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Potential influences of religiosity and religious coping strategies on people with diabetes

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Abstract

Diabetes is a significant health issue that threatens patients' overall wellbeing and quality of life. Critical public health concerns center on creating the best approach for diabetes management. Patients and caregivers have different approaches to diabetes management; however, this and the associated physiological, physical, and mental health issues remain challenging. This review explored the potential influences of religiosity and religious coping strategies on people with diabetes. This study used a literature review approach to investigate how religiosity and religious coping strategies can influence the effective management of diabetes among patients. Based on the literature search, the researchers were able to identify and cite published papers which were then analyzed using the descriptive-narrative analysis. An important goal of the descriptive-narrative analysis was to provide descriptions of the selected literature and take implications from the literature. The results of studies reviewed show some religious coping strategies for managing chronic diseases such as diabetes. The studies did establish a relationship between religiosity and diabetes management and suggest that religious coping strategies could positively impact the management of diabetes; however, they reported some adverse effects. Hence, we propose a pathway for the development of religion-oriented interventions and support framework for the management of diabetes.

INTRODUCTION

Diabetes is a chronic disease that occurs when the pancreas is no longer able to produce the hormone insulin, or when the body cannot effectively use the insulin it produces. Insulin regulates the absorption of glucose from blood into the liver, fat, and skeletal muscle cells to produce energy. Loss of insulin production or effective use leads to increased blood glucose levels (known as hyperglycemia). Chronic high glucose levels are associated with damage to the body and organs and tissue failure[1]. However, once diagnosed, insulin levels are controlled externally.

The prevalence of diabetes is increasing worldwide. In 2019, approximately 463 million people had diabetes mellitus (DM), which is projected to increase to 578 million by 2030 and 700 million by the year 2045[2]. The prevalence of diabetes is projected to be higher in urban areas (10.8%) than in rural areas (7.2%) and in high-income nations (10.4%) than in low-income nations (4.0%)[2]. In Africa, its prevalence is projected to increase by 98%, from 13.6 million in 2003 to 26.9 million by 2025[3]. A comparable increase (97%) is anticipated in the Middle East, with an estimated prevalence of 35.9 million[3].

DM can induce a series of reactions during diagnosis and several psychosocial stressors during its course[4]. Impending psychological stress and adverse emotional responses associated with DM have constituted overwhelming economic, social, and public health burdens[5]. In Africa, DM management has posed difficulties because of the diverse approaches used by patients and clinicians[6]. An emerging approach focuses on the use of religiosity and religious coping strategies by patients and family members. The relationship between religion and health has changed over time. For some time, religion has been discussed as a hindrance to medical treatment. However, since its inception, religion has addressed matters of paramount importance to humanity, matters of life, suffering, and death, including psychology and emotions[7]. Major religions portray life as a sacred gift that can be enjoyed and used wisely. There are countless religious injunctions on how to live life well as warnings about the failure

to do so. Additionally, religion speaks powerfully to the darker aspects of human existence[8]. People with religious or spiritual beliefs adjust better to disease diagnosis and show greater compliance with drug therapy. Moreover, they have more positive mental health indicators with a lower frequency of anxiety or depressive symptoms than atheists[9]. To date, research has focused on the influence of religion on poor health management and chronic diseases, such as DM. This review sought to assess the influence of religiosity and religious coping strategies on people with diabetes.

METHODOLOGY

This study used a literature review approach to investigate how religiosity and religious coping strategies can improve the effective management of diabetes. Here, we propose a pathway for the development of religion-oriented interventions and support framework for the management of diabetes. Ethics approval was not required since the study did not involve human participants. As a mini-review, informed consent was also not required for this study. Based on the literature search, the researchers were able to identify and cite published papers which were then analyzed using the descriptive-narrative analysis. An important goal of the descriptive-narrative analysis was to provide descriptions of the selected literature and take implications from the literature. During the literature search, the authors were able to find information on people with diabetes, and the potential influences of religiosity and religious coping on people with diabetes from a number of databases and sources, such as Google Scholar, Professional Association Websites, PubMed, Scopus, JSTOR, and PsycArticles, which were used for obtaining peer-reviewed articles, gray literature, or books. A number of search terms were used, including religious coping with diabetes; religiosity and diabetes management; spirituality and diabetes support; and social support and diabetes. Searching, evaluating, selecting, and synthesizing qualitative and quantitative papers published in English was the responsibility of the authors.

DISCUSSIONS

RELIGIOSITY AND DIABETES MANAGEMENT

Religiosity is defined as an individual's commitment to any religion[9]. The distinction between religion and religiosity is that religion is an organized and common system of beliefs that honors God. This is expressed through external rituals of devotion or worship, and promotes the relationship of the individual with God or with a higher power. In contrast, religiosity represents participation in observance within a specific religion[10]. The conceptualization of religiosity is a complex process because of the multidimensional nature of the construct[11].Religiosity can affect the management of ill health, including diabetes, in areas like self-care[12], mental health[11,13], and social support[13]. Beyond providing a sense of global meaning to life, religiosity can help patients reframe their illness in a larger spiritual context, which is a form of situational meaning making. For example, Pakistani and Iranian Muslim patients stated that they believed that their medical conditions were gifts from God intended to strengthen their faith, absolve them of their sin, and foreshadow divine blessings in this life or the next[7].

RELIGIOSITY AND SELF-CARE MANAGEMENT

The belief that God has control over one's own efforts in promoting health has been shown among people with chronic illnesses such as rheumatoid arthritis and systemic sclerosis[12,14]. Religious beliefs are regarded as contributors to maintaining well-being and mental health in DM[12,15,16]. This can help determine self-care management efforts. Patients with DM who believe in and trust the process of disease management are more likely to utilize self-care strategies[17,18]. Self-care is a concept that is led, owned, and performed by the community, and entails actions embedded in the daily lives of people with chronic conditions[12,19]. This involves a wide range of behaviors that maintain well-being, such as health promotion and disease prevention, treatment, monitoring, and rehabilitation[12,19].

Other studies have revealed the negative influence of religious beliefs on the self-management of chronic conditions[12,20,21]. Swihart *et al.* [21] reported that some religions

have strict prayer times, which may interfere with medical treatment. In addition, Pfeiffer *et al.* [17] found that high religious self-regulation skills increased the likelihood of healthy food intake in a community-based study. Furthermore, religious coping strategies tend to assist in the management of maladaptive eating[22]. Differences have emerged regarding the interpretation of religious teachings on self-management and its acceptability by the supreme God[10]. However, observing spiritual routines associated with religiosity can build support and change negative perceptions[23,24]. For example, church attendance promotes well-being *through* associated social support, building relationships, and an increased sense of belonging[23]. In addition, spiritual support, adherence to treatment programs, spiritual imaging, prayer, and spiritual self-defense can reduce negative emotions and improve patients' mental health and hope[24].

Organizational religious activities such as church attendance promote private religious behaviors, including religious rituals such as prayer and scripture[17]. Personal spiritual routines are associated with health benefits and positive health outcomes[7,17,19,25]. Studies have revealed that engagement in private religious activities is associated with increased survival in elderly communities. Prayer is associated with decreased adverse outcomes in patients with cardiac disease[5-8,17,22]. In a qualitative review of how people with diabetes perceive the role of religion and/or spirituality in managing daily self-care, Permana[12] found several themes, such as relationships with God or the transcendent, religion, or spirituality as coping methods, religious practices, and social support. This finding suggests that religiosity can promote self-care.

RELIGIOSITY AND MENTAL HEALTH OF PATIENTS WITH DIABETES

Patients with DM are more likely to experience mental health challenges than their non-diabetic counterparts[11]. Religiosity and self-acceptance can decrease anxiety disorders and depression among individuals with DM[13]. Religiosity decreases anxiety in patients who donate kidneys[22]. The factors suspected to influence depression include patients' perceptions of social support and their acceptance of illness. Additionally, the factors that affect anxiety include religiosity and self-acceptance[13]. Most religious practices

and beliefs encourage self-acceptance; therefore, religiosity can be an antidote for depression and anxiety, especially in chronic conditions. The religious dimension of coping mechanisms is often disregarded in research studies; nonetheless, there are some potential findings on its specific outcomes in health promotion. Many individuals report using religious coping when facing chronic and acute stressors[26,27].

Recent studies investigating the effects of religiosity on health consequences indicate a significant connection between religiosity and enhanced mental health[24], including reduced depression[27], anxiety[28], and psychological stress[29]. Moreover, studies on individuals with medical conditions have reported a positive link between religious coping, quality of life, and better physical well-being[30]. For example, religion aids in stress reduction through coping and allows individuals to engage in healthier lifestyles[17]. Additionally, a positive relationship has been found between church attendance and good mental health, marital stability, improved social interactions, and healthier dietary and physical activity[17]. Religious service attendance is a protective factor against major depression[27] and anxiety[28].

RELIGIOSITY AND SOCIAL SUPPORT

Psychosocial aspects are essential elements of DM self-management[13,31]. These include the psychosocial aspects of social support, motivation (beliefs and attitudes), and coping skills. Research on social support suggests that it reduces psychological burden, such as depression and anxiety[32]. Additionally, people with high social support experience lower levels of stress than those with low social support[33]. Social support can reduce the possibility of illness, accelerate recovery, and reduce the risk of disease-related mortality[13,32]. Furthermore, it can help minimize the occurrence of complications from serious health problems[32]. Taken together, these data show that social support is very helpful in managing chronic illnesses, such as DM. Furthermore, global religions focus on the importance of helping and supporting one another; therefore, religiosity affects DM management by influencing social support.

There was a correlation between social support for religiosity and DM management. For example, researchers[33,34] have found a positive relationship between religious support and lower depressive symptoms and heavy drinking over time. The authors further indicated a negative interaction between depressive symptoms and decreased emotional functioning. Perceived social support plays a significant role in depression, through self-acceptance. Perceived social support increases self-acceptance before decreasing depression[13]

[Insert Table 1]

RELIGIOUS COPING STRATEGIES

Religion is an essential element of human existence worldwide[33-37]. Additionally, it is an ideal tool when experiencing stressors, maintaining a sense of control, psychological balance after a traumatic experience, and a threatening disease condition[27,28,36-38]. Coping is a response aimed at diminishing the physical, emotional, and psychological burdens associated with stressful life events and daily hassles[38,39]. It is a process of constantly changing cognitive, behavioral, and emotional efforts to manage external and/or internal demands that are appraised as taxing or exceeding the resources of the individual[26]. Coping includes cognitive appraisals and behavioral efforts that change the relationship between a specific stressor and health reactions, thereby causing stress mitigation[40]. One study found that accepting responsibility is a mediator between stress and quality of life[6]. The mediating effect of coping strategies on religious/spiritual struggles and life satisfaction was shown by a positive correlation between religious comfort and life satisfaction. In contrast, fear/guilt, negative emotions towards God, and negative social interactions surrounding religion are negatively correlated with life satisfaction[41].

Increasing evidence suggests that religious beliefs and practices create options for coping with difficult situations such as illness[5,33,42]. Prayer, abstinence from alcohol and smoking, and persistent hope in God positively influence the treatment of DM[5]. Spiritual and religious beliefs and activities can aid in coping after a diagnosis of

chronic illness by providing support, confidence, and hope. However, it may interfere with successful coping[37,38]; dogmatic religious practices can hamper management by making patients neglect self-care activities and rely on prayer and/or meditation to manage their illnesses [18]. Most religious activities help eliminate worry and anxiety, which directly helps with stress reduction and DM management[5,17,33].

Religious coping strategies serve as emotional support because individuals can rely heavily on their relationship with God to handle negative subjective feelings associated with chronic conditions. Believing that God gives considerable strength to faithful patients because they believe in God as a superior power that can do all things. Reliance on supernatural power can minimize pressure to control circumstances and avoid anxiety about results[43,44]. This positive appraisal of a stressful life situation can control anxiety and feelings of hopelessness and despair[45]. Religious coping strategies provide emotional support and optimistic explanations of life events that can aid the use of other coping strategies[7]. For example, black men with DM reported using coping strategies such as prayer and belief in God, keeping one alive, turning things over to God, changing unhealthy behaviors, supplying my needs, reading the Bible, and religious or spiritual individuals helping me[37].

Religious coping operates in the domains of cognitive, emotional, and behavioral responses to stress[45-47]. In this context, cognitive responses are spiritual explanations that aid mental efforts concerning spiritual holdups and imports [48]. Emotional responses involve personal and spiritual experiences of the supernatural. Emotional religious coping may also include collaborating closely with God as a partner and advancing perceived caregiving affiliation with God by building an imaginary bond of divine security[49]. Finally, behavioral responses to stress involve taking action to facilitate the construction of a coherent account of a traumatic event[49]. Behavioral religious coping may include praying, reading, or reciting religious books, speaking positive religious words over oneself about a health condition, attending a religious gathering, and becoming a part of a faith community. These actions provide the context

to make sense of trauma, construct meaning, and facilitate coping in the face of chronic diseases such as DM.

RELIGIOUS COPING STRATEGIES AND DIABETES MANAGEMENT

Coping strategies in DM can play a vital role in the maintenance and duration of, and psychosocial adjustment to, this disease[38]. Coping with the reality of being diabetic is a complex and lifelong process. Accepting the reality of the diagnosis and developing a positive attitude toward treatment are critical for successful coping and recovery[51]. Patients may cope by adjusting their social role to fit the demands and challenges associated with the illness, or they may cope by trying to reframe their experiences and view the situation in a more positive light[51].God's image is linked to religious coping strategies[51,52]. Those with a more positive image of God are more likely to perceive stressors as challenging and beneficial. Similarly, those with a more religious focus perceived less loss and more benefits [52]. Moreover, many African Americans believe that God plays a significant role in DM treatment, and supports individual self-management practices[7,17,32,33]. This religious attitude helps to maintain hope, motivation, and coping with the stigma associated with psychological well-being[34,35,45]. Collectively, these studies indicate that religious beliefs are a positive coping strategy for managing and treating DM.

Exploring the potential influence of religious coping strategies on the management of diabetes, we found that most of them showed a positive impact (Table 2). One study examined the role of religious coping in couples' DM management processes; Fincham *et al.* [43] showed that religious coping and glycemic control activities were integral to type 2 DM (T2DM) management and may serve as valuable points of intervention. Religious coping strategies are a practical approach to maintaining good health and interpersonal care relationships in families with diabetes. Other studies have identified the value of religious coping in patients living with DM and their family caregivers[20,21,53, 54].

Sukarno and Pamungkas[48] explored whether religiousness was associated with T2DM care management and found that all attributes of religiousness, including religious beliefs, practices, support, and coping, are linked to diabetes care and management (Table 2). This indicates that religious coping strategies influence diabetes care, including self-care and care from the immediate environment, and control how patients respond to medication and accept treatment. Finally, in a systematic literature review, Darvyri et *al.* [6] investigated the roles of spirituality and religiosity in T2DM management. They found a positive relationship between religiosity and spirituality and improved T2DM management. None of the empirical research outcomes reviewed found a negative influence, indicating that religious coping strategies are effective in DM management.

[Insert Table 2]

PATHWAYS TO THE INFLUENCE OF RELIGIOSITY AND RELIGIOUS COPING STRATEGIES IN THE MANAGEMENT OF DM

Taken together, we hypothesize that religiosity and religious coping strategies influence diabetes management and create a pathway of influence. First, DM diagnosis raises tension in patients and their families, which can produce acute stress and anxiety[57]. DM is a chronic condition; therefore, impending stress and anxiety can be confounded through changes in diet and lifestyle, which can significantly affect mental health[26]. Figure 1 shows the potential influence of religiosity and religious coping strategies on DM management. Possible interventions can be anchored to this framework for effective practice.

[Insert Figure 1]

Unstable mental health tends to mitigate efforts towards self-care and the management of DM. Patients become more vulnerable if they have a distorted view of lifelong illnesses, such as fear of losing their life, uncertainty about their ability to control or cure the disease, regrets and feelings of guilt, and holding incorrect beliefs about the cause and solution to the problem[58]. Continuing in this devastating state

tends to limit patients' resources, help-seeking behaviors, and their response to medical assistance. Therefore, patients can lose hope in their own efforts and focus on the supernatural, thereby drawing closer to a higher power believed to do all things.

Increasing their routine relationship with God (religiosity) increases their engagement in religious activities, such as church attendance, prayers, and reliance on scriptures instead of their condition. This helps bring back hope and confidence that enables the patient to be more optimistic, which positively affects mental health[11,13]. Social support from religious organizations provides a sense of belonging and supports self-care[13] by applying religious coping strategies, such as cognitive, emotional, and behavioral approaches, to overcoming the far-reaching impact of DM. Finally, religious beliefs affect patients' decisions regarding palliative care[59], and religious coping is linked to the quality of life of patients with severe disease[60].

CONS OF RELIGIOSITY IN DM CARE

There are possible and/or known cons of hyperreligiosity and partial non-compliance to medical advice for religious reasons. Studies have demonstrated a significant correlation between religiosity and patient health status[6,61]. Patient beliefs about ill health are vital to the understanding and treatment of illness, and religions have schemes of health beliefs that tend to explain the causes and treatment processes of several illnesses[62]. In the case of chronic illnesses, including diabetes, religiosity is relevant in many ways yet can play an adverse role in the management of such conditions. For instance, current evidence suggests that hyperreligiosity has profound negative effects on the reception of information about diabetic conditions and the willingness to use treatment information[56]. Religious coping beliefs can result in a patient's refusal of emerging treatment information, which could otherwise reduce fatality. In addition, patients might stick to baseless beliefs that some treatment modalities are against their faith, thereby restricting the use of some functional approaches for managing their health condition.

In addition, beliefs in mystical retribution as causes of illness and the belief that illness is God's will or punishment and/or is caused by bad omen, evil spirit, or witches can limit how patients seek health management information as well as how much they would comply with treatment recommendations[63,64]. In the case of diabetes, which requires patient-oriented and functional approaches, such beliefs may lead to negative health outcomes. Sometimes, the patient may resign to fate, believing that since the sickness came from God or the gods, their own personal efforts are not actually relevant. In cases where the patient sees the illness as a punishment, such patients tend to spend much time and money looking for ways to appease the gods instead of adopting positive management procedures.

Furthermore, within the framework of religious coping, diabetes may be perceived as caused by spirits and treated through mystical activities[64]. In most cases involving mystical healing, patients may be abused differently by the healer. Patients' conditions could deteriorate and worsen owing to such an unscientific approach [63, 64]. For instance, a patient may be asked to fast in prayer camps by a spiritual healer as part of the healing process[64]. Fasting may mean that the patient would not take food or oral medication, which could lead to worsening of the health condition. Additionally, religious coping may include the use of spiritual healing and herbs in addition to fasting and prayers. Other rituals, such as pouring animal blood on the head and feet of patients, are performed for cleansing and healing. Spiritual healers can manipulate patients in diverse ways.

Furthermore, in cases involving religious coping, patients are required to buy expensive materials that they do not have the financial capacity to afford. This may result in delays in treatment and hospital visits and invariably lead patients to develop more complications[61,65]. Past research has also revealed a significant negative relationship between religious beliefs, medication regimen adherence, and negative religious coping experiences[66]. Shahin*et al.* [67] also observed that religious beliefs affected adherence to medication. This suggests that some religious coping practices in patients with diabetes can lead to complications[68]. Thus, because religious coping has a

positive impact on diabetes management, hyperreligiosity can cause enormous harm and should be checked within management modalities. Besides the cons of religiosity and religious coping practices in deconstructing challenges associated with DM care, faith communities have not relented in implementing spiritual care services as part of their religious activities to assist patients cope with diabetes [69,70].

CONCLUSION

Despite reports of adverse effects, religiosity and religious coping strategies could positively influence DM management. Interventions and training based on religious coping strategies could be valuable means of improving self-care attitudes and mental health among patients with DM. Therefore, religious practices and values should be considered part of DM management. Patients' faith and beliefs should be at the core of DM treatment and management. Further research is required to assess the efficacy of different religion-based interventions in improving DM management. Other studies should investigate patients' perceptions and lived experiences of the value of religious practices in DM management.

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