



**Original Article**

### **Relationship Between Demographic Characteristics, Knowledge of Antihypertensive Drug Use, and Health-Seeking Behavior Among the Elderly with Hypertension in Karawang Regency**

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#### **Abstract**

Hypertension in the elderly can reduce physical ability, daily activities, and psychological well-being, impacting quality of life. Factors related to the quality of life among the elderly with hypertension, such as demographic characteristics, knowledge of antihypertensive drug use, and health-seeking behavior, have been studied only to a limited extent at the primary healthcare level. This study aims to analyze the relationship between demographic characteristics, knowledge of antihypertensive medication use, and health-seeking behavior (HSB) with the quality of life among the elderly with hypertension in the service area of the Telukjambe Timur Community Health Centre in Karawang Regency. This study uses a quantitative approach with a cross-sectional design implemented in August-October 2025, with 68 respondents selected through purposive sampling. Data were collected using a structured questionnaire. Quality of life was measured using the WHOQOL-BREF, and HSB was assessed using a structured questionnaire developed based on the Andersen Behavioral Model. The analysis was descriptive and bivariate, using the chi-square test. The results showed that the majority of respondents had a good quality of life (76.5%). Knowledge of antihypertensive drug use (OR = 23.333;  $p = 0.001$ ) and health-seeking behavior (OR = 12.600;  $p = 0.001$ ) showed the strongest associations with quality of life among elderly with hypertension. These findings indicate that the quality of life of elderly with hypertension is related to their knowledge of drug use and active engagement in healthcare services. Education about antihypertensive therapy and the promotion of health check-ups at health facilities are strategies for supporting the quality of life among the elderly with hypertension.

**Keywords:** *Hypertension; Quality of life; The elderly; Health-seeking behavior; WHOQOL-BREF.*

#### **INTRODUCTION**

Hypertension is one of the public health issues most frequently found among the elderly and is predicted to continue rising in proportion to the global growth of the elderly population. According to the World Health Organization, an estimated 1.4 billion adults aged 30-79 worldwide have hypertension, equivalent to about 33% of the population in that age group, with two-thirds of those affected living in low- and middle-income countries. In contrast,

nearly 44% of patients are unaware of their condition, making hypertension one of the leading causes of premature death globally (World Health Organization, 2025). Hypertension is expected to continue rising in Indonesia, particularly among the elderly. Data show that the prevalence of hypertension reaches 49.5% in the 55-64 age group, rises to 57.8% in the 65-74 age group, and reaches 64% in those over 75 years of age, indicating that the risk of hypertension increases with age.

This condition indicates that the elderly are the group most vulnerable to hypertension and contribute significantly to the burden of degenerative diseases. This vulnerability is further exacerbated by the fact that hypertension is often asymptomatic, meaning many cases go undetected until serious complications arise. The prevalence of hypertension among the elderly continues to rise alongside demographic shifts and the growing elderly population, which directly increases the risk of morbidity and mortality due to cardiovascular complications and target organ damage (Prabasari, 2021).

Given the physiological condition of the elderly, characterized by a decline in cardiovascular system efficiency, non-adherence to long-term therapy becomes a major barrier leading to permanent target organ damage (Sutini et al., 2022). In addition to adherence issues, physical limitations and reduced mobility in the elderly often hinder consistent access to healthcare facilities, thereby worsening the risk of treatment failure. This situation is exacerbated by a misconception among the elderly, who often believe that intermittent symptoms of hypertension do not require ongoing treatment (Ida Ayu et al., 2022).

The proper use of antihypertensive drugs is one of the main components of hypertension management. Patients' knowledge regarding medication use, including dosage, timing of administration, side effects, and treatment adherence, plays a crucial role in treatment success. The elderly with good knowledge levels tend to be more compliant with medication and better able to manage their illnesses independently (Aliyah, 2025). This behavior encompasses an individual's decision to seek medical help, utilize

healthcare facilities, and follow healthcare providers' recommendations. Andersen's Model of Health Care Behavior states that healthcare utilization is influenced by predisposing factors, enabling factors, and need factors (Njakatara et al., 2024).

Several previous studies have shown that patients' level of knowledge and HSB have a significant positive correlation with blood pressure stability and improved quality of life among the elderly (Amalia & Soesanto, 2024; Wardani & Azinar, 2023). This is consistent with findings that medication adherence is a crucial component in managing hypertension (Amanda et al., 2024). Furthermore, non-adherence to long-term therapy can continuously worsen the health condition of the elderly (Anshari, 2020; Laila et al., 2025). Other studies also indicate that HSB plays a role in improving early detection and management of chronic diseases (Agustina et al., 2023).

The majority of these studies have focused primarily on the relationship between knowledge or behavior and treatment adherence or blood pressure control. Studies that specifically link knowledge of antihypertensive drug use and HSB to the quality of life of the elderly with hypertension, especially at the regional level, remain limited. This study aims to analyze the relationship between knowledge of antihypertensive drug use and HSB with quality of life among elderly adults with hypertension in Karawang Regency.

The novelty of this study lies in the integration of two health behavior variables-knowledge regarding the use of antihypertensive medications and health-seeking behavior-in relation to the quality of life among the elderly with hypertension within the context of Karawang Regency.

This approach provides a more comprehensive understanding of the factors influencing quality of life, thereby serving as a foundation for formulating health education-based interventions and improving access to healthcare services for this elderly population.

## METHODS

This study uses a quantitative observational analytical approach with a cross-sectional design to examine the relationship between knowledge of antihypertensive drug use, health-seeking behavior (HSB), and quality of life among elderly patients with hypertension. The study was conducted in the Telukjambe Timur Community Health Centre service area, Karawang Regency, from August to October 2025. A sample of 68 participants was selected using purposive sampling, with the following criteria: age  $\geq 60$  years, previously diagnosed with hypertension by a healthcare professional, having sought treatment at least twice, possessing the ability to read and complete the questionnaire properly, and being willing to serve as respondents.

Primary data were collected via a structured questionnaire that consisted of four sections: demographic characteristics (closed-ended questions), knowledge regarding the use of antihypertensive drug use, which is measured by 13 items of dichotomous questions (scored 0-1) and classified into good ( $\geq 76\%$ ) and poor ( $< 76\%$ ) based on the median cutoff point of the Kolmogorov-Smirnov test, HSB measured a total of 15 questions on a Likert scale (1 = never to 5 = always) and was classified into positive and negative categories based on the mean cut-off value, while quality of life was measured by the WHOQOL-BREF scale, with 26 items

across four aspects (physical health, psychological, social relationship, and environment), with scores converted to a 0-100 scale where higher scores indicate better quality of life. Knowledge of medication use was measured based on the respondents' level of understanding regarding the purpose, method of use, and regularity of antihypertensive drug consumption. HSB was measured using a questionnaire adapted from the HSB Scale (Adewoye et al., 2021). Quality of life data were measured using the WHOQOL-BREF instrument (Cadmus et al., 2021).

Data analysis was performed using bivariate analysis with the Chi-Square test to determine the relationship between the independent variables (knowledge of medication use) and (health-seeking behavior) and the dependent variable (quality of life of the elderly) at a significance level of  $p < 0.05$  (95% CI).

## RESULTS

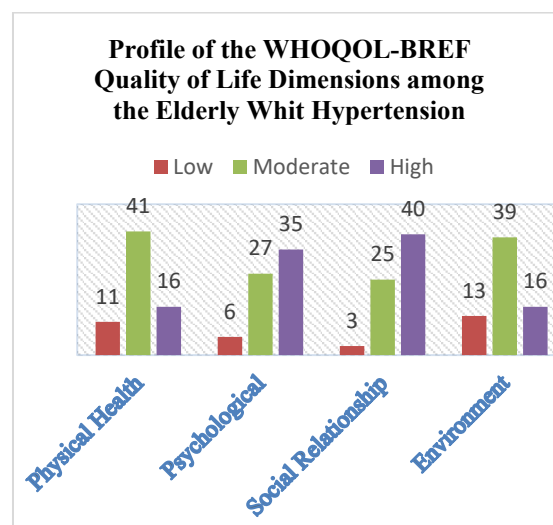
Based on Table 1, most respondents were in the early elderly group and were dominated by women with a secondary education level. The majority of respondents had hypertension for a long time and were using common antihypertensive therapies, with access to healthcare facilities at a more affordable rate and fairly consistent visit frequency. In terms of knowledge, health-seeking behavior, and quality of life, most respondents showed good knowledge of antihypertensive drug use, good health-seeking behavior, and a quality of life that was generally categorized as good.

**Table 1.** Distribution of respondents by demographic characteristics, independent and dependent variables (n=68)

Variables	Frequency	%
<b>Age</b>		
60-69 year	44	64.7
70-79 year	22	32.4
≥80 year	2	2.9
<b>Gender</b>		
Male	21	30.9
Female	47	69.1
<b>Education</b>		
Elementary School	7	10.3
Junior High School	12	17.6
High School	31	45.6
College	18	26.5
<b>Duration of Illness</b>		
< 5 Years	27	39.7
≥ 5 Years	41	60.3
<b>Drug Therapy</b>		
Captopril 12,5 mg	13	19.1
Captopril 25 mg	5	7.4
Amlodipine 5mg	39	57.4
Amlodipine 5mg+Ramipril 10 mg	8	11.8
Amlodipine 5mg+Lisinopril	3	4.4
<b>Distance to Healthcare Facility</b>		
< 1 KM (Near)	15	22.1
1 - 3 KM (Moderate)	43	63.2
> 3 KM (Far)	10	14.7
<b>Frequency of Visits to Healthcare Facilities</b>		
≥ 12 time per year	25	36.8
3 – 11 times per year	27	39.7
≤ 2 times per year	16	23.5
<b>Knowledge</b>		
Good	42	61.8
Poor	26	38.2
<b>Health Seeking Behavior (HSB)</b>		
Good	46	67.6
Poor	22	32.4
<b>Quality of life of the Elderly</b>		
Good	52	76.5
Poor	16	23.5

Figure 1 shows that the quality of life among the elderly with hypertension ranges across certain dimensions. The "moderate" category indicates that respondents experience a reasonably good quality of life, but still face some limitations in their daily activities,

particularly in the physical and environmental aspects. Findings indicate that psychological and social dimensions are relatively well-maintained among older adults, while physical health and environmental support remain suboptimal. This highlights the need for targeted interventions to enhance quality of life, especially for elderly with hypertension.



**Figure 1.** Distribution of Quality of Life of Hypertensive Elderly Based on WHOQOL-BREF Dimensions

The results of the bivariate analysis in Table 2 show that gender ( $p = 0.230$ ; OR = 2.294; 95% CI: 0.578-9.112) and distance to a healthcare facility ( $p = 0.776$ ; OR = 0.786; 95% CI: 0.149-4.141) were not associated with the quality of life of elderly with hypertensive patients. Conversely, several variables showed significant associations. Age ( $p = 0.001$ ; OR = 6.600; 95% CI: 1.930-22.567) indicating respondents aged <70 years had approximately 6.6 times the likelihood of having a good quality of life. Education ( $p = 0.008$ ; OR = 4.914; 95% CI: 1.443-16.741) indicating respondents with lower secondary education or below were

approximately 4.9 times more likely to have a good quality of life. Duration of hypertension ( $p = 0.016$ ; OR = 4.235; 95% CI: 1.252-14.326) indicating respondents with hypertension for <5 years had approximately 4.2 times the likelihood of having a good quality of life. Drug therapy ( $p = 0.001$ ; OR = 38.250; 95% CI: 6.646-220.150) indicating respondents using monotherapy were approximately 38 times more likely to have a good quality of life. Frequency of visits ( $p = 0.021$ ; OR = 4.552; 95% CI: 1.144-26.938) indicating

respondents who made regular visits were approximately 4.5 times more likely to have a good quality of life. Knowledge regarding antihypertensive medications ( $p = 0.001$ ; OR = 23.333; 95% CI: 4.636-117.428) indicating respondents with good knowledge were approximately 23 times more likely to have a good quality of life. Additionally, HSB ( $p = 0.001$ ; OR = 12.600; 95% CI: 3.349-47.412) indicating respondents with good HSB were approximately 12.6 times more likely to have a good quality of life.

**Table 2.** Bivariate analysis of demographic characteristics, knowledge of antihypertensive drug use, and health-seeking behavior in relation to the quality of life among the elderly with hypertension (n=68)

Independent variable	Dependent variable		P-Value (Sig 95%)	95% CI (Odds Ratio)
	Quality of Life Among Elderly with Hypertension			
	Good	Poor		
<b>Age</b>				
< 70 years	39	5	<b>0.001*</b>	<b>6.600 (1.930-22.567)</b>
≥ 70 years	13	11		
<b>Gender</b>				
Male	18	3	0.230	2.294 (0.578-9.112)
Female	34	13		
<b>Education</b>				
Lower Secondary Education	43	7	<b>0.008*</b>	<b>4.914 (1.443-16.741)</b>
Higher Education	10	8		
<b>Duration of Illness</b>				
< 5 years	36	5	<b>0.016*</b>	<b>4.235 (1.252-14.326)</b>
≥ 5 years	17	10		
<b>Drug Therapy</b>				
Monotherapy	51	6	<b>0.001*</b>	<b>38.250 (6.646-22.150)</b>
Combination Therapy	2	9		
<b>Distance to Healthcare Facility</b>				
Nearby (1-3 km)	44	14	0.776	0.786 (0.149-4.141)
Far (> 3 km)	8	2		
<b>Frequency of Visits to Healthcare Facilities</b>				
Regular (≥ 12 times per year)	23	2	<b>0.021*</b>	<b>4.552 (1.144-26.938)</b>
Irregular (< 12 times per year)	29	14		
<b>Knowledge</b>				
Good	40	2	<b>0.001*</b>	<b>23.333 (4.636 - 117.428)</b>
Poor	12	14		
<b>Health Seeking Behavior (HSB)</b>				
Good	42	4	<b>0.001*</b>	<b>12.600 (3.349 - 47.412)</b>
Poor	10	12		

## DISCUSSION

### Profile of Quality-of-Life Dimensions Among the Elderly with Hypertension Based on the WHOQOL-BREF's Four Dimensions

The results show that the quality of life among the elderly with hypertension in this study tends to be better in the psychological and social relationship dimensions compared to the physical and environmental dimensions. This pattern suggests that quality of life among the elderly with chronic diseases is influenced not only by physical health but also by psychological, social, and environmental factors. In the physical dimension, most respondents fell into the moderate category. According to the WHOQOL-BREF instrument, quality of life is defined as an individual's perception of their position in life within the context of their cultural and value systems (Andriani et al., 2022).

High scores on the psychosocial dimension indicate good psychological adaptability, particularly in accepting their condition and managing emotional responses. This may be influenced by their longer experience of living with chronic illness, which supports the development of effective coping strategies. These findings are consistent with previous studies showing that positive self-acceptance and adaptive coping are associated with better psychological well-being (Megasari et al., 2023; Sutini et al., 2022).

The social dimension had the highest proportion of respondents in the high category compared to the other dimensions. This indicates that social support plays a significant role in maintaining quality of life. Family support can help the elderly manage their treatment, maintain treatment adherence, and provide emotional support. These findings align

with research indicating that social support is a key determinant that can improve quality of life among the elderly with chronic diseases (Ida Ayu et al., 2022).

The environmental dimension includes factors such as access to healthcare services, housing conditions, environmental safety, and the availability of health-supporting facilities. Several studies have shown that access to adequate healthcare services can improve quality of life among the elderly with chronic diseases (Harnawati & Nisa, 2023; Noviyanti et al., 2023; Priyanto et al., 2020).

### The Relation between Demographic Characteristics and Quality of Life in the Elderly with Hypertension

Age was significantly associated with quality of life ( $p = 0.001$ ; OR = 6.600; 95% CI: 1.930-22.567). Elderly with younger age had a greater likelihood of having a better quality of life. Physiologically, advancing age is associated with declining organ function and reduced physical capacity. These findings are consistent with previous research showing that the elderly with stage II hypertension are 2.5 times more likely to experience poor quality of life (Winahyu et al., 2014; Baroroh et al., 2021).

The gender variable did not show a significant relationship with quality of life ( $p = 0.230$ ; OR = 2.294; 95% CI: 0.578-9.112). This result is in line with studies indicating that differences in quality of life between men and women among hypertensive people are not always significant after accounting for other health factors (Winahyu et al., 2017). The elderly who consistently take their antihypertensive medications and monitor blood pressure regularly are more likely to maintain a good quality of life, regardless of gender (Zheng et al., 2021).

The level of education showed a significant relationship with quality of life ( $p = 0.008$ ; OR = 4.914; 95% CI: 1.443-16.741). The elderly with higher levels of education tend to have better understanding of hypertension management. Education levels is a significant determinant of health information literacy (Putri et al., 2025). Higher education facilitates more efficient hypertension control through increased health awareness (Nurhayati et al., 2020; Pangestuti et al., 2022).

The duration of hypertension is related to quality of life ( $p = 0.016$ ; OR = 4.235; 95% CI: 1.252-14.326). The elderly who have had hypertension for a longer period tend to experience a decline in quality of life due to increased risk of complications. These findings align with Yulitasari et al. (2021) showing that hypertension lasting more than three years can significantly impair quality of life.

Drug therapy showed a highly significant relationship with quality of life ( $p = 0.001$ ; OR = 38.250; 95% CI: 6.646-220.150). Patients on monotherapy are more likely to have a good quality of life compared to those on combination therapy, as patients requiring combination therapy generally have hypertension that is harder to control. These findings align with Amalia & Soesanto (2024) showing that an increase in the number of antihypertensive medications can affect patients' quality of life.

The distance to healthcare facilities did not significantly relate to quality of life ( $p = 0.776$ ; OR = 0.786; 95% CI: 0.149-4.141). Factors influencing access to healthcare are not solely determined by distance but are also influenced by transportation availability and family support (Dolo et al., 2021; Pirouz et al., 2024).

The frequency of visits to healthcare facilities was significantly related to quality of life ( $p = 0.021$ ; OR = 4.552; 95% CI: 1.144-26.938). Regular visits allow for periodic blood pressure monitoring, evaluation of drug therapy, and health education. These findings align with research indicating that regular use of healthcare services can increase blood pressure control and quality of life (Sakinah et al., 2021; Wardani & Azinar, 2023).

### **The Relationship Between Knowledge of Antihypertensive Drug Use and The Quality of Life Among the Elderly with Hypertension**

Knowledge of antihypertensive drug use has an important role in quality of life ( $p = 0.001$ ; OR = 23.333; 95% CI: 4.636-117.428). A good understanding of drug types, dosages, timing of administration, and treatment goals can help patients adhere to their treatment more regularly, thereby contributing to better blood pressure control and ultimately improving quality of life.

Theoretically, health knowledge is one of the key components of health behavior that can influence an individual's decisions regarding chronic disease management (Zahra et al., 2024). A literature review by Firmansyah et al. (2025) confirmed that the level of knowledge among the elderly regarding antihypertensive drugs has significant correlations with treatment adherence and quality of life. These findings are consistent with Sutini et al. (2022) and Putri et al. (2025), who showed that health education regarding antihypertensive drug use can improve treatment adherence and enhance clinical outcomes.

## The Relationship Between Health-Seeking Behavior and Quality of Life Among the Elderly with Hypertension

HSB was associated with quality of life ( $p = 0.001$ ; OR = 12.600; 95% CI: 3.349-47.412), indicating that those with better health-seeking behavior tend to have a higher quality of life. Active behavior in utilizing healthcare services plays a crucial role in managing hypertension and ultimately improves quality of life among the elderly.

The findings align with Haryanto et al. (2025) stating that healthcare utilization behavior is one of the key factors influencing health status and quality of life. Pangestuti et al. (2022) states that active use of health services can improve quality of life among the elderly with hypertension. Although some studies indicate that HSB is mediated by self-efficacy and lifestyle (Fitrianingshi et al., 2022), the strong relationship found here indicates that active healthcare seeking substantially improves the chances of maintaining good health.

This study has several limitations. The cross-sectional design limited the ability to establish causal relationships. Additionally, this study was conducted within a specific context, which may limit generalization. Furthermore, unmeasured variables such as comorbidities and family support may also influence quality of life but were not fully explored.

## CONCLUSION

The quality of life of elderly with hypertension is determined by a combination of demographic factors (age, education, duration of illness, drug therapy, distance to healthcare facility), knowledge about the use of antihypertensive drugs, and HSB, where knowledge and HSB have a significant relationship with quality of life

and a key role in supporting appropriate therapy management, treatment adherence, and effective use of healthcare services. Therefore, strengthening educational interventions and improving access to primary health care are essential to improving treatment outcomes and overall quality of life among elderly with hypertension.

## CONFLICT OF INTEREST

The authors declare that this study involves no conflicts of interest of any kind, whether related to financial, institutional, or personal interests that could influence the research process, data analysis, or the preparation of this article.

## AUTHORS' DECLARATION

The authors declare that this article is an original scientific paper that has not been published elsewhere and is not currently under consideration by any other journal. The authors assume full responsibility for all content, data, analysis, and interpretations presented in this article.

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