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The Relationship Between Spirituality and Self-Management in Diabetes Mellitus Patients

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ABSTRACT

Background: Diabetes melitus is a chronic disease that requires long-term management through self-care and the active participation of patient in managing their health. Effective self-management is influenced by various factors, including spirituality, which serves as a source of motivation and psychological support in coping with chronic illness. **Objective:** This study aimed to analyze the relationship between spirituality and self-management among patients with diabetes mellitus at Ngudi Waluyo Regional Hospital Wlingi, Blitar. **Methods:** This study employed a quantitative correlational design with a cross-sectional approach. A total of 30 respondents were selected from 112 diabetes mellitus patients using purposive sampling based on the inclusion criteria: diagnosed with diabetes mellitus for more than three months, regularly attending the Internal Medicine Clinic, Muslim, aged over 18 years, and willing to participate in the study. Spirituality was assessed using the Daily Spiritual Experience Scale (DSES), while self-management was measured using the Diabetes Self-Management Questionnaire (DSMQ). Data were analyzed using the Spearman rank correlation test. **Results:** The findings showed that all respondents (100%) had a high level of spirituality, while most respondents (96.7%) demonstrated good self-management. Statistical analysis revealed a significant positive correlation with moderate strength between spirituality and self-management ($p = 0.016$; $r = 0.435$), indicating that patients with higher spirituality tended to have better self-management practices. **Conclusion:** There was a significant positive relationship between spirituality and self-management among patients with diabetes mellitus. Integrating spiritual support into nursing care may enhance patients' adherence to self-management behaviors and improve diabetes management outcomes.

Keywords: Diabetes Mellitus, Spirituality, Self-Management.

Background

Diabetes Mellitus (DM) is a non-communicable disease that has become a global health problem due to its increasing prevalence each year. This disease is characterized by chronic hyperglycemia due to impaired insulin secretion, insulin action, or a combination of both (1). If not optimally managed, DM can cause various complications, including cardiovascular disease, nephropathy, neuropathy, and a decreased quality of life for patients. Therefore, controlling diabetes mellitus requires continuous management through pharmacological therapy and changes in patient behavior through self-management (2).

The International Diabetes Federation (IDF) reports that the number of people with diabetes mellitus worldwide continues to increase and is expected to continue to rise in the coming years. In Indonesia, diabetes mellitus is also a priority disease due to its high incidence and the risk of complications. This situation indicates that diabetes mellitus remains a major challenge in healthcare, necessitating comprehensive control efforts, focusing not only on medical therapy but also on patients' ability to manage their disease independently.

Self-management is a crucial component in the successful management of diabetes mellitus. Self-management includes adherence to medication, dietary adjustments, physical activity, blood glucose monitoring, and routine foot care (3). A patient's ability to self-manage is influenced by various factors, including knowledge, motivation, family support, self-efficacy, and spirituality (4). Spirituality is an

individual's belief that provides meaning to life, hope, serenity, and strength in the face of chronic illness. Patients with a strong spirituality tend to be more accepting of their illness, motivated to undergo treatment, and maintain positive health behaviors (5). In addition, the use of complementary and alternative medicine (CAM) can also support the management of diabetes mellitus (DM) (6)

Several previous studies have reported that spirituality is associated with improved quality of life, therapy adherence, and adaptability in patients with chronic illnesses. However, research specifically analyzing the relationship between spirituality and self-management in diabetes mellitus patients at the Internal Medicine Clinic of Ngudi Waluyo Wlingi Blitar Regional Hospital is still limited. Therefore, this study was conducted to provide scientific evidence regarding the relationship between spirituality and self-management in diabetes mellitus patients. The results are expected to serve as a basis for developing nursing interventions that address bio-psycho-socio-spiritual aspects. This study aims to analyze the relationship between spirituality and self-management in diabetes mellitus patients at the Internal Medicine Clinic of Ngudi Waluyo Wlingi Blitar Regional Hospital.

Methods

This study uses a quantitative descriptive study with a cross-sectional approach. Quantitative descriptive research aims to describe research variables using numerical data to explain the situation under study based on the results of indicator measurements. The cross-sectional approach was used because data collection was conducted at a specific point in time, allowing researchers to analyze the relationship between spirituality and self-management in patients with diabetes mellitus simultaneously without requiring long-term observation. The population in this study was all 112 diabetes mellitus patients who visited the Internal Medicine Clinic of Ngudi Waluyo Wlingi Blitar Regional Hospital during the period of February–March 2026. Sampling was conducted using a purposive sampling technique, which is sampling based on inclusion criteria set by the researcher. The inclusion criteria in this study included patients diagnosed with diabetes mellitus for more than three months, patients undergoing routine check-ups at the Internal Medicine Clinic of Ngudi Waluyo Wlingi Blitar Regional Hospital, Muslims, aged over 18 years, and willing to be respondents by signing a consent form. The exclusion criteria were patients experiencing severe complications, such as unstable hypertension, coronary heart disease, stroke, and risk of sepsis.

The independent variable in this study was the spirituality of diabetes mellitus patients, as measured using the Daily Spirituality Experience Scale–Islamic Adaptation (DSES-Islam) instrument. This instrument measures daily spiritual experiences, closeness to God, meaning in life, inner peace, and surrender (trust) and gratitude. The dependent variable is self-management in diabetes mellitus patients measured using the Diabetes Self-Management Questionnaire (DSMQ), which covers aspects of blood glucose management, diet, physical activity, and healthcare utilization. The data used in this study consisted of primary and secondary data. Primary data were obtained directly from diabetes mellitus patients undergoing check-ups at the Internal Medicine Clinic by completing a questionnaire. Secondary data were obtained from patient medical records, including medical diagnosis, age, and gender.

The research instruments used were the Daily Spirituality Experience Scale–Islamic Adaptation (DSES-Islam) and the Diabetes Self-Management Questionnaire (DSMQ). This instrument consists of 16 statements, with items 1–15 using a six-point Likert scale, while item 16 uses a four-point Likert scale. The total score is obtained by adding all item scores with a score range of 16–94, categorized into low spirituality (16–41), medium (42–68), and high (69–94). Measurement self-management using the Diabetes Self-Management Questionnaire (DSMQ) developed. This instrument consists of 16 statements covering four dimensions, namely Glucose Management, Dietary Control, Physical Activity, And Health-Care Use. The assessment uses a four-point Likert scale (0–3), with reversal of scores on negative items. The total score is then normalized into a range of 0–10 using the formula $(\text{Total score}/48) \times 10$ and categorized into poor (0–3), adequate (4–6), and good (7–10). Bivariate analysis used the Spearman correlation test to determine the relationship between spirituality and self-management in diabetes mellitus patients. Interpretation of the results of the percentage of respondents' answers refers to the criteria, namely 0% (none), 1–24% (a small part), 25–49% (less than half), 50% (half), 51–74% (more than half), 75–99% (most), and 100% (all).

Results

Table 1 Characteristic of Respondents

Characteristic	Frequency	Percentage (%)
Gender		
Man	10	33,3
Woman	20	66,7
Age		
45-59 Years	7	23,3
60-74 Years	17	56,7
75-90 Years	5	16,7
>90 Years	1	3,3
Spirituality Levels		
High	30	100
Self-Management Levels		
Good	29	96,7
Enough	1	3.3
Total	30	100

Based on the table.1 data obtained showed that more than half of the respondents were female, amounting to 20 people with a percentage of 66.7%. Based on the table, data shows that more than half of the respondents are aged 61-70 years, namely 17 respondents with a percentage of 56.7%. Based on the table, it can be seen that the spiritual level of 30 respondents with a percentage of 100% is in the high category. Based on the table It can be seen that the level of self-management of diabetes mellitus patients is 29 people with a percentage of 96.7% in the good category.

Table 2 Results of the Relationship between Spirituality and Self-Management in Diabetes Mellitus Patients

Data		Total Spiritual	Total Self-Management
Total Spiritual	Correlation Coefficient	1.000	.435*
	Sig. (2-tailed)		.016
	N	30	30
Total Self-Management	Correlation Coefficient	.435*	1.000
	Sig. (2-tailed)	.016	

Based on the table 2, the results of the Spearman-rank correlation test between Spirituality and Self- Management, obtained a correlation coefficient value of 0.435 with a significance value (*p-value*) of 0.016, which is smaller than the 0.05 significance level, indicates a significant relationship between spirituality and self-management in diabetes mellitus patients. The correlation coefficient value of 0.435 indicates that the strength of the relationship is in the moderate category.

Discussion

This study shows that the characteristics of diabetes mellitus patients are predominantly female and elderly. This condition can be influenced by hormonal changes in women, especially after menopause, which contribute to decreased insulin sensitivity and increased body mass index as risk factors for diabetes mellitus (7). In addition, the aging process causes decreased pancreatic function, changes in carbohydrate metabolism, and increased insulin resistance, thus increasing the risk of diabetes mellitus (8). The elderly also experience psychological changes, such as increased anxiety about health conditions and the need for family support, which can affect their ability to manage the disease (9). These findings are in line with previous research explaining that gender and age are important factors that influence the occurrence and management of diabetes mellitus (10). In the researcher's opinion, these characteristics need to be taken into account in developing nursing care because each patient group has different needs in managing chronic diseases. The results of this study indicate that the majority of respondents were elderly (76.7%); individuals who have reached old age tend to experience psychological development characterized by drawing closer to God and preparing for death (11). This aligns with research findings showing that 76.7% of the elderly possess a high level of spirituality.

This study also shows that diabetes mellitus patients have a high level of spirituality. This high level of spirituality may be influenced by the predominance of respondents in the elderly group who tend to draw closer to God, increase their religious activities, and view illness as part of the life process (12). Spirituality is not only related to religious practices, but also reflects a person's ability to find meaning in life, build a relationship with God, and face various problems positively. In patients with chronic illnesses, spirituality acts as a coping mechanism that helps reduce stress, increase acceptance of the disease, and foster hope and motivation to maintain health (13). In Javanese sociocultural life, the elderly tend to place greater trust in teachings passed down through generations than in new information they receive, which results in suboptimal diabetes self-care (14). However, a strong sense of spirituality serves as a source of strength, helping patients approach their treatment with greater optimism and consistency.

The self-management abilities of patients in this study were in the good category. This condition indicates that the majority of patients were able to manage their diabetes mellitus through diet management, physical activity, adherence to medication, monitoring blood sugar levels, and utilization of health services (15). The success of self-management was influenced by patient awareness of the importance of disease control, motivation to prevent complications, and support from family and health professionals (16). According to the researchers, self-management abilities are not only influenced by knowledge, but also by psychological and spiritual factors that can shape sustainable health behaviors.

This study shows a relationship between spirituality and self-management in patients with diabetes mellitus. These findings indicate that patients with greater spirituality tend to demonstrate better self-management skills (17). Spirituality provides a sense of trust, hope, and inner peace that helps patients accept their condition and consistently adhere to treatment (18). Through positive coping mechanisms, patients become more motivated to maintain a healthy diet, engage in physical activity, monitor blood glucose levels, and adhere to recommended therapy (19). Spiritual intelligence also helps individuals build meaning in life, control emotions, and make decisions that align with their values, thus encouraging more positive health behaviors (20). In the researcher's opinion, spirituality is an internal factor that can strengthen patients' motivation to carry out self-management and therefore needs to be considered as part of a holistic nursing approach for patients with diabetes mellitus.

Conclusions and Recommendations

This study shows that diabetes mellitus patients at Ngudi Waluyo Wlingi Blitar Regional Hospital have a high level of spirituality and ability self-management good. High spirituality reflects a strong daily spiritual experience in dealing with disease conditions, while the ability self-management good health is seen in diet management, physical activity, and adherence to medication. This study also

shows a significant relationship between spirituality and self-management in patients with diabetes mellitus. These findings indicate that the better a patient's spirituality, the better their ability to self-manage their diabetes. Therefore, spirituality is an important aspect that needs to be considered in efforts to improve the success of diabetes mellitus management.

Based on the research findings, patients and their families are expected to maintain and enhance

spiritual activities and closeness to God as positive coping mechanisms to maintain motivation and adherence in self-care for diabetes mellitus at home. Nurses in the Internal Medicine Clinic are expected to integrate holistic nursing care that focuses not only on the physical aspect but also on the spiritual aspect by providing spiritual motivation or religious guidance to increase patient independence in managing their disease. The results of this study are also expected to serve as a reference in the development of nursing science, particularly regarding the role of spirituality in chronic disease management. Furthermore, further research is recommended to develop research with broader variables, such as examining the relationship between spirituality and objective clinical indicators, such as HbA1c levels, or using a qualitative research design to explore the spiritual experiences of diabetes mellitus patients in greater depth.

Ethical Consideration and Competing Interest

This study has obtained ethical approval from the Health Research Ethics Committee of the "Ngudi Waluyo" Regional General Hospital, Wlingi, under the number T/070/483/409.52.4/2026. Prior to the study, all respondents were provided with an explanation of the study's purpose, benefits, procedures, and their rights as respondents. All respondents who agreed to participate signed a consent form. informed consent as a form of written consent. The confidentiality of respondents' identities and data is maintained by using codes or initials as a substitute for personal identification, and all information obtained is used only for research purposes and is presented in aggregate data form without revealing respondents' identities. This study also applies ethical research principles, including; autonomy, justice, beneficence, nonmaleficence and confidentiality throughout the entire research process.

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Conflicts of Interest

The authors declare no conflict of interest related to this study.

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