

# Self-efficacy and Quality of Life in Hypertension and Type 2 Diabetes Mellitus Patients

Elisa Anderson<sup>1,2\*</sup>, Ailine Yoan Sanger<sup>1,2</sup>

<sup>1</sup>Universitas Klabat, Minahasa Utara – Indonesia

<sup>2</sup>Saint Louis University, Baguio – Philippine

[aelisa@unklab.ac.id](mailto:aelisa@unklab.ac.id)\*; [ailinesanger@unklab.ac.id](mailto:ailinesanger@unklab.ac.id)

## ABSTRACT

Chronic diseases such as hypertension and type 2 diabetes mellitus are major health problems that have a wide-ranging impact on patients' quality of life. Self-efficacy, or a person's belief in their ability to manage their illness, is an important factor that influences how patients manage their conditions and ultimately impacts quality of life. **Purpose:** This study aims to identify the correlation between self-efficacy and quality of life in patients with hypertension and type 2 diabetes mellitus. **Methods:** Using a descriptive correlation design with a cross-sectional approach, this study involved 120 respondents selected through convenience sampling in the working area of the Airmadidi Health Center. **Findings:** The results showed that self-efficacy and quality of life of patients with hypertension and type 2 diabetes mellitus were generally classified as good. Spearman's rho correlation analysis revealed that self-efficacy of patients with hypertension was only significantly correlated with the social domain of quality of life ( $r=0.297$ ,  $p<0.05$ ), while in patients with type 2 diabetes mellitus no significant correlation was found in all quality of life domains. **Value:** These findings highlight the importance of a holistic approach in chronic disease management, considering physical, psychological, social, and environmental aspects simultaneously to improve self-efficacy and quality of life.

**Keywords:** hypertension, quality of life, self-efficacy, type 2 diabetes mellitus.

## INTRODUCTION

Chronic diseases such as hypertension and type II diabetes mellitus (T2DM) are major health concerns that have a wide-ranging impact on patients' quality of life (QoL). Both conditions require long-term management involving lifestyle changes, medication adherence and regular monitoring. In this context, self-efficacy, or a person's belief in their ability to carry out the necessary actions to achieve a certain outcome, is an important factor that influences how patients manage their disease. High self-efficacy has been associated with increased adherence to treatment and better self-care behaviors, which in turn can improve QoL (Abdul Mulud et al., 2022; Rostami et al., 2024).

Although many studies have highlighted the importance of self-efficacy in chronic disease management, there is a significant gap in the literature that specifically explores the relationship between self-efficacy and QoL in patients with hypertension and T2DM. Most previous studies tend to combine different chronic conditions without distinguishing the unique

characteristics of each condition. This has resulted in a lack of in-depth understanding of how self-efficacy affects QoL specifically in patients with hypertension and T2DM. The unique challenges faced by patients with these two conditions, as well as effective self-management strategies, have not been studied in much detail (Chan, 2021; Hardianto et al., 2024).

This study is of great significance as it seeks to fill this knowledge gap by specifically investigating the relationship between self-efficacy and QoL in patients with hypertension and T2DM. By understanding the factors that influence self-efficacy and how this impacts QoL, more targeted and effective interventions can be developed to help patients better manage their conditions. This study will also provide valuable insights for healthcare practitioners in designing education and support programs that can improve patients' self-efficacy, thereby contributing to the improvement of their QoL (Jiang et al., 2019; Rostami et al., 2024).

The aim of this study is to identify key correlates between self-efficacy and QoL in patients with hypertension and T2DM. As such, this study will not only fill a gap in the literature but also provide a basis for the development of interventions that can improve self-efficacy and QoL in this patient population. Understanding these relationships is critical to improving the overall health outcomes and QoL of patients managing these chronic conditions (Abdul Mulud et al., 2022; Hardianto et al., 2024).

## **LITERATURE REVIEW**

Self-efficacy is a concept introduced by Albert Bandura that refers to a person's belief in his or her ability to carry out the actions necessary to achieve certain results. Ralf Schwarzer developed the General Self-Efficacy Scale (GSE) which is used to measure general self-efficacy. In hypertensive patients, self-efficacy plays an important role in how they manage their blood pressure through medication adherence, lifestyle changes, and health monitoring. Research shows that high self-efficacy in hypertensive patients correlates with improved medication adherence and better lifestyle changes, such as healthy diet and physical activity. A study showed that a self-efficacy theory-based educational intervention can increase physical activity in pre-hypertensive individuals, which in turn helps in the control of their blood pressure (Natashia et al., 2023a).

Whereas in patients with type II DM, the Diabetes Management Self-Efficacy Scale (DMSES) instrument is used to measure specific self-efficacy in diabetes management. This scale covers various aspects of diabetes self-management, including dietary management, blood glucose monitoring, and medication adherence. Research shows that high self-efficacy in T2DM patients correlates with improved self-management behaviors, such as diet control and blood glucose monitoring. A study in Saudi Arabia assessed the psychometric properties of the Diabetes Self-Efficacy Scale and found that this scale is valid and reliable for measuring self-efficacy in T2DM patients (Wati, 2021). High self-efficacy allows patients to feel more confident in managing various aspects of their condition, which is important for effective diabetes control in improving their QoL.

The World Health Organization Quality of Life (WHOQOL) is an instrument used to comprehensively measure QoL. The WHOQOL-BREF is a shortened version of this scale that covers four main domains: physical health, psychological, social relationships, and environment. QoL is an important measure of health outcomes that reflects how patients perceive their well-being in the context of daily life (Tate, 2020).

Research shows that high self-efficacy in hypertensive patients correlates with improved QoL. A study found that self-efficacy mediates the relationship between social support and self-care behaviors, ultimately improving the QoL of hypertensive patients (Abdul Mulud et al., 2022). Patients with high self-efficacy tend to be more proactive in managing their health, which contributes to improved QoL. In T2DM patients, high self-efficacy also correlates with improved QoL. An Italian study validating the Diabetes Management Self-Efficacy Scale found that high self-efficacy was associated with improved self-management behaviors and better QoL (Tate, 2020). Patients with high self-efficacy are better able to cope with the daily challenges associated with diabetes, which contributes to improving their QoL. However, there are several factors that can affect the presence of self-efficacy and QoL.

Psychological and social factors, including stress and social support, also influence self-efficacy and QoL. Research in women with gestational diabetes found that perceived stress negatively affected QoL, while social support and self-efficacy mediated this relationship ([PDF] *Association between Sense of Loneliness, Social Support, Quality of Life and Multimorbidity in Elderly Patients* / *Semantic Scholar*, n.d.). Strong social support can improve self-efficacy by providing the emotional and practical resources necessary for effective disease management. Various interventions aimed at improving self-efficacy have shown promising results. For example, educational programs involving families and communities are effective in improving self-efficacy and QoL in patients with hypertension and T2DM. These programs provide patients with the necessary skills and support to manage their conditions more effectively. Interventions designed to improve self-efficacy may include skills training, peer support, and health education tailored to individual needs (Kristianingrum et al., 2023).

## METHODS

This study is a quantitative study with a descriptive correlation design and uses a cross sectional approach, data on self-efficacy variables and QoL are taken once at the same time. The population of this study were patients with hypertension and type II DM patients in the working area of the Airmadidi Health Center. The number of respondents involved in this study was 120 people and selected using convenience sampling technique. The criteria for respondents are patients with hypertension and type 2 DM patients based on diagnosis data from the Airmadidi Puskesmas doctor, have a chronic disease book from the Puskesmas, live in the Airmadidi Puskesmas working area, can communicate well, and do not involve patients who are not willing to participate in this study.

The instrument used in this study to measure self-efficacy in hypertensive patients is the self-efficacy instrument from Ralf Schwarzer which has been adapted by Prasetyo. The aspects in this instrument are magnitude, strength, and generality. This instrument is measured using a Likert scale with 1-3 scoring (able, sometimes able, and unable), then the minimum score is 3 and the maximum is 30, and the interpretation becomes poor for  $<24$  ( $<70\%$ ) and good for  $\geq 24$  ( $\geq 70\%$ ). This instrument has also been tested for reliability, namely the  $r$  alpha value (0.780) for the reliability test (Prasetyo, 2012).

In patients with T2DM, the self-efficacy instrument is The Diabetes Melitus Management Self Efficacy Scale for Type 2 DM (DMSES) which has been adapted by Saputri into 16 items because some statement items have the same meaning so they can be put together. Aspects of this instrument are self-confidence in controlling weight, blood sugar, diet, exercise,

and general care and medication. This instrument is measured using a Likert scale with 1-5 scoring (very confident to very unsure), so the minimum score is 16 and the maximum is 80, and the interpretation is poor for <38 (<64%) and good for ≥38 (≥64%). This instrument has also been tested for reliability, namely the r alpha value (0.926) for the reliability test (Saputri et al., 2018).

Meanwhile, to measure QoL, researchers used the World Health Organization Quality of Life (WHOQOL) questionnaire which was adapted by Yulianti. This QoL questionnaire contains 26 questions that describe five domains in it, namely general QoL, physical, psychological, social relationships and the environment. This instrument is measured using a Likert scale with a score of 1-5 (very good to very bad or very unsatisfactory to very satisfactory), the minimum score is 5 and the maximum is 130, and the interpretation becomes very bad (26-46), bad (47-67), moderate (68-88), good (89-109), very good (110-130). This instrument has also been tested for reliability, namely the r alpha value (0.683-0.883) for the reliability test (Diajukan et al., 2017).

Data were collected by going door to door, collecting them directly when respondents came to visit the health center or through health center visits in the village (*prolanis*). The researcher explained the purpose and usefulness of the study to patients with hypertension and T2DM. Respondents who were willing to participate in this study were given a consent form to sign. After that, the researcher distributed questionnaires and provided explanations and assisted in filling them out. The questionnaires that had been taken by the researcher were then collected and analyzed. Descriptive and correlation statistical analysis was used by the researcher to achieve the objectives of this study.

## RESULTS AND DISCUSSION

The following result findings are stated based on the research objectives through tabular presentation and interpretation, as well as discussion of the result findings. The findings of these results are based on descriptive analysis and correlation analysis of the variables of self-efficacy and QoL of patients with hypertension and T2DM.

**Table 1**

Frequency Distribution of Respondents' Gender

		Frequency	Percent	Cumulative Percent
Hypertension	Male	10	16.7	16.7
	Female	50	83.3	100.0
	Total	60	100.0	
T2DM	Male	15	25.0	25.0
	Female	45	75.0	100.0
	Total	60	100.0	

Source: Calculated by Authors

Table 1 shows that the respondents in this study, both those with hypertension and T2DM, were predominantly female. Women are more likely to suffer from hypertension and T2DM in the community due to several biological and social factors. Biologically, women tend to experience hormonal changes that affect metabolism and blood pressure, especially during menopause, which can increase the risk of hypertension and DM. In addition, women often have different lifestyles, such as taking on more of a family caregiver role, which may cause them to pay less attention to their personal health and be more susceptible to stress and obesity, major risk factors for both diseases. Studies have also shown that women have a higher prevalence of metabolic syndrome, which is a collection of risk factors for cardiovascular diseases, including hypertension and DM (Firdiawan et al., 2023; Kinanti et al., 2021a; Sabrini et al., 2023). In addition, differences in dietary consumption patterns, physical activity, and access to health services also contribute to the high rates of hypertension and DM in women (Fajar et al., 2023a; Syahrir et al., 2023). Therefore, it is important to develop more specific prevention and management programs to address women's health needs in the context of hypertension and T2DM.

**Table 2**

Descriptive Analysis of Respondents and Research Variables

	N	Minimum	Maximum	Mean	Std. Deviation
Hypertension age	60	42	86	67.50	9.356
T2DM age	60	42	90	66.78	9.757
Hypertension self-efficacy	60	19	30	25.78	2.518
T2DM self-efficacy	60	32	71	49.67	9.527
Hypertension QoL	60	70	125	96.58	11.827
T2DM QoL	60	70	116	94.48	11.248

Source: Calculated by Authors

Table 2 states that the average age of patients with hypertension and type II DM is in the range of 66-68 years. The average age of patients with hypertension and T2DM in the community which is in the range of 66.78 and 67.5 years can be explained by several factors. First, the risk of both diseases increases with age, as the aging process can affect metabolism and body functions, including blood sugar and blood pressure regulation. Research shows that the prevalence of T2DM and hypertension increases significantly in older adults, with many cases diagnosed at ages above 60 years (Fajar et al., 2023b; Rapina & Saftarina, 2017). In addition, lifestyle factors such as unhealthy diet, lack of physical activity, and increasing obesity among the elderly population also contribute to the high incidence of hypertension and DM (Kinanti et al., 2021b; Nislawaty, 2020). Complications that often occur in old age, such as metabolic syndrome, can also exacerbate these conditions, making health management in this age group particularly important to prevent further complications (Kinanti et al., 2021; Made et al., 2023). Therefore, an understanding of these factors can help in designing more effective prevention and management interventions for patients in this age group.

The research findings on the self-efficacy of hypertensive patients are that they have an average of 25.78 which means good. The average self-efficacy of hypertensive patients

reaching 25.78 indicates that they have a good level of confidence in managing their health conditions. This can be caused by several factors, such as increased knowledge about the disease and its management through health education, strong social support from family and medical personnel, and positive experiences in managing hypertension that increase their confidence. Patients who feel they have control over their condition tend to be more proactive in following treatment and maintaining a healthy lifestyle, which in turn can improve their overall health outcomes. Research shows that high self-efficacy can contribute to better management of hypertension and reduce the risk of complications associated with the disease (Kinanti et al., 2021a; Rapina & Saftarina, 2017).

The average self-efficacy of T2DM patients is 49.67 which means it is also good. The average self-efficacy of T2DM patients reaching 49.67 indicates that they have a good level of confidence in managing their health condition. This is due to several factors, including increased knowledge about T2DM management through health education, which helps patients understand the importance of controlling blood sugar and adopting a healthy lifestyle. In addition, social support from family and health professionals also plays an important role in improving self-efficacy, as this support provides the necessary motivation and resources to undergo treatment. Research shows that high self-efficacy contributes to better medication adherence and disease management, thereby reducing the risk of diabetic complications (Firmansyah, 2019; Natasha et al., 2023b; Robiatun, 2021).

Likewise, the findings of the QoL of patients with hypertension and type II DM have an average of 96.58 and 94.48 which means good. The average QoL of patients with hypertension and type 2 T2DM (DM) reaching 96.58 and 94.48 indicates that they have a good level of QoL, which can be explained by several factors. First, effective management of both diseases through health education, appropriate treatment, and social support can improve patients' physical and psychological well-being. Patients who have a good understanding of their condition tend to be more proactive in maintaining their health, including following a healthy diet, exercising regularly, and monitoring blood pressure and blood sugar levels regularly. In addition, interventions that focus on improving self-efficacy and good coping mechanisms also contribute to improved QoL, as patients feel more able to cope with the challenges faced due to this chronic disease. Research shows that good QoL in patients with chronic diseases, including hypertension and DM, is closely related to good management and adequate support from their surrounding environment (Indriyati & Herawati, 2023; Natasha et al., 2023).

**Tabel 3**

Analisis Korelasi Variabel Penelitian

Spearman's rho		Hypertension self- efficacy	T2DM self- efficacy
Overall QoL	Correlation Coefficient	.231	-.013
	Sig. (2-tailed)	.075	.921
	N	60	60
Physical QoL	Correlation Coefficient	.210	.023
	Sig. (2-tailed)	.108	.861

	N	60	60
Psychological QoL	Correlation Coefficient	.117	.115
	Sig. (2-tailed)	.372	.384
	N	60	60
Social QoL	Correlation Coefficient	.297*	-.027
	Sig. (2-tailed)	.021	.836
	N	60	60
Environmental QoL	Correlation Coefficient	.206	-.031
	Sig. (2-tailed)	.115	.814
	N	60	60

Source: Calculated by Authors

Table 3 states that based on Spearman's rho correlation test, the self-efficacy of hypertensive patients is only significant in the social domain and not significant for the physical, psychological, and environmental domains, although self-efficacy and overall QoL are measured well, which can be explained by several factors. Self-efficacy in the social context may be more influenced by support from the surrounding environment, such as family and friends, who can provide motivation and resources to manage the disease. People with hypertension may feel more confident in social interactions and support, while challenges in managing the physical and psychological aspects of hypertension, such as blood pressure control and coping with stress, may be more complex and require a more in-depth approach.

Many people with hypertension may experience difficulties in changing lifestyle behaviors necessary to manage their condition, such as a healthy diet and regular physical activity. Although they have good beliefs about their social capabilities, challenges in implementing lifestyle changes may reduce their self-efficacy in the physical and psychological domains. Research shows that factors such as depression and anxiety can affect an individual's ability to maintain their physical health, which in turn can contribute to low self-efficacy in these domains (Fajar et al., 2023b; Made et al., 2023).

QoL is a multidimensional concept that encompasses various aspects, including physical, psychological, social, and environmental. Insignificance in the physical and psychological domains suggests the need for more holistic interventions that focus not only on social support but also on physical and emotional management. Previous studies have shown that an integrated approach, which includes education, emotional support, and stress management, can help improve self-efficacy across all domains and, in turn, improve the overall QoL of people with hypertension (Rapina & Saftarina, 2017; Sabrini et al., 2023).

The results of the Spearman correlation test which showed that the self-efficacy of T2DM sufferers was not significant for all physical, psychological, social, and environmental domains, although the descriptive test of self-efficacy and QoL was good, could be explained by several factors. Although patients feel they have good self-efficacy, they may have difficulty in applying this belief to physical and psychological aspects. Research shows that people with T2DM often face challenges in managing complex physical and emotional symptoms, which can reduce their ability to feel effective in managing their overall health (Natashia et al., 2023a; Rofi'i & Su'udi, 2023).

Environmental factors and social support may also contribute to this insignificance. Although individuals may feel confident in a social context, a lack of support in physical and psychological aspects may hinder their ability to manage T2DM effectively. Research shows that strong social support can improve QoL, but if this support does not cover all aspects of life, self-efficacy may not be reflected in improved overall QoL (Firmansyah, 2019; Indriyati & Herawati, 2023).

QoL is a multidimensional concept that includes various aspects, and the insignificance in the physical, psychological, and social domains suggests the need for a more holistic approach in T2DM management. Research shows that integrated interventions, which include education, emotional support, and stress management, can help improve self-efficacy across all domains and, in turn, improve the overall QoL of people with T2DM (Natashia et al., 2023a; Tamala et al., 2023). Therefore, it is important to develop programs that support patients in all aspects of managing their health.

## **CONCLUSION, IMPLICATION, AND LIMITATIONS**

Based on the results of this study, it can be concluded that the self-efficacy and QoL of patients with hypertension and T2DM are generally classified as good. However, correlation analysis showed that self-efficacy of hypertensive patients was only significantly correlated with the social domain of QoL, while in patients with T2DM no significant correlation was found in all domains of QoL. This finding indicates that although patients have good confidence in their ability to manage their disease, this is not always reflected in an overall improvement in QoL. Therefore, a more holistic and integrated approach is needed in the management of these two chronic diseases, by considering physical, psychological, social, and environmental aspects simultaneously to improve self-efficacy and QoL more effectively.

Based on the results of this study, the implication is the need for a more holistic and integrated approach in the management of hypertension and T2DM. Although patients' self-efficacy and QoL were generally good, the lack of significant correlations in some domains suggests a gap between patients' self-efficacy and their ability to apply it in their daily lives. Therefore, health intervention programs need to be developed by considering not only physical, but also psychological, social, and environmental aspects simultaneously. This may include more comprehensive education on disease management, more intensive psychosocial support, and strategies to overcome environmental barriers. In addition, it is important to involve families and communities in the care process, and improve the skills of health workers in providing holistic support. This more holistic approach is expected to improve patients' self-efficacy across all domains and ultimately contribute to improving their overall QoL.

This study has several limitations that need to be considered in the interpretation of the results and for future research. First, the cross-sectional design used limits the ability to draw causal conclusions about the relationship between self-efficacy and QoL. Second, the use of convenience sampling may limit the generalizability of the results to a wider population. Third, this study only focused on people with hypertension and T2DM in one health center work area, so it may not represent wider geographical and socio-economic variations. Fourth, other factors that may affect self-efficacy and QoL, such as social support, education level, or access to health services, were not comprehensively measured in this study. Lastly, the use of self-report



questionnaires may be affected by respondent bias. Future research can address these limitations by using a longitudinal design, more representative sampling, and incorporating additional variables for more in-depth analysis.

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