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The Role of Self-Efficacy in Treatment Adherence and Quality of Life Improvement in Hypertensive Patients

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Abstract

Background: Hypertension is a global health problem that affects quality of life, morbidity, and mortality, with low self-efficacy and poor medication adherence being major barriers to effective management. Objectives: This study aimed to analyze the relationship between self-efficacy, medication adherence, and quality of life among hypertensive patients. Methods: A cross-sectional study was conducted at the Kartasura Health Center from June to November 2024 involving 128 purposively selected respondents. Data were collected using a structured questionnaire and analyzed using statistical tests to determine variable relationships. Results: Most respondents demonstrated low self-efficacy, poor medication adherence, and low quality of life; the majority were females aged 56-65 years with junior high school education. Statistical analysis revealed a significant relationship between self-efficacy and treatment adherence (p < 0.001), as well as between self-efficacy and quality of life (p = 0.002). Furthermore, patients with higher self-efficacy scores exhibited 1.8 times greater adherence and 1.6 times higher quality of life scores compared to those with lower self-efficacy. Conclusion: Self-efficacy plays a pivotal role in enhancing medication adherence and quality of life among hypertensive patients; thus, interventions aimed at strengthening self-efficacy should be prioritized in hypertension management programs.

Keywords: Hypertension; Self-efficacy; Treatment adherence; Quality of life; Health behavior.

Introduction

Hypertension is one of the chronic diseases that is a major risk factor for various serious conditions, such as cardiovascular disease, kidney failure, and other health disorders¹. Based on global data, in 2019, an estimated 1.13 billion people worldwide lived with hypertension, which contributed to about 8 million deaths each year, with 1.5 million cases occurring in the Southeast Asian region. In addition, the projected number of hypertension sufferers globally is estimated to increase from 1.13 billion in 2018 to 1.15 billion in 2025². In addition to health impacts, hypertension also creates a large economic burden for both

patients and the healthcare system as a whole. High treatment costs and long-term care for complications such as heart disease and stroke exacerbate the economic burden on society. According to a study by the World Health Organization (WHO), hypertension is one of the main causes of high medical care costs in developing countries³. In Indonesia, the prevalence of hypertension in individuals over 18 years of age was recorded at 34.1%, with eight provinces having prevalence rates above the national average⁴. Regionally, in Central Java, the prevalence of hypertension was reported at 37.57%, while in Sukoharjo Regency, the prevalence reached 79.07%⁵.

Hypertension is a very common disease with a high prevalence, yet public awareness of symptoms, risks, and the importance of consistent treatment remains relatively low⁶. Many patients are unaware that hypertension can develop slowly without clear or noticeable symptoms, so they tend to ignore or underestimate the importance of ongoing treatment. This condition can be a significant risk, considering that uncontrolled hypertension can lead to serious complications such as cardiovascular disease, stroke, and kidney failure. This low awareness often leads to delays in diagnosis and appropriate management, which in turn increases the health burden for both individuals and the healthcare system. More intensive education regarding hypertension and the importance of adherence to treatment is very necessary to reduce the risk of long-term complications⁷.

The presence of self-efficacy, which is an individual's belief in their ability to manage challenges or illnesses, is a key element in the management of hypertension, which requires long-term management⁸. Self-efficacy plays a role in improving adherence to treatment and healthy lifestyles, which is influenced by perceptions of the disease, concerns about side effects, and belief in the benefits of treatment⁹. This adherence is important because, as a chronic disease that cannot be cured, hypertension requires consistent management to prevent serious complications such as heart disease, stroke, and kidney failure 10. However, non-adherence is a major challenge, as hypertension often shows no symptoms, making patients feel that treatment is not urgent¹¹. Improving patient quality of life requires awareness of the importance of consistent treatment, supported by ongoing education, medical guidance, psychological support¹².

Self-efficacy is an individual's belief in their ability to perform certain actions to achieve a goal¹³. Its role is very important in health behavior change, especially in increasing treatment adherence in chronic diseases such as hypertension, diabetes, and arthritis that require long-term management¹⁴.

Hypertension management generally focuses on controlling blood pressure through medication and other medical interventions. However, an increasing number of studies show that psychological factors, especially self-efficacy, have a significant influence on the success of treatment and patient quality of life. In many cases, holistic approaches that consider psychosocial and behavioral factors of patients are still not integrated into treatment protocols¹⁵.

Previous research has highlighted the important role of self-efficacy in supporting treatment adherence among hypertensive patients. Sukmaningsih et al. (2020) reported a significant relationship between self-efficacy and medication adherence, indicating that individuals with higher self-efficacy are more likely to consistently follow prescribed therapy. Patients with stronger confidence in their ability to manage hypertension tend to demonstrate better compliance with medical recommendations and lifestyle modifications, suggesting that self-efficacy may serve as a key psychological factor influencing successful hypertension management¹⁶.

Self-efficacy, which reflects an individual's confidence in their ability to overcome challenges, plays an important role in motivating patients to adhere to the prescribed treatment regimen. Higher self-efficacy encourages patients to be more proactive in following medication schedules, monitoring blood pressure regularly, and undergoing necessary lifestyle changes, such as diet regulation and physical activity. Furthermore, a number of other studies have also confirmed that increasing self-efficacy not only impacts adherence to treatment but also influences the quality of life of hypertensive patients.

Patients with higher levels of self-efficacy tend to have a better quality of life, both physically and psychologically. In the physical aspect, they are better able to manage hypertension symptoms and reduce the risk of complications such as heart disease and stroke. Psychologically, patients who feel more capable of controlling their disease tend to have higher self-confidence, reduce anxiety, and improve their emotional well-being.

Bandura (1997) emphasized that self-efficacy plays a central role in shaping individuals' ability to manage stress and maintain self-control, which positively influences their overall quality of life. High self-efficacy is associated with greater feelings of hope, satisfaction, and positive life evaluation¹⁷. Conversely, hypertension tends to reduce quality of life across physical, emotional, and social dimensions due to its chronic progression and the long-term demands of treatment¹⁸.

This study is particularly relevant in light of the increasing prevalence of hypertension both in Indonesia and globally, along with the persistently high rates of non-adherence to treatment that contribute to greater morbidity date, mortality. To hypertension management has primarily emphasized medical interventions, while psychological determinants such as self-efficacy have received less attention. Addressing this gap, the present research seeks to elucidate how selfefficacy influences medication adherence and quality of life among hypertensive patients, thereby providing a foundation for the development of psychology-based intervention strategies aimed at enhancing the effectiveness of hypertension management.

Based on this background, the study aims to address two key questions: (1) Is there a significant relationship between self-efficacy and medication adherence in hypertensive patients? and (2) Does self-efficacy contribute to improving the quality of life of hypertensive patients?

Low self-efficacy among hypertensive patients has been associated with poor adherence to medication and diminished quality of life¹⁹, as demonstrated in preliminary observations at the Kartasura Health Center. This finding highlights the urgent need for interventions designed to strengthen selfefficacy, with the expectation that such efforts will lead to improved adherence and better quality of life outcomes²⁰. Therefore, this study aims to explore the interrelationship between self-efficacy, treatment adherence, and quality of life as an empirical basis for developing sustainable, evidence-based strategies hypertension management²¹.

Materilas and Methods

Study Design

This study used a quantitative approach with a cross-sectional research design to examine the relationship between self-efficacy²², medication adherence, and quality of life in hypertensive patients. This design was chosen because it allows for the analysis of relationships between variables at one point in time.

Sample

The research sample consisted of 128 hypertensive patients who sought treatment at the Kartasura Health Center. Sample selection was carried out using a purposive sampling technique based on the following inclusion criteria²³: (1) patients with blood pressure ≥140/90 mmHg, (2) patients who were actively seeking treatment, and (3) patients who were willing to participate in the study by signing an informed consent. Patients with comorbidities, complications, or limitations in reading or writing were excluded from this study.

Data Collection Technique

Data were collected between June and November 2024 using instruments that had been tested for validity and reliability. The instruments used included the MASES-R (Multidimensional Assessment of Self-Efficacy Scale-Revised), designed to measure self-efficacy or an individual's belief in their ability to overcome various situations and challenges. In addition, the MMAS-8 (Morisky Medication Adherence Scale) was used to measure the level of treatment adherence of respondents, which is important in assessing whether they follow the treatment regimen recommended by medical personnel. Finally, WHOOOL-BREF (World Organization Quality of Life-BREF) was used to assess individual quality of life, covering psychological, physical, social. environmental aspects. These instruments were chosen because they have been proven valid and reliable in various previous studies, thus expected to provide accurate and representative results in this study²⁴.

Data Analysis Technique

The data management process included editing, coding, scoring, and transferring data to ensure the accuracy and consistency of the information obtained²⁵. Data analysis was performed univariately to describe the distribution of each variable and bivariately to identify the relationship between research variables using appropriate statistical tests.

Ethical Consideration

This study has received ethical approval from the Ethics Committee of Dr. Moewardi Regional Hospital with registration number No. 2.389/X/HREC/2024²⁶. All research procedures were conducted in accordance with applicable research ethics principles, including

obtaining informed consent from each respondent before data collection.

Results

This study involved 128 respondents with hypertension who were registered at the Kartasura Health Center. The main objective of the study was to evaluate the relationship between self-efficacy, medication adherence, and quality of life of patients. Based on the age distribution, the 41–50 and 61–70 age groups each consisted of 34 respondents (26.6%), followed by the 51-60 age group with 32 respondents (25%). The 30–40 age group consisted of 21 respondents (16.4%), while the 71–80 age group was the smallest with 7 respondents (5%). This age distribution provides an overview of the demographic characteristics of the hypertensive patients who participated in this study, ranging from young adults to the elderly.

Of the 128 hypertensive patients (Figure 1), the gender distribution was dominated by females, 77 people (60.2%), while males were 51 people (39.8%). The education level of respondents showed that the majority had junior high school education, 45 people (35.2%), followed by high school with 43 people (33.6%), elementary school with 31 people (24.2%), and only 9 people (7%) had higher education. In terms of employment status, respondents who were not working, including housewives (IRT), were the largest group with 54 people (42.2%), followed by laborers with 43 people (33.6%), entrepreneurs with 25 people (19.5%), and civil servants (PNS) with 6 people (4.7%). This data provides an overview of the diverse demographic profile of respondents based on gender, education level, and employment status, which is relevant for understanding the social and economic context in this study.

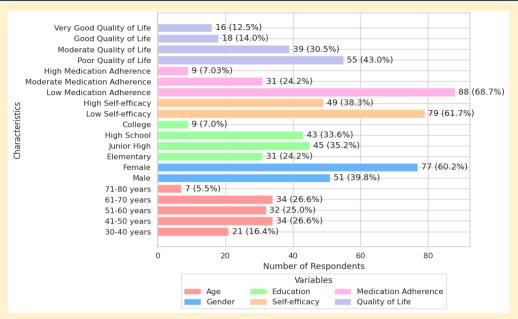


Figure 1. Respondent characteristics and univariate analysis

The results showed that the majority of respondents had low self-efficacy, namely 79 people (61.7%), while respondents with high self-efficacy were only 49 people (38.3%). In the group of respondents with high selfefficacy, medication adherence was divided into high adherence of 9 people (7%), moderate adherence of 22 people (17.2%), and low adherence of 18 people (14.1%). Conversely, in the group of respondents with low self-efficacy, the majority showed low adherence to treatment, namely 70 people (54.7%), while 9 people (7%) had moderate adherence, and none had high adherence. This data shows a significant relationship between the level of self-efficacy and medication adherence, where respondents with low self-efficacy tend to have lower adherence, which can negatively impact hypertension management.

The results showed a strong relationship medication between self-efficacy and hypertensive patients. adherence in Respondents with low self-efficacy mostly had low adherence, namely 54.7%, while 7% adherence. showed moderate respondents with low self-efficacy had high adherence. Conversely, in respondents with self-efficacy, 17.2% showed high high

adherence, 14.1% had moderate adherence, and 7% still had low adherence. Correlation analysis yielded a coefficient value of 0.559 (p < 0.001), indicating a positive and significant relationship between self-efficacy and medication adherence. These results indicate that increasing self-efficacy in patients can contribute significantly to improving adherence to treatment, which is very important for effective hypertension management.

The relationship between self-efficacy and quality of life in hypertensive patients. The majority of respondents with low self-efficacy had a poor quality of life (36.7%), while only 6.2% of respondents with high self-efficacy had a poor quality of life. For medium quality of life, 15.6% of respondents with low selfefficacy and 14.8% of respondents with high self-efficacy were in this category. For good quality of life, 5.5% of respondents with low self-efficacy and 8.6% with high self-efficacy were recorded to have a good quality of life. For very good quality of life, 4% of respondents with low self-efficacy were recorded in this category, compared to 8.6% of those with high self-efficacy. Correlation analysis showed a moderate relationship between self-efficacy and quality of life, with a correlation coefficient of 0.440 (p < 0.001). These results confirm that increasing self-efficacy can contribute to improving the quality of life of hypertensive

patients, so efforts to increase self-efficacy need to be a concern in health interventions.

Table 2. The Relationship between Self-Efficacy and Medication Compliance and Quality of Life of Hypertension Patients at Kartasura Health Center

	Self-efficacy					
Indicator	Low		High		P-Value	r
	n	%	n	%		
Medication Compliance						
Light Compliance	70	54,7	9	7		
Moderate Compliance	9	7	18	14,1	0,001	0,559
High Compliance	0	0	22	17,2		
Quality of Life						
Bad Quality	47	36,7	8	6,2	0,001	0,440
Medium Quality	20	15,6	19	14,8		
Good Quality	7	5,5	11	8,6		
Very Good Quality	5	4	11	8,6		

Source: Primary Data, 2024

Discussion

This study found a significant relationship between self-efficacy, medication adherence, and quality of life of hypertensive patients at the Kartasura Health Center. These results support Bandura's theory²⁷, which states that self-efficacy influences individual behavior, including medication adherence. With a correlation coefficient of 0.559 (p < 0.001) for medication adherence and 0.440 (p < 0.001) for quality of life, this study shows that patients with high self-efficacy are better able to face the challenges of hypertension management and have a better quality of life.

These findings are consistent with previous research, such as Ramadhani et al. 28, which showed that self-efficacy acts as a major predictor of therapy adherence in patients with chronic diseases, and Schwarzer and Luszczynska 29, who highlighted the role of self-efficacy in effective coping strategies. Conversely, patients with low self-efficacy tend to be less adherent to treatment, feel overwhelmed in facing health challenges, and have a poor quality of life 30,31.

Interventions that focus on improving selfefficacy, such as health education, social support, and the use of technology, become key to overcoming these challenges. Fracso et al.³² emphasized that programs based on education and social support can improve self-efficacy and quality of life of patients with chronic diseases. This study highlights the importance of a multidisciplinary approach in hypertension management to improve self-efficacy, medication adherence, and patient quality of life, and recommends further research related to other factors such as family support and access to health services^{33,34}.

By comparing the results of this study with previous research, it can be concluded that self-efficacy is an important variable that not only affects medication adherence but also contributes to improving the quality of life of hypertensive patients. Therefore, a self-efficacy-based approach should be an integral part of hypertension management strategies at the primary care level.

This study has several limitations that need to be considered. First, the cross-sectional design prevents establishing causal relationships between self-efficacy, adherence, and quality of life. Second, the study was conducted at a single primary health center,

which may limit the generalizability of the findings to broader populations with different characteristics. Third, the use of self-report questionnaires for measuring adherence and quality of life is subject to recall bias and social desirability bias, where respondents might over-report positive behaviors.

Conclusion

This study shows that self-efficacy has a relationship with significant medication adherence and quality of life of hypertensive patients at the Kartasura Health Center. High contributes to self-efficacy increased medication adherence and quality of life, while low self-efficacy tends to be associated with less optimal results. These findings reinforce the theory and previous research emphasize the importance of self-efficacy in managing chronic diseases. The novelty of this study is the revelation of the specific relationship between low self-efficacy and poor adherence and quality of life in hypertensive patients in a primary care setting. Therefore, a self efficacy based approach needs to be integrated into hypertension management programs, with an emphasis on patient empowerment through education, psychosocial support, and motivation enhancement strategies to achieve better health outcomes.

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