilizes a 5-point Likert type scale, with higher scores indicating higher quality of life within each domain. With a response range of 0-4 for each question, the FACT-G composite scores range from 0-108.

Test-retest reliability was high ($r = 0.92$) for the FACT-G composite score. For the domain subscales, reliability levels were also high (0.82 for physical wellbeing), (0.80 for functional wellbeing), (0.69 for social wellbeing) and (0.74 for emotional wellbeing). Factor analysis results support validity of the subscales. Concurrent validity for the FACT-G was supported, as evidenced by strong correlation with the Functional Living Index—Cancer (.80), the Profile of Mood States (.69), the Eastern Cooperative Oncology Group (.56), and the Taylor Manifest Anxiety Scale (.58).

Procedures

Approvals. Research approval was obtained from the National Guard Hospital's Scientific Review Committee (SRC) in Jeddah, Saudi Arabia. Approval was obtained from the Moffitt Cancer Center's SRC in Tampa, Florida. The research proposal was then submitted to the institutional review board (IRB) at the University of South Florida in Tampa, after obtaining IRB approval for the study, participant recruitment began.

Recruitment. In Saudi Arabia, the researcher recruited participants from the normal flow of cancer patients in the National Guard Hospital's outpatient clinic. The patients were referred to the researcher by health care providers. In addition, the patients were approached in the cancer treatment room. In both settings, potential research subjects were assessed to determine whether they met study inclusion criteria by comparing patients to a list of inclusion and exclusion criteria.

Data collection

At the research sites in Saudi Arabia and the United States, cancer patients at each site were asked to participate and to provide written consent. The consent form was explained the study purpose and procedures. The researcher was available to answer questions and address concerns. Patients could decline to participate at any point during the study without penalty or impact on treatment. It was possible that some participants could have become upset while answering the study questions, but none did.

Once consent was obtained, the researcher administered the measurement instruments and remained present to ensure that participants complete the measurement scales. Participant responses were coded to ensure confidentiality and stored in the investigator's office. Once data was compiled and entered into a computer database, completed measurement forms was stored in a locked file within a locked office. Only the researcher and major professor had access to the data. This secure environment will be maintained for a minimum of three years, after which the electronic database will be erased and all paper documents shredded. Identifying information will not be used in any report.

Data Analysis

Descriptive statistics were used to analyze demographic data collected during the course of this research study, t test and chi square were used to compare the demographic characteristics of the different samples. Pearson correlation was used to analyze the study's question 1: Is there a significant relationship between death distress and quality of life for Christian patients in the United States with advanced-stage cancer? And question 2: Is there a significant relationship between death distress and quality of life for Muslim patients in Saudi Arabia with advanced-

stage cancer? .Moderation analysis using Hays process was used to test whether religiosity moderates the relationship between death distress and quality of life

Chapter Four:

Results

In this chapter, the data from the current study is analyzed and tabled. The purpose of this study was to identify the relationship between death distress (i.e., death depression, death anxiety, and death obsession) and quality of life among Christian cancer patients in the United States and Muslim cancer patients in Saudi Arabia, with religiosity as the moderating variable.

The following research questions guided the research:

- 1 Is there a significant relationship between death distress and quality of life among Christian cancer patients in the United States?
- 2 Is there a significant relationship between death distress and quality of life among Muslim cancer patients in Saudi Arabia?
- 3 Adjusting for religious affiliation, is the relationship between death distress and quality of life moderated by religiosity?

Description of the Sample

This study included a total of 118 cancer patients: 82 cancer patients from a hospital in Jeddah, Saudi Arabia and 36 cancer patients from H. Lee Moffitt Cancer Center, Tampa, Florida. Of the Saudi cancer patients, 29 were males and 53 were females, ranging in age between 18 and 82 with a mean age of 44.7 (SD=14.5). The American sample consisted of 15 males and 21 females between 30 and 80 years old with a mean age of 62.7 (SD=11.95). All Saudi participants were Muslim and all American participants were Christian (Table 1).

Table 1. Demographic characteristic of study population by religious affiliation.

	<i>Christians</i>	<i>Muslims</i>	<i>p</i>
Mean Age (SD)	62.7(11.0)	44.7(14.5)	<.01
	N (%)	N (%)	
Gender			
Male	15(41.7)	29(35.4)	0.52
Female	21(58.3)	53(64.6)	
Type of Cancer			
Solid	31 (86.1)	63(76.8)	0.25
Hematological	5(13.9)	19(23.2)	
Marital status			
Married	26 (72.2)	54(65.9)	0.50
Not married	10 (27.8)	28(34.1)	

There were no statistically significant differences between Christians and Muslims in any demographic variables except age. Christians were on average older than Muslims by 18 years and this difference was statistically significant ($p < 0.01$) (Table 1). Comparing gender differences between Christian and Muslims patients, about 64.6% of the Muslims were women compared to 58.3% in the American sample; this difference was not statistically significant ($p = 0.52$). Seventy-two percent of Christians were married compared to 66% of Muslims; this difference was not statistically significant ($p = 0.5$) (Table 1).

Two types of cancer were identified among the overall sample; solid tumors and hematological cancer, with a majority of Muslim patients having solid tumors (63%). The data from the Christian samples also showed more patients with solid tumors (86%) (Table 1).

There was no statistically significant difference in quality of life between Christians and Muslims ($p=0.8$); however, there were significant differences in overall death distress and religiosity (Table 2). The average death distress score for Muslims was six points higher than for Christians; this difference was statistically significant ($p=0.02$). These results show Muslim cancer patients were more distressed about the possibility of death than Christian patients. The average religiosity score for Muslims was significantly higher than for Christians by ten points ($p=0.02$). Muslims perceived themselves to be more religious involved than Christians did.

Table 2. t-test Comparisons of Quality of Life, Death Distress, and Religiosity by Religious Affiliation.

	<i>Christian</i>	<i>Muslims</i>	<i>t</i>	<i>P</i>
Quality of Life, Mean (SD)	82.2 (13.57)	81.5(13.4)	0.29	0.78
Death Distress, Mean (SD)	40.4 (9.57)	46.3(43.0)	-2.4	0.02
Religiosity, Mean (SD)	47.0 (24.07)	57.8(14.1)	-2.5	0.02

Relationship Between Death distress and Quality of life

Pearson correlations were used to analyze the study's question 1: Is there a significant relationship between death distress and quality of life for Christian patients in the United States with advanced-stage cancer? And question 2: Is there a significant relationship between death distress and quality of life for Muslim patients in Saudi Arabia with advanced-stage cancer (Table 3). Results indicate a moderately strong inverse relationship between death distress and quality of life for Christians and Muslims ($r=-0.45, p <.001$; $r=-0.39, p <.001$, respectively). This correlation continued to exist after combining both populations ($r=-0.39, p <.001$). While not a part of the research questions it is worth noting that there were weak to moderately strong positive correlations of religiosity with quality of life among Christian ($r=.39, p=.018$) and Muslim patients ($r=0.24, p=0.034$), combined patients ($r=0.27, p =0.03$), in addition there was a

weak positive correlation of age and quality of life among Muslims patients ($r=0.13$ $p =0.25$) and there was no relationship among Christian patients ($r=0.09$ $p =0.57$).

Moderation

Moderation analysis was used to test the research question that for patients in both cultures death distress predicts quality of life differently depending on the level of religiosity, which is whether religiosity moderates the relationship between death distress and quality of life. These analyses were adjusted by age and religious affiliation. The overall model explained a significant 22.3% of the variance in quality of life scores ($R^2=.22$, $p<.001$). The interaction term was not statistically significant (Table 4). The relationship of death distress and quality of life not vary according to level of religiosity ($b=.005$, $p=.32$) (Table 4).

Table 3. Pearson Correlations of Quality of Life with Death Distress, Religiosity, and age by Religious Affiliation.

	<i>Christians</i>	<i>P</i>	<i>Muslims</i>	<i>p</i>	<i>All</i>	<i>P</i>
Death Distress	-0.45	0.00	-0.39	0.00	-0.39	0.00
Religiosity	0.39	0.01	0.24	0.03	0.27	0.03
Age	0.96	0.57	0.13	0.25	0.12	0.21

Table 4. Association between Death Distress, Religiosity, and their Interaction Predicting Quality of Life.

	<i>Estimate</i>	<i>SE</i>	<i>P</i>
Religiosity	0.17	0.065	0.002
DDS	-0.038	0.098	0.007
DD* Religiosity	0.005	0.005	0.32
Site	0.017	3.0	0.98
Age	0.028	0.08	0.72

Chapter Five:

Discussion

This final chapter of the study presents a discussion of the research results. The chapter also includes study limitations, implications for nursing, and conclusions.

Death distress is a common experience among individuals with a serious cancer diagnosis. Despite a significant improvement in worldwide cancer survival rates, many of these patients regard their diagnosis as a death sentence. Upon diagnosis, cancer patients commonly experience considerable fear, sadness, and depression. If these disease- and death-related emotions persist or increase over time, these individuals may become highly disturbed and overwhelmed. The result of this distress is often a significant decrease in overall quality of daily life (Hulbert-Williams et al., 2012; Soleimani, Lehto, Negarandeh, Bahrami, & Chan, 2017).

In general, research indicates that people with strong religious beliefs experience less death distress (Salsman, Fitchett, Merluzzi, Sherman, & Park, 2015; Soleimani et al., 2017). However, because religious beliefs vary dramatically from culture to culture, generalizations about their benefits for seriously ill individuals is limited and potentially misleading (Ellis, Wahab, & Ratnasingan, 2013). The current study employed a cross-sectional design to explore the moderating effect of religiosity on the relationship between death distress and quality of life among two culturally distinct groups of seriously ill cancer patients. One patient group was located in Saudi Arabia and self-identified as Muslim, while the other group was located in the United States and self-identified as Christian. The current study is believed to be among the first

to simultaneously examine the relationship of death distress and quality of life moderated by religiosity in these two patient populations.

Death Distress and Quality of Life among Cancer Patients

Results indicated Muslim cancer patients were more distressed about death than Christian patients. The average death distress score for Muslims was six points higher than for Christians; this difference was statistically significant ($p=0.02$). Further, a moderately strong inverse relationship was found between death distress and quality of life (QOL) among cancer patients of both the Christian and Islamic faiths. For Christian patients the correlation was somewhat stronger ($r=-0.45$, $p < .001$) than it was for Muslim patients ($r=-0.39$, $p < .001$) indicating greater death distress was associated with worse quality of life in both groups. This cross-cultural finding is not surprising given the clear and harmful influence of anxiety and depression on daily life (Aljubran, 2010; Ellis et al., 2013). Although the relationship is stronger among Christians, the difference between the two coefficients is relatively small. Even though the groups were different in terms of their age, no significant correlations were found between age and quality of life ($r=-0.12$, $p =0.21$). These results supported previous studies (Dehkordi, Heydarnejad, & Fatehi, 2009; Ustundag & Zencirci, 2015). The degree of death distress experienced by these two patient groups might reflect how death is regarded within the broader context of their particular religious belief systems. In most instances, Muslims and Christians share similar views regarding life after death, including the existence of an eternal heaven and hell. There are, however, some differences between the two religions, differences that might impact the degree of death distress experienced by highly vulnerable individuals. In the current study, this religion-based difference was statistically significant ($p=0.02$). It is unclear if the elevated level of death distress reported

by Muslim cancer patients is due to a specific aspect of the Islamic faith or some other cultural factor related to Saudi Arabia.

One possible explanation for the above finding is that in Islam an individual's eternal destination is based largely on their record of earthly behavior. Whether one goes to heaven or hell after death is determined by the morality of the deeds committed during a person's existence. For those who led virtuous lives following the teachings of the Holy Quran, heaven is their prescribed reward. For those who led lives filled with sin, hell is their ultimate destiny. This follows a period of torment within the grave for these individuals, known as Azab Al Qabr. Given both the gravity and finality of this eternal judgment, with one's fate decided by Almighty Allah, it is understandable that many Muslims with a life-threatening illness might experience considerable death distress when considering their future (Babagi, 2009; Hossain & Siddique, 2008; Sarhill et al., 2001).

Most Christians, on the other hand, believe that their eternal destination after death is determined primarily by whether they believe Jesus Christ is their personal savior. Within this belief system, good or bad actions during one's lifetime are a secondary consideration when God decides whether one goes to heaven or hell. Though those who revere Jesus Christ and follow his teachings are likely to do good deeds as He did during his time on Earth. (Harold G. Koenig, 2014). Yet no type or degree of religious faith—including belief in the power of faith alone to influence eternal judgment—automatically shields one from death distress. Indeed, at least some degree of death distress appears to be a universal truth of the human condition. While Christian cancer patients appear to be less vulnerable to death distress than Muslim patients, they are by no means immune to it.

In addition, greater religiosity was associated with greater quality of life among both the Christian ($r=0.39$, $p=.018$) and Muslim patient groups ($r=0.24$, $p=0.034$). Consistent with earlier research, cancer patients with a strong connection to religious faith and practices experienced better overall QOL than patients with little or no religious connection (Ernst et al., 2012; Koenig, 2012; Richardson, 2014). However the positive influence of religion was somewhat stronger among Christian patients than Muslims patients. The religiosity-QOL connection was stronger for Christian patients surveyed. It is unclear why religious involvement would have a stronger influence in the QOL of Christians. It may be that religious involvement for some Saudi patients was less due to deep personal beliefs and more related to societal and governmental expectations for attending prayer five times a day. Conversely, Christians perhaps are only involved to the extent that their faith motivates them.

Death Distress and Quality of Life Moderated by Religiosity

In the current study, the impact of death distress on quality of life did not vary according to the degree of religiosity. Results indicated that death distress significantly predicts QOL to a similar extent in both groups. Regardless of culture, strong belief in God and faithful observance of religious practices does not guarantee protection from the negative impact of death distress. This finding might relate to the basic human desire to cling to life. Both Christianity and Islam teach the sanctity of this life impulse. Neither religion suggests that an individual who loves God should embrace death as a means to more quickly join the Divine Almighty in heaven.

One possible explanation for the persistence of death distress regardless of religiosity is the numerous non-religious stressors faced by many cancer patients on a regular basis. For those with a life-threatening diagnosis, there is often considerable anxiety and frustration associated with coordinating complex healthcare treatment with multiple providers. Patients can become

overwhelmed by both the appointment logistics and stress related to the cancer treatment itself. Thoughts of impending death are understandable in such serious and anxiety-provoking circumstances. Such thoughts, combined with the prospect of leaving loved ones behind after death, can generate strong and persistent feelings of sorrow, remorse, anguish, and pessimism (Montazeri et al., 2009; Pasquini & Biondi, 2007; Soleimani et al., 2017).

Cancer patients can experience additional emotional turmoil and pain if they become unable to manage their own lives. This may involve unwanted reversals of family roles as grown children assume responsibility for care of an ill parent Or it may involve an elderly spouse assuming a far greater caregiving burden. Either of these common scenarios can increase thoughts of death for patients, especially if this decrease in personal independence is accompanied by a loss of pleasurable life activities (Edwards & Clarke, 2004; Morgan, Small, Donovan, Overcash, & McMillan, 2011; Wozniak & Izycki, 2014). Reduction in life purpose, autonomy, and pleasure can increase the death distress and decrease quality of life already associated with a serious medical condition like cancer. Some patients facing a life-threatening illness are less afraid of the moment of death than of the pain and unpredictability leading up to death. This fear of suffering and the unknown might have a strong impact on many cancer patients in this study of both the Christian and Islamic faiths (Hulbert-Williams et al., 2012; Soleimani et al., 2017; Vehling et al., 2017).

Limitations and Recommendations

Limitations of this study include unequal sample sizes in the two patient groups. The power analysis conducted prior to the study indicated a need for two groups of 82 patients from each culture. A smaller-than-planned study sample might have resulted in inadequate power for the moderation analysis. Cultural differences between the two study settings might also have led

to altered results. Specifically, more advanced cancer detection protocols in the United States often leads to an earlier diagnosis than in Saudi Arabia. It is likely that more Saudi than American study subjects had an advanced stage of cancer by the time it was detected. Later detection often means less chance of surviving life-threatening cancer leading to more thoughts of death.

To validate findings across a broader demographic spectrum, it is recommended that future researchers replicate the current study with other cancer patient populations. These replication studies should feature larger sample sizes, along with more ethnically, economically and religiously diverse research participants. Valuable additional information could be gained from exploring the impact of different cancer types, disease stages, and time periods from initial diagnosis. It is also important to note that two of the study instruments (BIAC and DDS) were initially developed for use with general populations and have never been used exclusively with cancer patients. Further research should explore the appropriateness of these instruments for this at-risk population.

Nursing Implications

Death distress appears to be a nearly universal experience among cancer patients regardless of religious affiliation. By examining the emotional toll a serious diagnosis often takes, the current study highlights the importance of a holistic treatment approach for these vulnerable individuals and their loved ones. This holistic emphasis is particularly important for nurses, who often spend more time with cancer patients than other healthcare professionals. Nurses typically play a primary role in educating newly diagnosed individuals about their illness, treatment, and what to expect in the future. By proactively discussing common issues surrounding death distress with patients and families, nurses can help them prepare for the

emotional challenges that likely lie ahead. Such discussions, centered on fears and uncertainties related to death help foster emotional strength and support during the highly stressful period following initial diagnosis and make the patient feel supported.

Although the degree of religiosity did not influence the impact of death distress on quality of life in the current study, religion and spirituality are important components of holistic wellbeing. Prior research has documented that cancer patients with strong religious beliefs and regular practices tend to have a higher quality of life. For many, religion is a major means for coping with the physical and emotional demands of their disease. These individuals are generally more satisfied with their cancer treatment when healthcare professionals take time to address their spiritual issues and concerns.

Regardless of how religious a particular cancer patient might be, some degree of death distress is likely present. It is important that nursing professionals—and students studying to become nurses—receive training on how to compassionately, knowledgeably, and nonjudgmentally communicate with patients about these spiritual and emotional issues. Such training should include information about death-related beliefs in different religions. This is particularly important in increasingly multicultural societies such as the United States (Atef-Vahid et al., 2011; Koenig, 2012).

In addition to becoming more comfortable and competent when discussing death-related issues with patients, nurses must be trained to better identify patients or family members in need of referral to mental health or social work services. Psychological problems such as anxiety and depression, key elements of death distress, can severely reduce the quality of life for individuals under such stressful circumstances. Nurses working with patients facing life-threatening illnesses must thus adopt a holistic treatment approach that emphasizes the equal importance of physical,

emotional and spiritual aspects of life—and their strong interconnectedness in determining overall patient wellbeing.

Conclusion

Study findings suggest that the impact of death distress on quality of life among cancer patients does not vary according to degree of religiosity. However, findings also revealed that adherence to religious beliefs and practices did positively influence the overall quality of life in these two patient populations. The reasons for this religion-based QOL benefit remain unclear. Exploration of this relationship is an important topic for future research focused on individuals facing a life-threatening illness.

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Appendices

Appendix A: Demographic Data Form

1. Age: What is your age?

2. Gender: Male
 Female

3- Marital status (check one).
 single
 married
 divorced
 widowed
 separated

4- Educational levels:
 Elementary School
 High school graduate
 Associate Degree
 Bachelor
 Post Graduate degree
 Never attended

5-Who lives with you? (Check one or more answers below)
 I live alone.
 I live with my spouse.
 I live with at least one family member who is not my spouse.
 Other: Specify

6- What type of cancer are you being treated for (breast, colon, lymphoma, etc)

7- Have you ever been diagnosed with depression before you were diagnosed with cancer?
yes no

8- How involved are you in your church/mosque or faith community? (Circle a number below).
(Not involved) 0 1 2 3 4 5 6 7 8 9 10 (very involved)

9- Has your cancer diagnosis had any influence on your religious faith? (Circle a number below).
(Not at all) 0 1 2 3 4 5 6 7 8 9 10 (Very Much)

Appendix B: The Death Distress Scale (DDS)

Instructions: Read the following statements, then decide to what extent each one describes your feelings, behavior, and opinions. Show how it applies or not to you in general by circling the appropriate number after each statement.

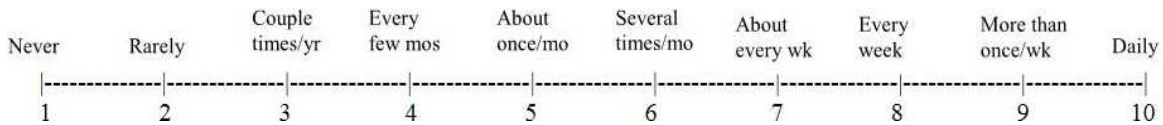
Items	N	A little Much	Moderate	Very much	
1. The idea that I will die dominates	1	2	3	4	5
2. I fail to dismiss the notion of death from my mind.	1	2	3	4	5
3. Thinking about death preoccupies	1	2	3	4	5
4. I find it greatly difficult to get rid of thoughts about	1	2	3	4	5
5. The idea of death overcomes me.	1	2	3	4	5
6. I have exaggerated concern with the idea of death.	1	2	3	4	5
7. I find myself rushing to think about	1	2	3	4	5
8. I think about death continuously.	1	2	3	4	5
9. I am very much afraid to die.	1	2	3	4	5
10. It does not make me nervous when people talk about death.	1	2	3	4	5
11. I am not at all afraid to die.	1	2	3	4	5
12. I am not particularly afraid of	1	2	3	4	5
13. The thought of death never bothers	1	2	3	4	5
14. I fear dying a painful death.	1	2	3	4	5
15. I am really scared of having a heart	1	2	3	4	5
16. The sight of a dead body is	1	2	3	4	5
17. When I think about death, I lose interest in activities of life.	1	2	3	4	5
18. I lose interest in caring for myself when I think about	1	2	3	4	5
19. When death is on my mind, my body seems to lose	1	2	3	4	5
20. The thought of death saps my	1	2	3	4	5
21. It is hard to concentrate when death is on my mind.	1	2	3	4	5
22. When I think about death, even the easiest of tasks becomes	1	2	3	4	5
23. Death makes me feel discouraged about the future.	1	2	3	4	5
24. Death makes me feel hopeless.	1	2	3	4	5

Appendix C: Belief into Action Scale

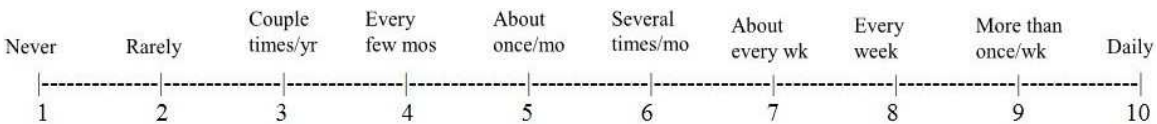
1. Please circle the highest priority in your life now? (most valued, prized) [circle only one]

1. My health and independence
2. My family
3. My friendships
4. Job, career or business
5. My education
6. Financial security
7. Relationship with God
8. Ability to travel & see the world
9. Listening to music and partying
10. Freedom to live as I choose

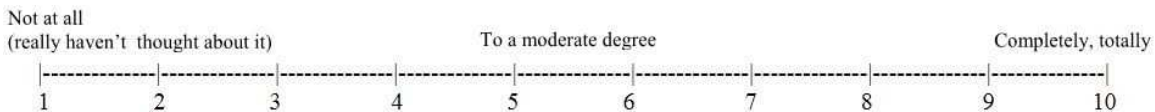
2. How often do you attend religious services? (circle a number below)



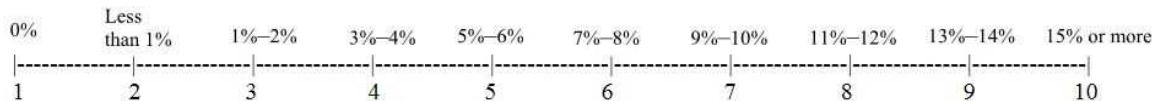
3. Other than religious services, how often do you get together with others for religious reasons (prayer, religious discussions, volunteer work, *etc.*)?



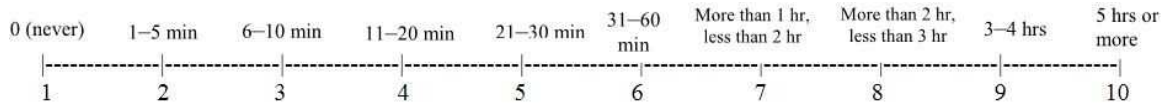
4. To what extent (on a 1 to 10 scale) have you decided to place your life under God's direction?



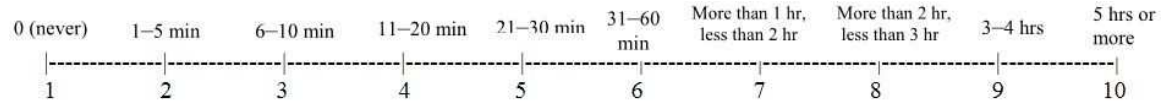
5. What percentage of your gross annual income do you give to your religious institution or to other religious causes each year?



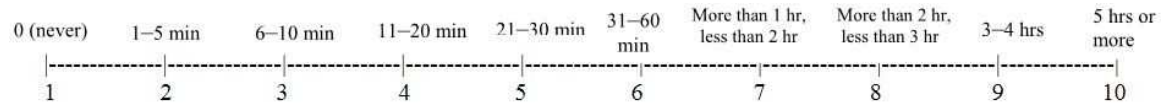
6. On average, how much time each *day* (in 24 hours) do you spend listening to religious music or radio, or watching religious TV?



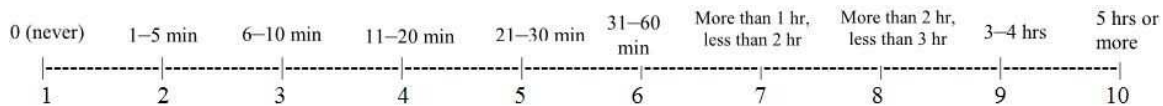
7. On average, how much time each *day* do you spend reading religious scriptures, books, or other religious literature?



8. On average, how much time each *day* do you spend in private prayer or meditation?



9. On average, how much time each *day* do you spend as a volunteer in your religious community or to help others for religious reasons?



10. To what extent (on a 1 to 10 scale) have you decided to conform your life to the teachings of your religious faith?

