

The Relationship between Healthy Lifestyle Compliance and Quality of Life in Hypertension Patients

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ARTICLE INFORMATION

Article history

Received (20 October 2025)

Revised (19 January 2026)

Accepted (23 January 2026)

Keywords

healthy lifestyle compliance;
hypertension; quality of life

ABSTRACT

Introduction: Hypertension negatively impacts the quality of life of its sufferers. A healthy lifestyle is essential for managing hypertension. This study aims to analyze the relationship between adherence to a healthy lifestyle and quality of life in people with hypertension.

Methods: This quantitative study involved 80 randomly selected hypertensive patients. The study variables encompassed compliance with healthy lifestyle practices and the overall quality of life, measured using a valid and reliable healthy lifestyle adherence questionnaire and the WHOQOL-BREF. Bivariate analysis was performed using the Gamma test.

Results: The study found that 41.25% were non-adherent to a healthy lifestyle, and 41.25% also had a poor quality of life. The findings of the study demonstrated a strong association between commitment to a healthy lifestyle and quality of life among individuals with hypertension, supported by a *p*-value of 0.000 and a correlation coefficient (*r*) = 0.859.

Conclusions: Hypertensive individuals who maintain healthy lifestyle practices typically demonstrate better quality of life. This suggests that it is essential for people with hypertension to be motivated to live healthily by increasing physical activity, following a balanced diet, and avoiding tobacco use.

Introduction

High blood pressure is a significant contributing factor to the development of cardiovascular diseases, conditions that can ultimately result in fatal outcomes (Niu et al., 2021). Apart from its high incidence, hypertension also has an effect on the physical and psychological health aspects of quality of life (Hamza et al., 2025). Evidence indicates that individuals with hypertension continue to experience a relatively low quality of life. Nearly 85% of people with hypertension are affected by a reduced quality of life (Luhat et al., 2024).

The rate of occurrence of high blood pressure has risen markedly, reaching over one billion affected individuals worldwide by the year 2019. This hypertension is mostly suffered by adults and the elderly in emerging economy countries (Saleem et al., 2025). The WHO has highlighted that a key objective within the 2030 Sustainable Development Goals is the strategies for preventing and addressing non-communicable diseases including hypertension. This hypertension prevention and control program has become a priority in Indonesia due to the significant increase in incidence (Direktorat Pencegahan dan Pengendalian Penyakit Tidak Menular, 2019). The 2023 Indonesian Health Survey reported that among all non-communicable diseases, hypertension showed the highest rate of occurrence. While the prevalence of hypertension in 2023 decreased compared to 2018, there remains a gap in public knowledge about hypertension status. There is a difference of approximately 20% between the prevalence based on doctor's diagnosis (5.9%) and the prevalence based on blood pressure measurements (26%) in the 18-59 age group. East Java Province is classified among the five regions reporting the highest rates of hypertension. According to the 2023 Indonesian Health Survey Report,



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hypertension accounts for 34.3% in East Java (Kementerian Kesehatan Republik Indonesia, 2024). Jember Regency is also one of the regencies in the province with a relatively high hypertension rate. Jenggawah Community Health Center is one of the areas in Jember with a fairly high rate of hypertension. Data on elderly health at the Jenggawah Community Health Center in 2022 showed that hypertension was the number one disease occurring in the elderly (Basri et al., 2022). Previous research in this location found that 67% of people with hypertension were classified as less than compliant with a healthy lifestyle (Astutik et al., 2024). Other previous research also explained that the average physical health aspect of quality of life was 51.1 out of the highest score of 100, which indicates that the overall well-being of individuals living with hypertension is still not optimal (Aihemaiti et al., 2025). The results of interviews conducted with 10 people suffering from hypertension showed that 70% stated that their quality of life was poor and 30% stated that it was normal. When asked about their adherence to a healthy lifestyle, 80% stated that they still often consume salty foods and 60% stated that they rarely exercise.

Self-care practices play a significant role in influencing the quality of life among people with hypertension (Zeng et al., 2024). Good self-care management will ultimately be able to enhance overall well-being of hypertension sufferers (Barus et al., 2023). This is in line with the fact that an effective approach to reducing the burden of hypertension globally, and especially in Indonesia, is through modifying diet and lifestyle. Efforts to increase awareness of healthy behaviors are crucial, as this is one of the reasons why the occurrence of hypertension is more widespread in emerging economy countries compared to those with high income levels (Saleem et al., 2025). Complications that can occur in people with hypertension if they are unable to control their blood pressure are often correlated with the emergence of additional non-communicable diseases, particularly heart disease, stroke, and chronic kidney failure (Sripachot et al., 2024).

The Indonesian government has basically made efforts to control non-communicable diseases in Indonesia. The government even always conducts a survey on the incidence of hypertension every five years. The government is working to strengthen screening for non-communicable diseases, including hypertension, provide health education on the importance of early detection and treatment, and integrate hypertension-related health services (Kementerian Kesehatan Republik Indonesia, 2024). Community health centers, which operate directly in each of their areas and interact directly with the community, also have a program of integrated non-communicable disease service posts, which are routinely conducted monthly. Interventions that can be carried out in an effort to improve quality of life are quite diverse, such as autogenic training (Rohana et al., 2023). However, unfortunately, the government's efforts are more focused on controlling the blood pressure of hypertension sufferers with the hope that stable blood pressure can also stabilize their quality of life. The aim of this study was to analyze the relationship between healthy lifestyle compliance with quality of life.

Methods

This quantitative research utilized a cross-sectional method and was implemented in October 2025 at the Jenggawah, Jember, East Java. The population consisted of 100 hypertension patients registered at the Integrated Health Service Post (Posyandu ILP) at Jenggawah Community Health Center. The sample is calculated using the Slovin formula. A total of 80 hypertension patients were randomly selected using simple random sampling. The eligibility criteria established for participation in this study were hypertension patients registered with the Integrated Health Service Post, able to communicate verbally and in writing, *compos mentis*, and willing to respond by signing an informed consent form. The exclusion criteria included hypertension patients with severe complications (coronary heart disease and stroke) and those with mental disorders.



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The variables studied included healthy lifestyle adherence and quality of life. The healthy lifestyle adherence questionnaire was adopted from previous research and has been found to be valid and reliable. The corrected item total correlation value ranged from 0.6-0.9 and Cronbach's Alpha = 0.783 (Khotimah, 2018).. The quality of life questionnaire is the WHOQOL-BREF questionnaire with Cronbach's Alpha = 0.91 (WHO, 2020).

Data collection was conducted during the Integrated Health Service Post (Posyandu ILP). Respondents who met the inclusion criteria completed the questionnaire after signing an informed consent form. The researcher assisted them in completing the questionnaire and provided explanations if any questions were unclear to them. The data analysis process encompassed both univariate and bivariate methods. Univariate analysis was conducted to examine the demographic characteristics and the specific variables of the study using frequency distribution and calculation of mean, median, and standard deviation values depending on the type of data, whether categorical or numerical. Bivariate analysis was performed to explore the connection between healthy lifestyle adherence with quality of life using the Gamma Test. This study has also received an ethical certificate from the KEPK of dr. Soebandi University with No. 1268/KEPK/UDS/VII/2025 on July 15, 2025.

Results

The research results included respondent characteristics and research variables. The following is a presentation of the research data:

Table 1. Numerical descriptive data of respondent characteristics based on age, height, and weight (n=80)

Respondent characteristics	Mean	Median (Minimum-maximum)
Age (years)	54,55	56 (32-76)
Height (cm)	156,88	157 (144-172)
Weight (kg)	63,20	64,50 (42-82)

Source: Primary Data, 2025

As shown in Table 1, the mean age of the respondents was 54.55 years. The average height was 156,88 cm, and the average weight was 63,20 kilograms.

Table 2. Categorical descriptive data of respondent characteristics based on BMI (n=80)

Respondent characteristics	Frequency (n)	Percentage (%)
Body Mass Index (BMI)		
Obesitas	19	23,75
Overweight	27	33,75
Normal	28	35,00
Underweight	6	7,50
Total	80	100

Source: Primary Data, 2025



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Table 2 explained that the BMI most common among respondents was the normal category, namely 28 respondents (35%).

Table 3. Categorical descriptive data of healthy lifestyle adherence variables and quality of life (n=80)

Research variables	Frequency (n)	Percentage (%)
Healthy lifestyle adherence		
Not compliant	33	41,25
Poorly compliant	22	27,50
Compliant	25	31,25
Quality of life		
Very poor	0	0,0
Poor	33	41,25
Fair	24	30,00
Good	20	25,00
Very good	3	3,75
Total	80	100

Source: Primary Data, 2025

Table 3 explained that almost half of the respondents were classified as non-compliant in adopting a healthy lifestyle and also had a poor quality of life, namely 33 respondents (41.25%).

Table 4. Relationship between healthy lifestyle adherence with quality of life (n=80)

Healthy lifestyle adherence	Quality of life				Total	P value	r			
	Poor		Fair							
	n	%	n	%						
Not compliant	23	69,7	10	30,3	0	0,0	0,0	33 41,25		
Poorly compliant	10	45,5	9	40,9	3	13,6	0	22 27,50		
Compliant	0	0,0	5	20,0	17	68,0	3	12,0 25 31,25		
Total	33	41,25	24	30,0	20	25,0	3	3,75 80 100		

*Gamma Test

Table 4 illustrated a significant relationship between adherence to a healthy lifestyle and the quality of life among individuals with hypertension, indicated by a p-value of 0.000 and a correlation coefficient of 0.859. The data in Table 4 further revealed that hypertension patients who fail to maintain healthy lifestyle practices generally experience a lower quality of life, whereas those who consistently follow healthy lifestyle behaviors tend to achieve a good to excellent quality of life.

Discussion

Overview of Healthy Lifestyle Compliance

Nearly half of people with hypertension are considered non-compliant with a healthy lifestyle. This indicates that nearly half of those with hypertension still have unhealthy diets, lack



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physical activity, and smoke in their daily lives. They still consume salty, sweet, fatty, grilled or preserved foods, foods containing flavorings, and instant foods more frequently than recommended daily. They also consume insufficient amounts of vegetables and fruit. Consumption of salty foods is associated with increased sodium in the body, leading to water retention, significant changes in endothelial function, and increased peripheral resistance (Grillo et al., 2019). With regard to the body mass index (BMI) traits identified in this study, 35% had a normal BMI, 33.75% were overweight, and 23.75% were obese. Frequent intake of sugary and ultra-processed foods was observed among individuals who had a normal BMI but exhibited an elevated proportion of body fat (Kobayashi et al., 2023). A person with a high BMI tends to be at greater risk of suffering from hypertension (Mahiroh et al., 2019).

The lack of physical activity in this study indicates that people with hypertension exercise less than three times a week. When people with hypertension do exercise, their exercise time is still less than 10 minutes. Watching television has been linked to a higher likelihood of developing hypertension. The longer an individual watches television, the greater the risk of developing hypertension (Wang et al., 2025). This is quite common among Indonesians, who lack physical activity and tend to prefer sitting around watching television. They also assume that their daily work, such as working in the fields or doing housework, is considered physical activity, so they don't make time for exercise.

Smoking behavior among hypertension sufferers remains quite high on a daily basis. Previous research also confirmed that smoking habits are indeed associated with the incidence of hypertension (Dilla et al., 2024). This smoking habit is still quite high in Indonesia and generally men have smoking behavior both in urban and rural areas.

Overview of Quality of Life

Approximately 50% of individuals living with hypertension experience a reduced quality of life. Quality of life is a subjective reflection of how a person assesses their position in life, formed from personal experiences and assessments of their physical, psychological, social, and environmental conditions. This perception is closely related to the extent to which an individual is able to achieve their life goals, fulfill their expectations, and align themselves with their values and standards. Thus, quality of life reflects not only material well-being but also the satisfaction, meaning in life, and sense of accomplishment an individual experiences in living their life. Quality of life is related to their well-maintained and meaningful well-being (Destriande et al., 2021). This suggests that individuals with hypertension continue to experience poor well-being across areas such as bodily health, mental state, social relationships, and surrounding environment. People perceive themselves as less cared for and their lives as less meaningful.

The average age of hypertension sufferers is 54.55 years, which is included in the late adulthood category and approaching elderly age. Age influences people's perceptions of quality of life (Alimoradzadeh et al., 2025). Older individuals often suffer from various illnesses that ultimately interfere with their daily activities. Physical illness can also affect their psychological well-being, ultimately leading to anxiety or depression.

More than half of the respondents in this study had a BMI of overweight or obesity. BMI is an indicator of a person's health. Physical health is indeed a factor related to quality of life in the elderly (Destriande et al., 2021). People with a BMI that exceeds the normal BMI are vulnerable to diseases that ultimately disrupt their physical health and reduce their quality of life. Hypertension sufferers tend to have a poor quality of life, which certainly requires more optimal treatment or therapy to stabilize blood pressure and improve their quality of life (Wu et al., 2025).



The Relationship between Healthy Lifestyle Compliance and Quality of Life in Hypertension Patients

A clear association exists between maintaining a healthy lifestyle and overall quality of life. The more compliant they are in adopting a healthy lifestyle, the better the quality of life of people with hypertension. The more disobedient they are in adopting a healthy lifestyle, the worse the quality of life for people with hypertension will be. Self-care management have been shown to have a significant relationship with quality of life in people with chronic diseases such as hypertension. One of the aspects assessed in self-care management is related to diet, activity and smoking behavior (Aihemaiti et al., 2025). Where these three things are also indicators of compliance with a healthy lifestyle.

Individuals with hypertension who consistently follow healthy lifestyle practices are more likely to enjoy enhanced well-being. Hypertension sufferers who maintain a healthy diet, engage in high levels of physical activity, and refrain from smoking can significantly impact their physical health. Well-managed physical health in people with hypertension will undoubtedly lead to improved psychological well-being. Hypertension sufferers will feel less anxious about the risk of high blood pressure. Physical and mental health will enable them to socialize optimally with their environment, leading to a improved overall well-being for those with hypertension.

Inadequate adherence elevates the risk of disease deterioration, leads to more complications, and results in higher healthcare expenditures (Religioni et al., 2025). This is crucial for improving adherence to a healthy lifestyle in people with hypertension. Increased adherence will lead to improved health, which in turn will improve the quality of life. Educational attainment and the extent of one's knowledge play a crucial role in enhancing adherence to healthy lifestyle practices (Astutik et al., 2024). This indicates the importance of ongoing education by healthcare workers at the Integrated Health Service Post (Posyandu ILP) to promote strong commitment to maintaining healthy lifestyle behaviors among individuals with hypertension. Healthcare workers should consistently emphasize the importance of monitoring their diet, increasing physical activity, and quitting smoking. Not only does it involve the role of health workers, efforts to increase adherence to a healthy lifestyle will be more effective if supported by the family (Silvanasari et al., 2023).

This study certainly has limitations. Measuring adherence to a healthy lifestyle was conducted using a self-completed questionnaire without validating the healthy lifestyle habits of the individuals living in the same household as the patient. Another limitation is the limited sample size and the single-point measurement.

Conclusion

Almost fifty percent of individuals living with hypertension fail to maintain a healthy lifestyle and consequently experience a lower quality of life. A clear association exists between lifestyle adherence and overall well-being among those with hypertension. Individuals who consistently follow healthy lifestyle practices generally report better quality of life outcomes. This underscores the importance of encouraging people with hypertension to adopt and sustain healthy behaviors, which involves participating in consistent physical exercise, maintaining a nutritious and well-balanced diet, and refraining from smoking.

Ethics approval and consent to participate

The research was deemed ethically acceptable in alignment with the seven ethical principles outlined by the WHO in 2011, encompassing social value, scientific validity, equitable distribution of risks and benefits, risk assessment, avoidance of inducement or exploitation, protection of



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health and privacy, and the implementation of informed consent in in KEPK Universitas dr. Soebandi bearing the reference number 1268/KEPK/UDS/VII/2025, on July 15, 2025

Acknowledgments

This research was made possible thanks to the 2025 Beginner Lecturer Research Grant from the Ministry of Higher Education, Science, and Technology (Kemendiktisaintek). The researcher extends sincere appreciation to Kemendiktisaintek for all the support they have provided. The researcher also extends sincere gratitude to the Jenggawah Community Health Center for providing the opportunity and support to carry out this study.

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