

Spirituality Domains and Spirituality of Diabetes Mellitus Type 2 Patients

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ABSTRACT

Research Background: Spirituality is an aspect which cannot be separated from every individual including those who suffer from diabetes. Spirituality has four domains, they are personal, communal, environmental, and transcendental.

Objective: This study aimed at discovering whether or not there is correlation among spirituality domains and how much the correlation among them.

Method: This study involved 164 diabetes mellitus type 2 patients. The sample criteria in this research were those who suffered from diabetes mellitus type 2; diabetes patients who did not suffer from cognitive impairment; minimal age of 36 years old; could communicate both verbally and non-verbally. Spirituality was measured using Spiritual Health and Life-Orientation Measure (SHALOM) questionnaire which was developed by Fisher in the previous 2016. The data analysis used Spearman test.

Findings: The findings of the research showed that there was positive correlation among personal, communal, environmental, and transcendental domains and spirituality (0.577; 0.512; 0.574; 0.727; $p < 0.001$).

Conclusion: From the study, it can be concluded that diabetes patients cannot be separated from spiritual aspect which covers four spirituality domains. The study of spirituality on diabetes patients was very much needed because spirituality can be used as an approach in coping and support improvement on chronic diseases patient including diabetes mellitus.

Key words: diabetes mellitus; spirituality, spirituality domain

Introduction

Diabetes Mellitus Type 2 (DMT2) is an epidemic disease throughout the world with the increasing prevalence and becomes the global

health encumbrance. International Diabetes Federation (2015) predicted that 415 million people who suffered from diabetes were in the range of 29 to 79 years old and were predicted

to increase to 641 people in 2040 (1). Approximately 422 million people in the whole world suffered from diabetes, the majority lived in low and middle income-countries and 1.6 million death cases were directly correlated to diabetes each year. Diabetes patients in America were around 3.4 million people and 1 out of ten American suffered from diabetes mellitus (2). 463 million people who suffered from diabetes in the world and 163 million people in Western Pacific Area in 2045 will increase to 212 million people (3).

There was 69% of diabetes patients' increase in the developing countries and 20% increase in the developing countries between 2010 and 2030 (4). The biggest number of diabetes patients with the age range of 19 to 99 years old in the world was in Western Pacific area with the number of patients 162 million people and followed by South East Asia with 80 million patients (5). Currently, the prevalence of incontinous diseases including Diabetes Mellitus (DM) is increasing in Indonesia. Based on the latest epidemiology study, Indonesia has entered Diabetes Mellitus Type 2 epidemic. The change of lifestyle and urbanization seem to be the significant causes of this problem and will be increasing in the future years (6).

Indonesia is one of 39 countries included in International Diabetes Federation Western Pacific (IDF WP). The total of diabetes cases in Indonesia was 10,681,400 (6.2% out of the total adult population 172,244,700) (3). Based on the IDF data in 2018, Indonesia was in the seventh rank with the world's most diabetes patients that was 10.2 million people (5).

The result of Basic Health Research 2018 showed that there was prevalence increase of diabetes mellitus patients (age \geq 15 years old) from 6.9% in 2013 to 10.9% in 2018 (7). It was predicted that there were a lot of (around 50%) diabetes patients who were not diagnosed yet in Indonesia. In addition, only two-third of the diagnosed patients who were treated, either non-pharmacologically or pharmacologically. From those who got the treatment, only one-third of the total was well-controlled (6).

Glycemic or HbA1c controlling to reach adequate level is highly difficult for diabetes patients (8). Diabetes self-control is influenced by four factors, they are self-efficacy, knowledge level, spirituality level, and social

support (9). Some research showed that education on diabetes patients which referred to self-efficacy was greatly effective in improving self-care (10)(11)(12). Chronic disease management cannot be separated from spiritual aspect (9). Spiritual aspect can contribute in overcoming chronic diseases by giving support, trust, and hope (13). Spirituality is also effective in helping to change someone's negative habits (14).

Spirituality is a very important thing when an individual a disease because spirituality becomes the only support and individual's strength source in overcoming the disease compared to other moments in their lives (15). Spirituality can also become a very good therapeutic medication as spirituality can increase the coping, social support, optimism, and hope, promote healthy behaviors, reduce depression and anxiety, and also support relaxation feeling on patients with chronic diseases, including diabetes mellitus (16); (17).

A study on 18 participants related to spirituality role on themselves with diabetes diseases they suffered from found that all participants felt comfortable when they talked about the spirituality role especially regarding trust and hope in facing diabetes disease (18). Moreover, there was glycemic control increase on religion-based education (19).

Spirituality, according to Stoll (1989), is a multidimension matter, that is vertical dimension as the relationship with God and horizontal dimension as the relationship with themselves, other people, and environment (20). Fisher explained spiritual dimension into four spirituality domains when human lives in harmony through personal, communal, environmental, and transcendental relations (21). Based on the previous explanation, the researchers were interested to examine the spirituality domains on diabetes mellitus patients so that it can be known that the most influential aspect on diabetes mellitus patient's spirituality. This is caused by the lack of study on the significance of spirituality aspect on diabetes patients.

Method:

The research design of this study was cross sectional study which was conducted in

Padangsidempuan city. The number of samples in this study was 164 participants. The sampling technique in this study was simple random sampling. The criteria of sample in this research were: the patients of diabetes mellitus type 2, diabetes patients who did not suffer from cognitive impairment, the patients suffered from diabetes mellitus for at least 5 years, the minimum age was 36 years old, and were able to communicate both verbally and nonverbally.

Spirituality was measured using Spiritual Health and Life-Orientation Measure (SHALOM) questionnaire which was developed by Fisher in 2016. SHALOM measures spirituality comprehensively, meaning that it does not only measure relation with God but also relation with oneself, other people, and environment (22). The components of this instrument include four spirituality domains, they are personal, communal, environmental, and transcendental domains (21). This instrument applied Likert

scale 1-5 SR= *Sangat Rendah* (Very Low), R= *Rendah* (Low), AR= *Agak Rendah* (Fairly Low), T = *Tinggi* (High), ST= *Sangat Tinggi* (Very High). The result interpretation was in the form of average score of each domain with the range between 1 to 5 (23).

Spiritual Health and Life-Orientation Measure (SHALOM) questionnaire developed by Fisher has been widely used including in Indonesia especially diabetes mellitus (24). The validity of this instrument has been tested with the score of 0.73 and reliability test with the score of 0.89 (25). The data were analyzed using Spearman test because the researchers wanted to know the strength of the correlation among the variables.

Findings:

Table 1. Respondent Characteristics Based on the Education, Occupation, Diabetes Mellitus Duration, Family History, Knowledge, and Behavior

Variable	Category	Frequency	Percentage (%)
Education	Elementary School	43	26.2
	Junior High School	42	25.6
	Senior High School	46	28.0
	University	33	20.1
Occupation	Unemployed	62	37.8
	Employed	102	62.2
Diabetes Mellitus Duration	≤ 5 years	89	54.3
	> 5 years	75	45.7
Family History	Positive	52	31.7
	Negative	112	68.3
Knowledge	0-9 (low)	74	45.1
	10-16 (fair)	69	42.1
	17-24 (high)	21	12.8
Behavior	Negative (1.81-2.60)	78	47.6

Neutral (2.61-3.40)	68	41.5
Positive (3.41-4.20)	18	11.0

According to Table 1, it was retrieved that education level of the respondents was Senior High School graduates (28%), the majority was employed (62.2%), the duration of suffering from diabetes was mostly less than 5 years

(54.3%), the majority had family who was positive of having diabetes (68.3), most of them had low level of knowledge (45.1%), and the respondents' behavior was negative (47.6%).

Table 2. Correlation between spiritual domains and spirituality of diabetes mellitus patients

Variable	Mean	Correlation Coefficient	P value	N
Personal	2.393	0.577	<0.001	164
Communal	2.390	0.512	<0.001	164
Environmental	2.472	0.574	<0.001	164
Transcendental	2.656	0.727	<0.001	164

According to Table 2, it was retrieved that personal, communal, and environmental variables had fair correlation. Meanwhile, transcendental variable had strong correlation.

Discussion:

The findings of this research showed that transcendental variable had a bigger correlation compared to the other variables. This showed that the relation with God became the support for diabetes patients. The indicators of spiritual health were human with themselves, environment, the surrounding nature, and God (26).

Some research found that there was a significant relationship between spirituality and glycemic control (27); (28). In addition, spirituality has a significant relationship with self-management in the case of diabetes mellitus type 2 patients (29). Previous research in the population of African American showed that there was positive correlation between spiritual prosperity and overcoming diabetes, and also glycemic control (30).

Spirituality becomes the strength and hope sources of diabetes patients, either in the

aspects of personal (relationship with oneself), communal (relationship with family, friend, community, health service), relationship with environmental, and relationship with God (18). Someone's spiritual health is indicated by the effect of combination of each domain. Spiritual health can be improved by developing the positive correlation in each domain and can also be elevated by embracing more domains (21).

When there was no correlation among domains, human do not have the wholeness or health, therefore spiritual disease may appear. The correlation quality in each domain may vary from time to time, or even does not exist. The development of personal relationship (regarding the meaning, objective, and values to live) is the initial step needed to be done and added by the development of communal (morality, culture, and religion) relationship (Fisher, 2011).

Chronic disease management cannot be separated from spiritual aspect (9). Comprehensive diabetes management with the highlight on spiritual and psychological aspects is a power which can improve the condition of diabetes mellitus patients' mindset, emotion, and behavior which are regulated to the better blood glucose level so that the self-care

behavior improves and makes the diabetes mellitus patients able to care about their own conditions (31).

The findings of this study showed that the correlation between the transcendental aspect and spirituality had bigger correlation compared to the other aspects (0.727). Diabetes patients believed that obeying the doctor's advices was the most important thing in diabetes management, but they admitted that their own selves and God (90%) became the health controller (32). Spirituality became the only strength and support source for the individual in overcoming diseases in their life phase (15). Spirituality was used as the supporter in overcoming the appearing crisis for diabetes patients (33).

Several research indicated that spirituality could become a very good therapeutic medication because spirituality could give support, belief, and hope, improving the coping, social support, optimism, and hope, promote healthy behaviors, reduce depression and anxiety, and also support relaxed feeling for patients with chronic diseases, including diabetes mellitus (17); (13). Moreover, spirituality could change someone's negative habit (14). Diabetes patients also felt comfortable when they talked about the role of spirituality especially regarding trust and hope in overcoming diabetes disease (18). It also affected on the glycemic control increase on religion-based education on diabetes patients (19).

Spirituality is a concept which shows the meaning, hope, belief, sense of belonging, and dependency, and also supporter for someone to move and integrate the other aspects (34). The spirituality increase will help someone to solve conflicts and improve their life satisfaction (33).

Spiritual prosperity had positive correlation with better physical, emotional, and functional prosperities level and life quality (35). Disease often creates emotional problems and more people believe that spirituality becomes the factor affecting the health key.

Conclusion

Based on the research findings, it can be concluded that spirituality has four domains, they are personal, communal, environmental, and transcendental which the four of them had positive correlation towards the spirituality health of diabetes mellitus patients where the spirituality aspect cannot be separated from their lives.

Additional Note

This research has passed the ethical study at Research Ethical Commission of The Faculty of Medicine at Andalas University, West Sumatera with Registration Number of 457//UN.16.2/KEP-FK/2021.

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