

The Relationship Between Self-Efficacy and the Quality of Life of Diabetes Mellitus Patients

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ABSTRACT

Background: Diabetes mellitus is a chronic disease that requires long-term management and can decrease the quality of life of those affected. One psychological factor that plays a role in the successful management of diabetes is self-efficacy, which is an individual's belief in their ability to perform self-care. Good self-efficacy can improve adherence to therapy, blood glucose control, and the quality of life of diabetes patients. **Objective:** This study aims to find out the relationship between self-efficacy and quality of life in patients with diabetes mellitus.. **Methods:** This study used a quantitative design with a correlational analytic approach and a cross-sectional design. The research was conducted on 43 patients with diabetes mellitus who were selected using purposive sampling. The instruments used were the Diabetes Management Self-Efficacy Scale (DMSES) to measure self-efficacy and the World Health Organization Quality of Life-BREF (WHOQOL-BREF) to measure quality of life. Data analysis included univariate analysis and bivariate analysis using the Spearman Rank correlation test with a significance level of $\alpha = 0.05$. **Results:** The characteristics of the respondents showed that most were aged 46–55 years (34.9%), were female (53.5%), and had been living with diabetes mellitus for 5–10 years (41.9%). Most respondents had high self-efficacy (46.5%) and good quality of life (44.2%). The Spearman Rank test results showed a positive and significant relationship between self-efficacy and the quality of life of diabetes mellitus patients ($r = 0.641$; $p = 0.000$). **Conclusion:** There is a positive and significant relationship between self-efficacy and the quality of life of diabetes mellitus patients. The higher the level of self-efficacy a patient has, the better their perceived quality of life. Improving self-efficacy through education, counseling, and patient empowerment should be an important part of nursing care to enhance the quality of life for diabetes mellitus patients.

Keywords: diabetes mellitus, self-efficacy, quality of life

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INTRODUCTION

Diabetes mellitus (DM) is currently becoming one of the global health threats, with almost half a billion people living with diabetes worldwide. According to data from the International Diabetes Federation, it is estimated that 537 million people have diabetes, and this number is projected to reach 643 million by 2030, and 783 million by 2045. In addition, 541 million people were estimated to have impaired glucose tolerance in 2021, and it is also estimated that more than 6.7 million people aged 20–79 will die from diabetes-related causes in 2021 (1,2).

People with diabetes in Indonesia are based on the results of the Indonesian health survey, and the prevalence of diabetes tends to keep increasing. Indonesia ranks fifth in the world in terms of the number of sufferers, with 19.5 million people affected. The top three provinces with the highest number of diabetes patients based on a doctor's diagnosis in 2023 are the Special Capital Region (DKI) of Jakarta, the Special Region (DI) of Yogyakarta, and East Kalimantan Province (3,4).

People with diabetes mellitus are required to manage their disease on their own (self-management) throughout their lives, including controlling their diet, staying physically active, taking medications as prescribed, monitoring blood glucose levels, and preventing complications. Success in managing the disease is greatly influenced by psychological factors, one of which is self-efficacy. According to Bandura's theory, self-efficacy is an individual's belief in their ability to carry out the actions needed to achieve a specific goal. Patients with high self-efficacy tend to be more confident in managing their disease, able to overcome obstacles, and more consistent in maintaining a healthy lifestyle compared to patients with low self-efficacy (5,6).

Self-efficacy plays an important role in improving adherence to treatment and self-care behaviors in patients with diabetes mellitus. Individuals with good self-efficacy usually have higher motivation to keep their blood glucose levels under control, engage in regular physical activity, maintain a proper diet, and follow the therapy recommended by healthcare professionals. On the other hand, low self-efficacy is often linked to poor glycemic control, increased risk of complications, and a lower quality of life for patients (7,8).

Quality of life is an important indicator in evaluating the success of diabetes management. The concept of quality of life doesn't just cover physical health but also psychological well-being, social relationships, level of independence, and the ability to carry out daily activities. People with diabetes often deal with various complaints like fatigue, neuropathic pain, limited activity, anxiety, depression, and stress due to the demands of long-term disease management. These conditions can reduce productivity and overall well-being if not properly addressed (8–10).

Some studies show a positive relationship between self-efficacy and quality of life in patients with diabetes. Systematic review results indicate that patients with high self-efficacy tend to have better self-management skills, more optimal glycemic control, and higher quality of life compared to patients with low self-efficacy. In addition, various interventions based on improving self-efficacy, such as diabetes education, mentoring, motivational interviewing, and peer support, have been proven to enhance self-care behaviors as well as the quality of life in diabetes patients (11,12).

Even so, there are still variations in research results regarding the strength of the relationship between self-efficacy and quality of life, which are influenced by patient characteristics, duration of living with diabetes, presence of complications, education level,

family support, and socioeconomic factors. Therefore, research on the relationship between self-efficacy and the quality of life of patients with diabetes mellitus is still relevant, especially for certain populations and healthcare service areas. The results of the research are expected to serve as a basis for designing nursing interventions or educational programs focused on boosting self-efficacy so that the quality of life of patients with diabetes mellitus can be optimally improved (13,14).

Based on the description, research on the Relationship between Self-Efficacy and the Quality of Life of Diabetes Mellitus Patients is important to understand how much patients' confidence in managing their illness is related to their quality of life. The findings of this study are expected to contribute to the development of evidence-based nursing practice, especially in designing education and empowerment programs for diabetes mellitus patients.

METHODS

This study is based on a quasi-experimental concept with a correlational analytic design using a cross-sectional approach. All Type 2 Diabetes Mellitus patients experiencing peripheral neuropathy symptoms (numbness/tingling) in the working area of Grogol Sukoharjo Community Health Center were included as research subjects. The sampling technique used was purposive sampling with inclusion and exclusion criteria set by the researchers. The research instruments used were the Diabetes Management Self-Efficacy Scale (DMSES) and WHOQOL-BREF. Data analysis was done using the Spearman Rank test to find out if there is a significant relationship between self-efficacy and quality of life in diabetes patients.

RESULTS

This study involved 43 respondents with Type Diabetes Mellitus in the Puskesmas area, Grogol Health Center, Sukoharjo. The respondents' characteristics, including age, gender, and duration of DM, are summarized in Table 1 below:

Table 1. Respondent Characteristics (n=43)

Respondent Characteristics	Frequency (f)	Percentage (%)
Age		
36–45	7	16,3
46–55	15	34,9
56–65	14	32,6
>65	7	16,3
Gender		
Man	20	46,5
Woman	23	53,5
Long Suffering from DM		
<5 year	12	27,9
5–10 year	18	41,9
>10 year	13	30,2

Self-Efficacy		
Low	8	18,6
Medium	15	34,9
High	20	46,5
Quality of Life		
Low	7	16,3
Medium	17	39,5
Good	19	44,2

Most of the respondents were in the 46–55 age group, totaling 15 people (34.9%). The majority of respondents were female, with 23 people (53.5%). Based on Table 1, it is known that most respondents have had diabetes mellitus for 5–10 years, totaling 18 people (41.9%). Respondents mostly had high self-efficacy, with 20 people (46.5%). Meanwhile, the quality of life of most respondents was generally in the good category, with 19 people (44.2%).

Tabel 2 The Relationship Between Self-Efficacy and Quality of Life (n = 43)

Self-Efficacy	Poor Quality of Life	Moderate Quality of Life	Good Quality of Life	Total
Low	5	3	0	8
Medium	2	10	3	15
High	0	4	16	20
Total	7	17	19	43

The results from table 2 show that the majority of responses for self-efficacy fall into the high category and good quality of life, with a total of 16, followed by respondents with moderate self-efficacy and moderate quality of life, totaling 10 respondents.

Tabel 3 Spearman Rank Test Results

Variabel	Nilai r p-value	
Self-Efficacy on Quality of Life	0,641	0,000

The bivariate analysis results show a strong and significant positive relationship between self-efficacy and quality of life ($r = 0.641$; $p < 0.001$), meaning that the higher the patient's self-efficacy, the better their quality of life.

DISCUSSION

A. Respondent Characteristics

1. Respondent Age

The study results show that out of 43 respondents, most were in the 46–55 age group, totaling 15 people (34.9%), followed by 56–65 years old with 14 people (32.6%),

while the 36–45 years old group and those over 65 each had 7 people (16.3%). These findings indicate that most diabetes mellitus patients are in the late adulthood to elderly age group. Aging is one of the main risk factors for type 2 diabetes mellitus. The aging process causes a decrease in pancreatic β -cell function, increased insulin resistance, reduced muscle mass, and changes in glucose metabolism, which lowers the body's ability to maintain normal blood sugar levels (15,16).

According to the American Diabetes Association, the prevalence of diabetes increases significantly after age 45 due to a decrease in insulin sensitivity related to the aging process. In addition, lifestyle changes, reduced physical activity, and weight gain in adulthood also contribute to a higher risk of developing diabetes (2).

2. Gender

Research shows that there were 23 female respondents (53.5%), while male respondents numbered 20 (46.5%). Women tend to have a higher risk of developing diabetes, especially after reaching menopause due to a decrease in estrogen, which plays a role in maintaining insulin sensitivity. In addition, the higher prevalence of obesity in women and hormonal changes during reproductive life also increase the risk of diabetes. Women with diabetes are also more prone to stress, anxiety, and psychological disorders that can affect their quality of life (4,17,18).

3. Duration of Living with Diabetes Mellitus

Most respondents have had diabetes for 5–10 years, with 18 people (41.9%) falling into this category. The length of time someone has diabetes is closely related to the development of chronic complications. The longer a person lives with diabetes, the higher the likelihood of experiencing organ function problems due to prolonged high blood sugar. This condition can affect physical activity, psychological well-being, social relationships, and quality of life. Patients who have had the disease for a longer time often have experience in self-care, which can help improve their self-management skills and self-efficacy (10,14).

B. Self-Efficacy of Diabetes Mellitus Patients

Research shows that most respondents have high self-efficacy, with 20 people (46.5%). Self-efficacy is a person's belief in their ability to take the actions needed to achieve certain outcomes. In diabetes mellitus patients, self-efficacy is reflected in their confidence in managing their diet, doing physical activities, following medications, monitoring blood glucose levels, and preventing complications. High self-efficacy among respondents means that most patients already have confidence in managing their diabetes independently. This condition is likely influenced by the health education they received, their experience with treatment, family support, and good relationships with healthcare providers. Patients with high self-efficacy are generally better at handling obstacles during therapy, so they stick to self-care more consistently compared to those with low self-efficacy (13,19,20).

C. Quality of Life of Diabetes Mellitus Patients

Research shows that as many as 19 respondents (44.2%) have a good quality of life. WHO defines quality of life as an individual's perception of their position in life influenced by physical, psychological, social relationships, and environmental conditions. The quality of life of diabetes patients is influenced by various factors such as blood sugar control, disease complications, family support, medication adherence, economic status, education, and the ability to perform self-care. Most respondents have a good quality of life,

which is suspected because most of them also have a high level of self-efficacy, enabling them to manage the disease more effectively (21–24).

D. The Relationship Between Self-Efficacy and Quality of Life

Bivariate analysis using the Spearman Rank test showed a p-value of 0.000 with a correlation coefficient of $r = 0.641$. These values indicate a strong positive relationship between self-efficacy and the quality of life of patients with diabetes mellitus. The higher the self-efficacy a patient has, the better their perceived quality of life. Conversely, patients with low self-efficacy tend to struggle with managing their treatment, making them more prone to complications, stress, and a decline in quality of life.

Self-efficacy is the foundation for developing self-care behavior. Patients who believe they can control their illness are more motivated to follow their treatment, even when facing obstacles. On the other hand, patients with low self-efficacy tend to give up easily, are less compliant with therapy, and more often experience failures in glycemic control. (7,11).

Individuals with high self-efficacy will have greater motivation to maintain healthy behaviors, be better at overcoming obstacles, and be more optimistic when facing chronic illnesses. For diabetes patients, this belief encourages adherence to diet, exercise, medication, and regular blood sugar control (12,25)

People with diabetes who are able to maintain a good quality of life despite living with a chronic illness. This is suspected to be because most respondents have high self-efficacy, making them more capable of managing their disease independently. Blood glucose levels within the normal range in people with diabetes generally experience fewer complications, have better physical condition, and are more able to carry out daily activities, which improves their quality of life (7,10,14).

This study supports previous research showing that increasing self-efficacy can boost self-management skills, improve blood sugar control, reduce complications, and enhance the quality of life for people with diabetes. Nursing interventions should not only focus on medical aspects but also on boosting self-efficacy through education, counseling, patient empowerment, self-management training, and family involvement. With higher self-efficacy, patients are expected to manage their condition more independently, helping maintain or even improve their quality of life.

CONCLUSION

Self-efficacy is one of the key factors in improving the quality of life for people with diabetes. People with diabetes who have high confidence in their ability to manage the disease tend to stick to their treatment, maintain a healthy lifestyle, regularly monitor their blood glucose levels, and are better at preventing complications. This situation contributes to improvements in physical, psychological, social, and environmental well-being, which are the main components of quality of life.

Acknowledgments: The author would like to thank all the patients and the staff of Grogol Health Center, Sukoharjo Type Diabetes Mellitus, who actively participated in this study, as well as for the cooperation and administrative support during the research. Thanks also go to Duta Bangsa University Surakarta for supporting this research.

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