ATLANTIS PRESS

Advances in Health Sciences Research, volume 20

1st International Conference on Community Health (ICCH 2019)

Spiritual Comfort of Patients with Diabetes Mellitus at Kalibagor Public Health Center, Banyumas, Indonesia

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Abstract— Diabetes mellitus (DM) is one of the non-communicable diseases commonly found in Indonesia, including at Kalibagor Public Health Center of Banyumas Regency. Physical, psychological changes and social culture are the stressors in DM patients. Spiritual comfort consisting of intrapersonal, interpersonal, and transpersonal dimensions is one of the coping resources needed by DM patients to overcome stressors. This study was aimed to describe the spiritual comfort of DM patients. Quantitative research design with cross sectional approach was applied in this study. The study sample was 82 DM patients at Kalibagor Public Health Center. The results of the study found that 69 respondents (84.1%) had high spiritual comfort and the rest of them were low. The highest spiritual comfort dimension was transpersonal (meaning the relationship with God to achieve happiness) with a percentage of 92%. Intrapersonal dimensions (influence of beliefs on life motivation) percentage was 86% and interpersonal (views on relationship harmony) percentage was 72%.

Keywords: diabetes mellitus, spiritual comfort, spirituality

I. INTRODUCTION

Diabetes mellitus (DM) is a non-communicable disease characterized by the body's inability to carry out metabolism of carbohydrates, fats, and proteins causing hyperglycemia [14]. DM is caused by impaired glucose metabolism due to lack of insulin, both absolute and relative [2]. DM was found in the world, including in Indonesia [3].

The International of Diabetic Federation (IDF) mentions that the global prevalence of DM sufferers aged 20 to 79 years in 2015 amounted to 415 million people. In 2017 it increased by 425 million people. In Indonesia, 1, 5% of over 15 years age group was diagnosed by doctors experiencing DM [3]. It increased dramatically in 2018, the results of Riskesdas showed that DM sufferers diagnosed by doctors in Indonesia reached 2.0%. The prevalence of DM is also calculated based on the 2015 Consensus routine blood tests for residents over 15 years, with a result of 10.9% of sufferers [3]. Central Java is one of the provinces with a prevalence rate above the national rate.

Symptoms of DM vary widely, ranging from mild symptoms to severe symptoms, and often cause complications in various organs of the body. Some of the symptoms that are often found in patients with DM in the form of excessive thirst (polydipsia), frequent urination (polyuria), frequent hungry feeling (polyphagia), rapid weight loss, complaints of weakness, tingling in the hands and feet, itching , blurred vision, impotence, difficult to heal wounds, vaginal discharge, fungal skin diseases under the folds of the skin, and in mothers it is often found the occurrence of giving birth to big babies with birth weight above 4,000 grams [2].

DM also causes psychosocial problems. In the Stress Adaptation Model believes that physical health problems are stressors for the occurrence of psychosocial problems for individuals [13]. Furthermore, physical complaints, especially complications in DM patients such as the presence of gangrene wounds, amputated conditions, glaucoma, kidney damage, will disrupt the patient's self-concept. This is a psychological aspect stressor. Furthermore, from the social aspect, DM symptoms will limit patients in their activities, including efforts to earn a living, the need diet and exercise patterns regulation, and even sexual dysfunction can occur. One of the psychosocial problems often experienced by patients with chronic diseases such as DM is depression.

In Indonesia the prevalence of depression reaches 6.1% of the population aged over 15 years [3]. Ramdani's research conducted at Kardinah City Hospital in Tegal found that 15.2% of DM patients had mild depression and 2.5% had moderate depression. Depression that occurs for a long time and does not get the right treatment can cause patients to fall into a state of disruption so it must be prevented. Emotion regulation is one of the factors that influence the coping mechanism of patients in dealing with problems, including depression.

In DM patients, a stimulus or stressor activates the HPA axis which is reflected by the release of corticotrophin-releasing hormone (CRH) and vasopressin by the paraventricular nucleus from the hypothalamus. This stimulates the production of adrenocorticotropic hormone (ACTH) by the anterior pituitary gland. Then, it triggers the release of cortisol which will affect insulin function in terms of sensitivity, production and receptors causing unbalanced

blood glucose [2]. Dealing with this stressor DM patients will use their coping resources, one of which is a positive belief in which it belongs to spirituality component.

Spiritual comfort has an impact on spiritual well-being when it becomes the focus of attention on health care [1]. Improving spiritual quality in individuals will have a positive impact on responding to stress, spiritual well-being (a balance between physical, psychosocial, and spiritual aspects of self), a feeling of being whole and perfect, and harmony in interpersonal relationships [22]. Spiritual comfort includes 3 dimensions, namely the intrapersonal dimension, the interpersonal dimension, and the transpersonal dimension. Spiritual comfort is an important aspect of an individual's health in relation to how to deal with painful experiences and therapeutic regimens during illness [20]. This is needed by DM patients because DM is a chronic disease that will be suffered by individuals throughout their lives. With good spiritual comfort, it is hoped that DM patients can achieve a constructive coping mechanism in dealing with a set of symptoms experienced and adhere to the DM management protocol.

Comfort is an individual experience in meeting the needs of relief, peace, and awareness including four contexts of experience, namely physical, psychospiritual, social, and environmental [21]. The psychospiritual dimension plays a dominant role in comfort seen from the essence of comfort that emphasizes the withdrawal of meaning and the meaning of previous experiences in life. The psychospiritual dimension in the context of values and beliefs reflected in the meaning and purpose of life is identical with the definition of spirituality [23].

Pre-survey was held on April 2019 in the Work Area of Kalibagor Public Health Center in Banyumas Regency. The number of patients who participated in the Chronic Disease Management Program (PROLANIS) was 82 DM patients. 8 out of 10 interviewed DM patients said they did not know what God planned for their lives, 7 said that they were confused about the direction of their lives, 9 of them said that they often got prejudiced about what happened in their lives. The Kalibagor Public Health Center in collaboration with BPJS Health frequently conducts health education on the Chronic Disease Management Program (PROLANIS) toward DM patients. This activity has been routinely carried out every month, in the form of education, monitoring of blood sugar levels, group activities in the form of DM exercises, and reminders conducted to DM patients regarding medication adherence and medication services. Data related to psychospiritual problems experienced by DM patients is not yet available at the Kalibagor Public Health Center.

II. Diabetes Mellitus and Spiritual Comfort

Diabetes mellitus (DM) is a group of metabolic diseases characterized by hyperglycemia that occurs due to abnormalities in insulin secretion and insulin performance or both [2]. According to WHO, DM is defined as a disease or chronic metabolic disorder with multiple etiologies characterized by high blood sugar levels accompanied by impaired carbohydrate, lipid and protein metabolism as a result of insulin function insufficiency. Insufficiency of insulin can be caused by disruption of insulin production by beta cells of Langerhans pancreas gland or caused by a lack of responsiveness of the body's cells to insulin [3].

DM is a chronic metabolic disorder with hyperglycemia characteristics. Various complications can arise due to uncontrolled blood sugar levels, such as neuropathy, hypertension, coronary heart disease, retinopathy, nephropathy, and gangrene. DM cannot be cured but blood sugar levels can be controlled through diet, exercise, and medication. To be able to prevent chronic complications, good DM control is needed [12].

The etiological classification of DM according to the American Diabetes Association, 2010 are type 1 Diabetes, type 2 Diabetes, Gestational Diabetes, and other types of Diabetes. DM that is often found in the community is type 1 and type 2. DM type 1 patients experience beta cell destruction, generally leading to absolute insulin deficiency caused by autoimmune and idiopathic. Type 2 DM has no damage to the pancreas and can continue to produce insulin, sometimes even insulin at a higher than normal level. However, the human body is resistant to the effects of insulin, so there is not enough insulin to meet the body's needs [2].

Diagnostic DM criteria according to the American Diabetes Association are as follows: a. Classic symptoms of DM with random blood glucose ≥ 200 mg / dl (11.1 mmol / L). Random blood glucose is the result of glucose test which is taken without regarding to the time of the last meal. The classic symptoms are a) polyuria, polydipsia and weight loss, b) fasting blood glucose level ≥ 126 mg / dl (7.0 mmol / L) (fasting means that the patient does not get calories at least 8 hours) c) Blood glucose level 2 hours PP ≥ 200 mg / dl (11.1 mmol / L). The Oral Glucose Tolerance Test is conducted according to WHO standards, using a glucose load equivalent to 75 grams of glucose anhydrous dissolved in water. If the test results do not meet normal or DM criteria, it can be classified into the Interrupted Glucose Tolerance (TTGO) group or Interrupted Fasting Blood Glucose (GDPT) depending on the results obtained (TGT: plasma blood glucose 2 hours after the load between 140-199 mg / dl; GDPT: fasting blood glucose between 100 - 125 mg / dl).

The root of the word spiritual is "spirit". In the Greek spirit is the opposite of physical or tangible objects. In the Jewish spirit is the opposite of death, damage and negative aspects of the law (justification, fear, punishment). Villagomeza (2005) defines spirit as the Latin word "spirit"; soul, determination, strength, breath, vital principles. Ruah is the Hebrew language for "spirit" translated as wind, breath, and exhalation. The different meanings to the word spirit; depth, the inner resource thereof reflects the strength of a person, which arises especially in difficult situations, when people are faced with the limits of illness or death [6]. Spirituality as a noun is defined as the essence of being

human or the essence of the purpose of human life, which is pervasive or impregnated in someone's life, which gives awareness about "what" and "who" they are, and what a source of internal strength is, which shapes a person's life. It is a personal question to understand an answer to the last question about life, about meaning, about relationships that are sacred or beyond human reach [8].

III. METHODS

This research was a correlative descriptive research design with cross-sectional approach. The purpose of this study was to describe spiritual comfort in DM patients, include 3 sub-variables, interpersonal, intrapersonal, and transpersonal. The population in this study were all DM patients who actively participated in PROLANIS activities as many as 82 patients. The sampling technique used was total sampling. The sample size in this study was 82 DM patients. The variable in this study was a single variable which was the spiritual comfort of DM patients. Sub variables studied include intrapersonal, interpersonal, and transpersonal sub-variables. Data analysis used percentages, mean, median, min-max, and standard deviation.

IV. RESULTS AND DISCUSSION

The characteristics of the respondents examined in this study included age, gender, and length of time having DM. The characteristics of age and duration of DM were numerical variables analyzed using central tendency values to obtain mean, median, standard deviation, and minimum and maximum values. The results are presented in table 1.

Table. 1 Characteristics of Age and Length of Experiencing Diabetes Mellitus Patients in the Work Area of Kalibagor Public Health Center in Banyumas

Variable	n	*Mean*	Median	SD	Min-Max
Age	82	62.89	61.50	8.68	41 – 79
Suffer period	82	8.00	9.00	4.00	1 – 11

Based on table 1 it was known that the average age of DM patients in the Work Area of Kalibagor Public Health Center was 62.89 years with the youngest age was 41 years and the oldest age was 79 years. The average length of patient having DM was 8 years with the shortest DM experience last 1 year and the longest 11 years.

The gender characteristics of DM patients were categorical variables so that the analysis used was frequency distribution. The results are presented in table 2.

Table 2 Gender Characteristics of Diabetes Mellitus Patients in the Work Area of Kalibagor Public Health Center in Banyumas

Gender	Frequency	Percentage
Male	33	40.2
Female	49	59.8
Total	82	100

Table 2 shows that the majority of DM patients in the working area of Kalibagor Public Health Center were 49 female (59.8%) respondents, the rest were male.

The table below illustrates spiritual comfort in DM patients in the working area of Kalibagor Public Health Center which was obtained directly from the primary data.

Table 3 Spiritual Comfort of Diabetes Mellitus Patients in the Area of Kalibagor Public Health Center in Banyumas

Spiritual Comfort	Frequency	Percentage
High	69	84,1
Low	13	15,9
Total	82	100

Table 3 shows that the majority of DM patients in the working area of Kalibagor Public Health Center had high spiritual comfort as many as 69 (84.1%) and the remaining was low as many as 13 (15.9%).

The average percentage of intrapersonal, interpersonal, and transpersonal sub variable comfort is shown in the table below.

Table 4 Mean Subvariable Spiritual Comfort of Diabetes Mellitus Patients in the Work Area of Kalibagor Public Health Center in Banyumas

Variable	n	Mean
Intrapersonal	82	86%
Interpersonal	82	72%
Transpersonal	82	92%

Table 4 shows the sub-variable spiritual comfort of DM patients in the working area of Kalibagor Public Health Center with the highest average is transpersonal sub variable (92%).

The age characteristics of respondents in the study conducted in the Kalibagor Public Health Center were 62.89 years with the youngest age 41 years and the oldest age 79 years. Age is one of the risk factors for DM.

Increasing the age of an individual will result in a decrease or damage to organs, including the pancreas. This results in the body experiencing both absolute and relative insulin insufficiency. In line with the results of Isnaini & Ratnasari's research (2017) that patients who experienced DM were mostly in the age group above 45 years, amounting to 76 (72%) respondents. Restada (2016) in her study showed similar results, the respondents aged 56-65 years were 52 (58.4) respondents and the rests were in the age range 46-55 years. Analysis of the researchers, in this study most of the respondents were 62.89 years were not only due to organ damage related to increasing age, but also because respondents were taken during the implementation of Prolanis followed by the age group of pre elderly and the

elderly. This causes the age range of respondents 40-79 years.

The average length of patient having DM was 8 years with the shortest DM experience last 1 year and the longest 11 years. In line with Restada's research (2016), it was shown that the long duration of DM was mostly in the moderate category (6-10 years) as many as 32 (36%) respondents, while the short duration was 29 (32.5%) respondents and the long duration were 28 (31.5%) respondents. Closely related to age risk factors, DM is a chronic disease that is triggered by increasing age due to thd damage to pancreatic function. The onset of DM often occurs when individuals are on the age of pre elderly (40 years). While the average age of active PROLANIS participants attended was 62 years, so that the average length of DM experience was 8 years.

Spiritual comfort is one of the sources of coping and is believed to be the most influential source of coping with individual coping mechanisms. Most DM patients in the working area of Kalibagor Public Health Center had high spiritual comfort as many as 69 (84.1%) and the rest were low as much as 13 (15.9%).

Comfort can be defined as a condition free from unwanted feelings that are continuous (Kolcaba, 1995). It is subjective, different from one individual to another individual. In a nursing perspective, comfort is the achievement of a long-term health condition that is constant or the optimal health condition of the individual. Comfort is a vital part in the management and recovery of patients, including DM patients. DM is a lifelong disease, so comfort is needed by DM patients, both to deal with stressors due to disease prognosis and to achieve optimal quality of life.

The comfort theory explains comfort in 3 different forms, namely freedom, peace and conditions which are above optimal [11]. This comfort dimension is defined by Kolcaba holistically as an experience that immediately gives rise to strength, with the achievement of the need to be free, peaceful and conditions above optimal in 4 contexts, namely physical, psychospiritual, sociocultural, and environment [5].

Spirituality is owned by all individuals, not only individuals who declare themselves in one religion. Individuals who claim to not believe in one religion also have aspects of spirituality. Religion is one aspect of spirituality. In other words, not all individuals believe in one religion, but every individual has spirituality. Positive belief/spirituality is one of the sources of coping possessed by individuals [13].

All research respondents are Indonesian, a country which believe in one God. The implication is that all Indonesian citizens have one religion, so that in this study all respondents have religion, with the majority religion is Islam.

Spiritual definition has 3 main attributes, namely internal strength in humans which are non-physical in the form of meaning of life (intrapersonal), peace of life (interpersonal), and belief in power that is beyond human reach (transpersonal).

In this study, the highest dimension of spiritual comfort is transpersonal (meaning a relationship with God to achieve happiness) with a percentage of 92%. The intrapersonal dimension percentage (the influence of belief in life motivation) was 86% and interpersonal percentage (a view of the harmony of the relationship) was 72%. Based on the analysis of the researchers, this happens because the average age of respondents 62 years, including in the elderly category. Elderly are the closing periods in one's life span, therefore the tendency of the elderly will draw closer to God as re-imagining "returning" to His creator. This causes the transpersonal dimension to get the highest score compared to the two other dimensions of spiritual comfort. The transpersonal dimension leads to an individual's belief in the stability of worship and awareness of the existence of a ruling power over himself and his life. This is supported by the characteristics of respondents where all of them are religious individuals.

Spirituality in the transpersonal dimension begins with knowledge and understanding of the creation of all beings and humans themselves. Confidence in the existence of a Creator that does not begin and end. The belief about the existence of rules for the harmony of life of all beings brought through Allah's messenger. Islam encapsulates the faith in the six pillars of Islam to be adhered to by followers, not as dogma. This form of belief is applied in the worship activities of its adherents.

The spiritual comfort of the high transpersonal dimension of the respondent can be found in the item of a statement of belief that there will be a response from God to the actions taken and the belief that God has the will to his life. While the lowest score on this dimension is the item of statement of confidence in the stability of practicing worship to the respondent.

The spiritual comfort of the intrapersonal dimension occupied the middle rank between the transpersonal and interpersonal dimensions. In this dimension, the respondent's highest score was in the item statement of the desire to do the best for the closest person and bring the closest person to happiness. This is in line with Hurlock's psychosocial development theory, the elderlies are in a phase with the task of developing a new generation of births, so that the desire to accompany the offspring as the closest person to success is high.

The dimension with the lowest average percentage of 72% is interpersonal. In this dimension, it was obtained the highest score on the item statement that the respondent himself is an inseparable part of the community and the environment, while the lowest score was on the item statement that that the balance of life in society is a form of gratitude has been gifted with life. In religious teachings adopted by respondents, it does not only teach something related to human relations with its creator, but also regulates how the relationship between humans and other humans. However, according to the researchers, the demographics of respondents who live in the transition area causes lack of

social awareness so that the interpersonal dimension ranks last after the transpersonal and intrapersonal dimensions.

V. CONCLUSION

Based on the results and discussion about the relationship of spiritual comfort with emotional regulation in DM patients in the working area of Kalibagor Public Banyumas Health Center, it can be concluded that spiritual comfort in DM patients is above the high level (84.1%) and the rest is low. The spiritual comfort in DM patients was 92% for transpersonal dimension, 86% for intrapersonal dimension and 72% for interpersonal dimension.

VI. ACKNOWLEDGMENTS

This research was supported by Harapan Bangsa University. We thank our chairman of Harapan Bangsa University who had supported us. We also thank to the head of Kalibagor Public Health Center for granting a research permission. Finally, we thank to all respondents in this research.

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