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# Self-Management as a Determinant of Quality of Life among Type 2 Diabetes Mellitus Patients

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***ABSTRACT***

Type 2 Diabetes Mellitus (T2DM) is a chronic disease that requires continuous self-care to prevent complications and maintain quality of life. Many patients in rural healthcare settings struggle with self-management, which may affect their overall well-being. This study aimed to analyze the relationship between self-management and quality of life among T2DM patients in Minajaya Ward, Jampangkulon Regional Hospital. A descriptive correlational method with a cross-sectional approach was used, involving 64 T2DM patients selected through simple random sampling. Data were collected using a self-administered questionnaire that measured self-management behaviors and perceived quality of life, and analyzed using chi-square statistical tests. The majority of respondents were over 35 years old, with low levels of education and a high proportion of housewives or unemployed individuals. Most respondents (56.3%) demonstrated poor self-management, while only 20.3% reported a good quality of life. The analysis showed a statistically significant relationship between self-management and quality of life (p-value = 0.000). Patients with better self-management consistently reported higher quality of life, suggesting that personal responsibility and consistent self-care behaviors are critical in managing T2DM. The study concludes that self-management plays a key role in determining the quality of life for T2DM patients and highlights the importance of educational and family-based interventions to improve diabetes care, especially in rural and low-literacy populations.

***Keywords:*** *Self-Management, Quality of Life, Diabetes Mellitus, Patients.*

## INTRODUCTION

Type 2 Diabetes Mellitus (T2DM) is a chronic metabolic disorder characterized by elevated blood glucose levels resulting from insulin resistance and/or inadequate insulin secretion. Globally, T2DM accounts for approximately 90–95% of all diabetes cases and continues to rise in both developed and developing countries (IDF, 2019). According to the International Diabetes Federation, an estimated 463 million people were living with diabetes in 2019, and this number is expected to increase to 700 million by 2045 if preventive actions are not taken (IDF, 2019).

In Indonesia, diabetes remains a major public health issue, with a national prevalence of 6.7%, equivalent to more than 10 million cases (Kemenkes, 2013). West Java Province has also seen a steady increase in diabetes prevalence, rising from 1.3% in 2007 to 1.7% in 2013. More recent data from the Sukabumi District Health Office reported 16,086 confirmed cases of diabetes in 2024, with the Minajaya Ward at Jampangkulon Regional Hospital recording 179 T2DM patients within the first nine months of the year. This data illustrates not only the growing burden on healthcare systems but also the critical need for improved disease management at the individual level.

The clinical manifestations of T2DM, including polyuria, polydipsia, fatigue, blurred vision, and slow-healing wounds, significantly impact physical health and increase the risk of long-term complications such as cardiovascular disease, nephropathy, neuropathy, and retinopathy (American Diabetes Association, 2018). Beyond physical symptoms, patients often experience psychological distress, anxiety, and social restrictions that collectively reduce their quality of life (Mhd. Zainudin, W. U., & Herlina, 2015).

A preliminary assessment in Minajaya Ward revealed poor self-care practices among patients, such as non-compliance with dietary guidelines, irregular medication use, lack of physical activity, and infrequent blood glucose monitoring. These behaviors reflect poor diabetes self-management, which has been identified as a major contributor to poor health outcomes (Alisa, F., Despitasari, L., & Marta, E, 2020; Mulyani, 2016). T2DM is a condition that demands daily self-regulation and personal accountability. Patients must consistently manage their treatment plans, adjust lifestyle habits, and monitor symptoms to prevent complications and maintain optimal glycemic control.

Self-management is therefore central to effective chronic disease care. Studies have shown that structured diabetes self-management is associated with lower HbA1c levels, reduced hospitalization rates, and better health-related quality of life (Gultom, A. B., & Indrawati, I, 2020). However, the level of self-management varies widely depending on educational background, access to health information, psychosocial support, and environmental factors (Hidayati, L, 2017; Damayantie, N., Rusmimpong, R., & Nomiko, D, 2021).

In rural healthcare contexts such as Jampangkulon, limited access to resources and low health literacy present additional barriers. Thus, understanding how self-management influences quality of life in such settings is essential for tailoring interventions that are both culturally and contextually appropriate.

This study aims to examine the relationship between self-management and quality of life among T2DM patients in Minajaya Ward. By identifying patterns and gaps in self-care behavior, the study is expected to contribute evidence-based recommendations for health education and community health empowerment in similar rural populations.

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## METHODS

This research adopted a descriptive correlational design with a cross-sectional approach to explore the relationship between self-management and quality of life in patients with Type 2 Diabetes Mellitus (T2DM) hospitalized in the Minajaya Ward of Jampangkulon Regional Hospital, Sukabumi Regency, Indonesia. The study population consisted of all T2DM patients admitted to the Minajaya Ward during the study period. The sample size was determined using Slovin's formula with a margin of error of 10%, and participants were selected through a simple random sampling technique to ensure representativeness. The inclusion criteria encompassed patients diagnosed with T2DM who were cooperative and willing to participate. Patients with mental disorders or significant visual or hearing impairments were excluded, as these conditions could hinder accurate questionnaire responses.

The independent variable in this study was diabetes self-management, defined as the patient's ability to manage treatment, lifestyle changes, and prevent complications. The dependent variable was quality of life, which in this study was understood as the patient's subjective perception of physical, psychological, and social well-being while living with a chronic condition. Although no specific standardized instrument such as WHOQOL or DQOL was used, quality of life was assessed based on respondents' ability to perform daily activities independently and their reported levels of satisfaction and well-being, as informed by previous national literature and contextual adaptation of local health studies.

Data collection was conducted using a self-administered questionnaire comprising 15 items designed to assess diabetes self-management behavior. A 4-point Likert scale was used, where responses to positive statements were scored from 1 (Never) to 4 (Always), and the reverse was applied for negative statements. Total scores were interpreted using defined thresholds to categorize the level of self-management into low, moderate, and high. The results were analyzed to identify statistical correlations between self-management behaviors and perceived quality of life.

## RESULTS

### Respondent Characteristics

**Table 1. Distribution of Respondents by Age**

| Age Group | Frequency (n) | Percentage (%) |
|---|---|---|
| 20–35 years | 6 | 9.4% |
| >35 years | 58 | 90.6% |
| Total | 64 | 100% |

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Most respondents were aged over 35 years (90.6%). This finding is consistent with Indonesia's Basic Health Research which showed that the prevalence of diabetes increases with age, particularly after 45. The higher risk in older adults may relate to physiological factors such as slower metabolism and increasing insulin resistance.

**Table 2. Distribution of Respondents by Education**

| Education Level | Frequency (n) | Percentage (%) |
|---|---|---|
| Elementary School | 24 | 37.5% |
| Junior High | 11 | 17.2% |
| Senior High | 22 | 34.4% |
| Higher Education | 7 | 10.9% |
| Total | 64 | 100% |

The majority of respondents had only an elementary school education (37.5%). Lower educational attainment may hinder understanding of self-management practices. This is supported by Damayantie et al. (2021), who found that individuals with lower education levels are more likely to experience chronic illnesses, including diabetes.

**Table 3. Distribution of Respondents by Gender**

| Gender | Frequency (n) | Percentage (%) |
|---|---|---|
| Male | 31 | 48.4% |
| Female | 33 | 51.6% |
| Total | 64 | 100% |

More respondents were female (51.6%). Biologically, this can be attributed to a decrease in estrogen levels during menopause, which impacts insulin sensitivity.

**Table 4. Distribution of Respondents by Occupation**

| Occupation | Frequency (n) | Percentage (%) |
|---|---|---|
| Housewife/Unemployed | 34 | 53.1% |
| Entrepreneur | 24 | 37.5% |
| Civil Servant | 6 | 9.4% |
| **Total** | **64** | **100%** |

More than half of the respondents were housewives or unemployed (53.1%). This aligns with inactivity and home-bound lifestyles may affect access to health services and diabetes management.

**Table 5. Distribution by Duration of Diabetes**

| Duration (years) | Frequency (n) | Percentage (%) |
|---|---|---|
| 2–5 years | 50 | 78.2% |
| >5 years | 14 | 21.8% |
| **Total** | **64** | **100%** |

Most respondents had been diagnosed with type 2 diabetes for 2–5 years (78.2%). This period often marks the adjustment phase, where patients begin to develop or improve their self-management habits (Luthfa, I., & Fadhilah, N, 2019).

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**Self-Management**

Table 6. Distribution of Self-Management Levels

| Self-Management | Frequency (n) | Percentage (%) |
|---|---|---|
| Good | 28 | 43.8% |
| Poor | 36 | 56.3% |
| **Total** | **64** | **100%** |

The majority of respondents (56.3%) demonstrated poor self-management. This is consistent with Fitria Alisa et al. (Alisa, F., Despitasari, L., & Marta, E, 2020), who noted similar levels among diabetic patients. Self-management includes dietary regulation, medication adherence, physical activity, and blood glucose monitoring, all of which are vital for glycemic control and prevention of complications (Mulyani, 2016).

## Quality of Life

Table 7. Distribution of Quality of Life Levels

| Quality of Life | Frequency (n) | Percentage (%) |
|---|---|---|
| Good | 13 | 20.3% |
| Fair | 43 | 67.2% |
| Poor | 8 | 12.5% |
| Total | 64 | 100% |

Most respondents (67.2%) reported a fair quality of life. This suggests that while some patients have managed to adapt to their condition, many still face limitations in physical, social, or emotional aspects. According to WHO, quality of life involves one's perception of their position in life, influenced by health, relationships, and environment.

## Relationship Between Self-Management and Quality of Life

**Table 8. Relationship Between Self-Management and Quality of Life**

| Self-Management | Quality of Life | Frequency (F) | Percentage (%) |
|---|---|---|---|
| **Good** | Good | 12 | 18.8% |
| | Fair | 16 | 25.0% |
| | Poor | 0 | 0.0% |
| **Poor** | Good | 1 | 1.6% |
| | Fair | 27 | 42.2% |
| | Poor | 8 | 12.5% |
| **Total** | | **64** | **100%** |
| **P-Value** | | | **0.000** |

Chi-square test results yielded a p-value of 0.000 (<0.05), indicating a statistically significant relationship between self-management and quality of life. This is consistent with Luthfa & Fadhilah (2019), Prastyo (2021), and Nurhayati (2022), who found positive correlations between better diabetes self-management and improved quality of life.

According to Hidayati (2017), effective self-management contributes to better physical health, emotional stability, and social interaction. Consistent self-care behaviors, such as regular monitoring and physical activity, can significantly improve outcomes.

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## DISCUSSION

The results of this study indicate a significant relationship between self-management and quality of life among Type 2 Diabetes Mellitus (T2DM) patients in Minajaya Ward, Jampangkulon Regional Hospital. Of the 64 respondents, 56.3% had low levels of self-management, while only 20.3% reported a good quality of life. The chi-square test yielded a p-value of 0.000 (<0.05), signifying a statistically significant association between self-management ability and perceived quality of life. This finding aligns with prior research by Luthfa & Fadhilah (2019), Prastyo (2021), and Nurhayati (2022), who found that effective self-management positively correlates with improved physical, emotional, and social well-being in diabetic patients.

Self-management includes patients' abilities to regulate diet, adhere to medication, engage in physical activity, and monitor blood glucose levels consistently (Mulyani., 2016; Albikawi, F. Z., & Abuadas, M, 2015). These behavioral components are essential in reducing complications and improving overall health outcomes. When self-management is applied consistently, patients are more likely to experience fewer symptoms and enjoy a better quality of life. This supports the Islamic holistic health perspective, which emphasizes the balance between physical, psychological, and spiritual well-being.

From an Islamic standpoint, the responsibility to maintain one's health is a moral and spiritual obligation. Allah SWT states in the Qur'an *"And do not throw yourselves into destruction with your own hands..."* (Surah Al-Baqarah, 2:195). This verse underlines the importance of avoiding harmful behaviors and taking necessary measures to preserve health. Neglecting self-management in chronic conditions such as diabetes can be interpreted as a form of self-harm, contradicting the trust that Allah has given to humans to care for their bodies. Moreover, the Prophet Muhammad (peace be upon him) said "*Your body has a right over you.*" (Hadith narrated by Bukhari, no. 5199). This hadith affirms that physical well-being is an integral part of a Muslim's duty. Managing chronic illness effectively, therefore, is not just a clinical responsibility but also an act of religious devotion and ethical conduct.

From the Muhammadiyah perspective, health is considered a vital element of community development and human dignity. As outlined in the *Kepribadian Muhammadiyah* (Muhammadiyah Personality), particularly point five, the movement recognizes health promotion and disease prevention as part of its dakwah (mission). Muhammadiyah's active involvement in hospitals, community health centers, and educational outreach programs reflects its commitment to improving community health through Islamic values and scientific knowledge. Therefore, improving diabetes self-management is a relevant form of *amal shaleh* (righteous action) in Muhammadiyah's framework.

The study also shows that most respondents had a low educational background and were primarily housewives or unemployed women. These sociodemographic factors influence patients' access to health information and their ability to manage chronic illnesses. Islam positions the family as the first school (*madrasah ula*), making it essential to involve family support in managing diseases. The Prophet Muhammad (peace be upon him) said "*Each of you is a shepherd,*

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*and each of you is responsible for his flock."* (Hadith narrated by Bukhari and Muslim). This hadith reinforces the idea that family members share the responsibility of caring for one another, including ensuring that those with chronic illnesses adhere to their care routines. Health education programs rooted in family and community structures thus align with both Islamic values and Muhammadiyah's vision of a socially just society.

In conclusion, the relationship between self-management and quality of life in T2DM patients goes beyond clinical implications. It encompasses ethical, spiritual, and social dimensions that are central to Islamic teachings and Muhammadiyah's mission. Interventions to enhance self-management should, therefore, be designed not only from a biomedical perspective but also with a holistic approach that integrates religious values, community empowerment, and social equity.

## CONCLUSIONS AND RECOMMENDATIONS

This study concludes that there is a statistically significant relationship between self-management and the quality of life of Type 2 Diabetes Mellitus (T2DM) patients in Minajaya Ward, Jampangkulon Regional Hospital. The majority of respondents demonstrated poor self-management behaviors and reported only moderate to low levels of quality of life. Patients with better self-management consistently reported higher quality of life outcomes, affirming the importance of personal responsibility in chronic disease care. These findings align with previous studies that highlight the influence of daily self-care such as dietary control, medication adherence, physical activity, and glucose monitoring on health outcomes and overall well-being.

From an Islamic and Muhammadiyah perspective, maintaining health is both a religious duty and a moral obligation. The concept of *amanah* (trust) over one's body, as reflected in the Qur'an (Al-Baqarah: 195) and in the Prophet's hadith ("Your body has a right over you", Bukhari no. 5199), emphasizes the importance of self-care as part of a faithful and responsible life. These values reinforce the significance of holistic health approaches that consider not only physical but also spiritual and social dimensions.

Based on the results, it is recommended that structured and contextually appropriate health education programs be developed to enhance diabetes self-management, particularly for individuals with low educational backgrounds. These programs should be accessible, culturally sensitive, and incorporate local values. Additionally, family-based interventions should be prioritized, considering the essential role of household support in sustaining daily health behaviors. In line with Muhammadiyah's commitment to health-oriented dakwah, collaboration between health professionals and religious or community organizations is strongly encouraged. This collaboration can facilitate the integration of medical knowledge with spiritual motivation to support chronic disease management. Finally, future research is recommended to explore broader psychosocial and environmental factors that may influence diabetes self-management, and to evaluate the effectiveness of intervention models that blend health education with religious and community engagement strategies.

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