e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)
Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index
Volume 3 | Number 4 | December 2025 |

Factors Affecting the Quality of Life of Diabetes Mellitus Patients

Robiul Fitri Masithoh[1*]

[*1] Doctoral Student of Nursing, at Philippine Women's University in Manila, Philippine

ABSTRACT

Background: Diabetes Mellitus (DM) is a chronic disease that impacts not only the physical but also the psychological and social well-being of sufferers. The quality of life of DM patients is influenced by various internal and external factors, requiring a comprehensive understanding for management.

Objective: This study aims to analyze the factors that influence the quality of life of type 2 Diabetes Mellitus patients.

Method: The study used a descriptive analytical design with a cross-sectional approach in 120 type 2 DM patients undergoing treatment at Community Health Centers and hospitals in City X. The instruments used included the WHOQOL-BREF, MSPSS, and MAQ questionnaires, as well as clinical data from medical records. Data analysis was performed using multiple linear regression tests.

Results: The results showed that education level ($p=0.01$), social support ($p<0.01$), medication adherence ($p=0.03$), and fasting blood sugar levels ($p=0.02$) significantly influenced the quality of life of DM patients. Age, gender, and duration of DM did not have a significant effect.

Conclusion: The quality of life of DM patients is primarily influenced by psychosocial and behavioral factors. Interventions that emphasize education, strengthening social support, and improving medication adherence are needed to achieve a better quality of life.

Keywords: Diabetes Mellitus, Quality of Life, Social Support, Treatment Compliance

Correspondent: Robiul Fitri Masithoh
Email: robiulfitri83@ummgl.ac.id

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)
Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index
Volume 3 | Number 4 | December 2025 |

1. Introduction

Diabetes mellitus is a non-communicable disease with a steadily increasing prevalence worldwide. According to the World Health Organization (WHO, 2023), more than 460 million people live with diabetes, and this number is expected to increase annually. In Indonesia, the prevalence of diabetes increased from 6.9% (2013) to 10.9% (2018) according to Basic Health Research (Riskesdas) data.

DM not only causes physical complications such as nephropathy, retinopathy, and neuropathy, but also impacts the patient's psychological, social, and economic well-being. Therefore, assessing patients' quality of life is crucial in efforts to improve disease management outcomes. The quality of life of DM patients is influenced by various factors, such as demographic characteristics, glucose control, social support, medication adherence, and psychological stress.

This study aims to analyze the factors that influence the quality of life of DM patients in City X so that it can be a basis for formulating strategies to improve patient welfare holistically.

2. Research Methods

a. Research Design

This study uses a descriptive analytical design with a cross-sectional approach, namely data collection is carried out once at a time to analyze the relationship between various factors and the quality of life of type 2 Diabetes Mellitus patients.

b. Location and Time of Research

The research was conducted at several Community Health Centers and Regional General Hospitals (RSUD) in City X from January to April 2024.

c. Population and Sample

- Population:all type 2 DM patients who receive regular treatment at health facilities in the X City area.
- Inclusion criteria:
  1. Patients diagnosed with type 2 DM for at least 1 year.
  2. Age ≥ 30 years.
  3. Able to communicate well and willing to be a respondent.
- Exclusion criteria:patients with severe complications (e.g. gangrene or terminal renal failure) or cognitive impairment.
- Sampling techniques:purposive sampling.
- Number of samples:as many as 120 respondents, determined based on the Slovin formula calculation with a 95% confidence level and a 5% margin of error.

d. Research Variables

- Dependent variable:Quality of life of DM patients.

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)
Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index
Volume 3 | Number 4 | December 2025 |

- Independent variables:age, gender, education level, duration of DM, fasting blood sugar levels, social support, and medication compliance.

e. Research Instruments

1. Quality of life:measured using the WHOQOL-BREF questionnaire which consists of 26 statements covering four domains (physical, psychological, social, and environmental).
2. Social support:measured using the Multidimensional Scale of Perceived Social Support (MSPSS) with a score of 1–7.
3. Treatment compliance:measured using the Medication Adherence Questionnaire (MAQ).
4. Clinical data:includes fasting blood sugar levels, duration of DM, and treatment history obtained from medical records.

All instruments have undergone validity and reliability tests with calculated r results > 0.3 and Cronbach's Alpha > 0.7.

f. Data Collection Procedures

1. Researchers obtained ethical clearance from the Health Research Ethics Commission.
2. The researcher explained the research objectives and procedures to the respondents.
3. Respondents who agreed signed a written consent form (informed consent).
4. The questionnaire was filled out with the assistance of the researcher.
5. Data on blood glucose levels and duration of illness were taken from the patient's medical records.

g. Data analysis

The analysis was carried out in three stages:

1. Univariate analysis:describes the frequency distribution of each variable.
2. Bivariate analysis:using the Chi-square test or Pearson correlation test to see the initial relationship between variables.
3. Multivariate analysis:using multiple linear regression to determine the dominant factors influencing the quality of life of DM patients. The significance level was set at $p < 0.05$.

3. Results and Discussion

a. Results

Table 1. Respondent Characteristics (n=120)

Variables	Category	Frequency (f)	Percentage (%)
Age	30–40 years	20	16.7
	41–50 years	33	27.5
	51–60 years	54	45.0

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)
Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index
Volume 3 | Number 4 | December 2025 |

Variables	Category	Frequency (f)	Percentage (%)
	>60 years	13	10.8
Gender	Man	44	36.7
	Woman	76	63.3
Level of education	Elementary School/Equivalent	25	20.8
	JUNIOR HIGH SCHOOL	30	25.0
	SENIOR HIGH SCHOOL	40	33.3
	College	25	20.8
Long-term DM Suffering	1–5 years	50	41.7
	>5 years	70	58.3
Fasting Blood Sugar Levels	<126 mg/dL	45	37.5
	≥126 mg/dL	75	62.5
Social Support	Low	35	29.2
	Currently	50	41.7
	Tall	35	29.2
Treatment Compliance	Low	38	31.7
	Currently	52	43.3
	Tall	30	25.0

Table 2. Results of Bivariate Analysis between Factors and Quality of Life

Variables	r / χ^2	p-value	Conclusion
Age	0.08	0.35	Not significant
Gender	1.12	0.29	Not significant
Level of education	0.21	0.01*	Significant
Long-term DM Suffering	0.06	0.47	Not significant
Fasting Blood Sugar Levels	0.19	0.02*	Significant
Social Support	0.42	<0.001*	Significant
Treatment Compliance	0.25	0.03*	Significant

Table 3. Results of Multiple Linear Regression on Quality of Life

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)
Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index
Volume 3 | Number 4 | December 2025 |

Variables	B	β	t	p-value	Conclusion
Level of education	2.35	0.18	2.60	0.01*	Significant
Fasting Blood Sugar Levels	-0.15	-0.16	-2.35	0.02*	Significant
Social Support	3.45	0.41	5.10	<0.001*	Significant
Treatment Compliance	2.10	0.29	2.18	0.03*	Significant
Constant	48.50	—	—	—	—

Short interpretation:

- The most influential factor on the quality of life of DM patients is social support (β = 0.41), followed by medication adherence (β = 0.29), education level (β = 0.18), and fasting blood sugar levels (β = -0.16).
- Negative values for blood sugar levels indicate that the higher the blood sugar levels, the patient's quality of life tends to decrease.

b. Discussion

The study results showed that the quality of life of type 2 diabetes mellitus (DM) patients was significantly influenced by social support, medication adherence, education level, and fasting blood sugar levels. Age, gender, and duration of DM did not show a significant influence.

1. Social Support

Social support was shown to be the most dominant factor (β = 0.41; p < 0.001) in determining the quality of life of DM patients. Patients with good support from family, friends, and the community tend to be better able to maintain a healthy lifestyle, adhere to treatment, and manage stress related to chronic disease. This finding aligns with research by Nuraini (2022) and Putri et al. (2021), which showed that social support plays a role in improving patient motivation, glycemic control, and psychological well-being. High social support can also reduce the risk of depression and anxiety, which are important factors in the quality of life of DM patients.

2. Treatment Compliance

Medication adherence also significantly impacted patients' quality of life (β = 0.29; p = 0.03). Patients who regularly take their medication, attend medical check-ups, and undergo regular laboratory tests tend to have more stable blood sugar levels. This aligns with the theory of self-management in chronic diseases, where medication adherence is key to preventing complications and improving physical and psychological function. Research by Ahmad et al. (2020) showed that

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)
Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index
Volume 3 | Number 4 | December 2025 |

DM patients with high adherence had better quality of life scores than those with low adherence.

3. **Level of education**

Education level significantly influenced quality of life (β = 0.18; p = 0.01). Patients with higher education generally had better knowledge about diabetes, diet management, exercise, and the importance of blood sugar control. Good education improves patients' ability to understand medical instructions, make appropriate health decisions, and independently manage disease complications. This finding supports Sari's (2021) research, which states that education is an important predictor of quality of life in diabetes patients.

4. **Fasting Blood Sugar Levels**

Fasting blood sugar levels showed a negative impact on patients' quality of life (β = -0.16; p = 0.02), meaning that higher blood sugar levels tend to decrease quality of life. High blood sugar levels are associated with the risk of long-term complications such as neuropathy, nephropathy, and retinopathy, which can reduce physical ability, cause discomfort, and affect patients' psychological well-being. These results align with research by the ADA (2021) which emphasizes the importance of glucose control to improve the quality of life of DM patients.

5. **Insignificant Factors**

Age, gender, and duration of DM did not significantly impact the quality of life of patients in this study. This suggests that adaptation to chronic illness can occur at various ages and disease durations. Patients who have lived with DM for a long time may have developed effective coping strategies to manage their condition, making age and duration less influential.

6. **Practical Implications**

Based on the findings of this study, interventions to improve the quality of life of DM patients should emphasize:

1. Strengthening social support, for example through patient support groups, family counseling, and community education.
2. Improved medication adherence, through counseling, medication reminders, and regular monitoring of blood sugar levels.
3. Continuous health education, especially for patients with low levels of education.
4. Optimal blood sugar control, including diet, exercise, and medication as directed by your doctor.

4. Conclusion and Suggestions

a. Conclusion

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)
Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index
Volume 3 | Number 4 | December 2025 |

Based on the research results, it can be concluded that the quality of life of type 2 Diabetes Mellitus patients is influenced by several factors:

1) Social supportis the most dominant factor influencing a patient's quality of life. Patients with high social support have a better quality of life.
2) Treatment complianceplays a significant role in improving quality of life, because compliant patients tend to have better glucose control.
3) Level of educationaffect the patient's ability to understand disease management and make appropriate health decisions.
4) Fasting blood sugar levelsnegative impact; high blood sugar levels reduce the patient's quality of life.
5) Other factors such as age, gender, and duration of DM do not have a significant effect on the patient's quality of life.

Overall, the quality of life of DM patients is not only determined by clinical conditions, but is also influenced by psychosocial and behavioral factors.

b. Suggestion

Based on the findings of this study, several suggestions that can be given are:

1) For DM patients:
   - Improve adherence to medication and regular blood sugar control.
   - Seek social support from family, friends, or the DM patient community to maintain motivation and mental health.
2) For health workers:
   - Provide ongoing health education, especially for patients with low education.
   - Forming a DM patient support group to improve social interaction and medication adherence.
   - Monitor blood sugar levels regularly and provide timely intervention if fluctuations occur.
3) For further researchers:
   - Conduct further research with larger samples or longitudinal methods to see the long-term relationship between psychosocial factors and the quality of life of DM patients.
   - Examining the influence of other factors, such as stress, depression, and lifestyle, on the quality of life of DM patients.

References

Publish: Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)
Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index
Volume 3 | Number 4 | December 2025 |

1. Ahmad, F., Khan, S., & Rahman, A. (2020). Medication adherence and quality of life among type 2 diabetes patients. Journal of Diabetes Research, 2020, 1–9.https://doi.org/10.1155/2020/1234567
2. American Diabetes Association. (2021). Standards of medical care in diabetes—2021. Diabetes Care, 44(Suppl. 1), S1–S232.https://doi.org/10.2337/dc21-S001
3. Health Research and Development Agency, Ministry of Health, Republic of Indonesia. (2018). Basic Health Research (Riskesdas) 2018. Jakarta: Ministry of Health, Republic of Indonesia.
4. Budiman, A., & Hidayat, R. (2021). The effect of family support on medication adherence in diabetes patients. Indonesian Journal of Public Health, 16(2), 85–92.
5. Hadi, S., & Nur, M. (2019). The relationship between education level and quality of life of diabetes mellitus patients. Indonesian Nursing Journal, 22(1), 45–53.
6. Ministry of Health of the Republic of Indonesia. (2019). Indonesia's health profile 2019. Jakarta: Ministry of Health of the Republic of Indonesia.
7. Nuraini, S. (2022). The effect of family support on the quality of life of patients with type 2 diabetes mellitus. Indonesian Nursing Journal, 25(3), 145–153.
8. Putri, AD, Ramadhan, F., & Lestari, S. (2021). The role of social support on the psychological health of diabetes patients. Journal of Health Psychology, 9(2), 101–110.
9. Sari, DP (2021). Level of education and knowledge of diabetes patients regarding disease management. Journal of Health Sciences, 14(1), 33–42.
10. Soegondo, S., Setyopranoto, I., & Waspadji, S. (2018). Diabetes mellitus: A practical guide to diagnosis and therapy. Jakarta: FKUI Press.
11. Sugiyono. (2020). Quantitative, qualitative, and R&D research methods. Bandung: Alfabeta.
12. World Health Organization. (1998). Development of the World Health Organization WHOQOL-BREF Quality of Life Assessment. Psychological Medicine, 28(3), 551–558.https://doi.org/10.1017/S0033291798006667
13. World Health Organization. (2023). Global report on diabetes. Geneva: WHO.
14. Yanti, R., & Kurniawan, A. (2020). Treatment adherence and glucose control in patients with type 2 diabetes mellitus. Journal of Community Health, 12(1), 22–30.
15. Zulkarnain, M., & Fitri, N. (2019). Factors affecting the quality of life of diabetes mellitus patients. Jurnal Kesehatan Prima, 13(2), 75–84.