PROCEEDING

2nd Banten International Conference on Health Advancement & Research
binar@poltekkesbanten.ac.id
https://binar.poltekkesbanten.ac.id/
Vol. 1 No. 2 (2026)

THE INFLUENCE OF KNOWLEDGE, ATTITUDE, AND FAMILY SUPPORT ON HYPERTENSION CONTROL IN THE ELDERLY IN PESU VILLAGE, MAOSPATI DISTRICT, MAGETAN REGENCY

Ayunda Hapsari Valentina[1,✉]

[1]Department of Public Health, STIKES Bhakti Husada Mulia Madiun, ayundahapsari1824@gmail.com

ABSTRACT

Hypertension remains a major global health problem, and control rates among the elderly in Indonesia are still low. This study aimed to analyze the influence of knowledge, attitude, and family support on hypertension control among the elderly in Pesu Village, Maospati District, Magetan Regency. A quantitative analytic method with a cross-sectional design was used. The population consisted of 127 elderly people diagnosed with hypertension, and a sample of 56 respondents was selected using simple random sampling. Data were collected using structured questionnaires that had been tested for validity and reliability, and were analyzed using univariate, bivariate (Chi-Square), and multivariate (logistic regression) analysis. The results showed that 51.8% of respondents had good knowledge, 60.7% had a positive attitude, 55.4% received family support, and 78.6% demonstrated good hypertension control. Bivariate analysis found significant associations between knowledge (p=0.036), attitude (p=0.028), and family support (p=0.002) with hypertension control. Multivariate analysis revealed that family support was the most dominant factor influencing hypertension control (p=0.039; Exp(B)=6.218). Family support, more than knowledge or attitude alone, plays the strongest role in encouraging elderly people to consistently control their blood pressure. Health centers and families are encouraged to strengthen collaborative education and monitoring programs to improve hypertension control among the elderly.

Keywords: hypertension control; elderly; knowledge; attitude; family support

INTRODUCTION

As lifestyles have gradually become more modern, people increasingly favor practical and instant options, resulting in reduced physical activity and higher consumption of fast food that is high in fat and sodium. The demands of modern life also generate stress from dense daily routines, which in turn can encourage unhealthy habits such as smoking and excessive consumption of alcohol and caffeine. These combined factors increase the risk of various diseases, including hypertension (Sari, 2022).

Hypertension has emerged as a significant global health problem in both developed and developing countries, with its incidence continuing to rise each year. Hypertension control is a proactive measure aimed at maintaining blood pressure within normal limits, specifically a systolic pressure of ≥140 mmHg and a diastolic pressure of ≥90 mmHg (Annisa et al., 2024). Hypertension is often labeled the "silent killer" because its manifestations frequently go unrecognized by those affected, allowing serious medical conditions to develop, particularly among the elderly (Dwi Maryani et al., 2024). This vulnerability arises from age-related declines in bodily function, including changes in blood flow and reduced activity of the renin-angiotensin system, while lifestyle changes such as increased sodium intake further contribute to the onset of hypertension (Diniayuningrum et al., 2025).

According to the World Health Organization (WHO, 2025), 1.4 billion people worldwide live with hypertension, yet only one in five is able to control it through treatment or modification of risk factors; uncontrolled hypertension claims more than 10 million lives every year despite being preventable and treatable. The Indonesia Health Survey (SKI) 2023 recorded a decrease in hypertension prevalence among adults aged 18 years and above, from 34.1% in 2018 to 30.8% in 2023, although hypertension remains a critical public health concern. Among individuals aged 60 years and above, a gap of approximately 20% exists between the prevalence based on physician diagnosis (22.9%) and the prevalence based on blood-pressure measurement

(33.9%), indicating that many people remain unaware of their condition. East Java ranks fourth among Indonesian provinces with a hypertension prevalence of 34.3% (Kementerian Kesehatan Republik Indonesia, 2024).

The national target for controlled hypertension was set at 63% in 2023 and increased to 90% in 2024 (Kemenkes RI, 2022); however, the proportion of controlled hypertension among the elderly in Indonesia in 2023 remained low, at only 17.7% of those diagnosed. East Java ranked 31st out of 38 provinces, with a controlled proportion of only 16.3% (Kemenkes RI, 2023). Meanwhile, the health profile of Magetan Regency for 2024 placed hypertension as the leading disease found at community health centers (Dinas Kesehatan Kabupaten Magetan, 2024). Within the working area of Ngujung Health Center, hypertension service coverage in 2021 reached only 75.2% of the 100% target, with Pesu Village accounting for 127 registered elderly hypertensive residents.

A preliminary interview with the officer in charge of the non-communicable disease program at Ngujung Health Center revealed that many hypertensive residents have not optimally controlled their condition. Because hypertension rarely produces distinctive symptoms, patients often take medication only when experiencing complaints such as dizziness or severe headache, and neglect routine blood-pressure checks or regular antihypertensive medication when asymptomatic, leading to uncontrolled blood pressure and a higher risk of complications.

With advancing age, physiological changes such as reduced vascular elasticity and impaired blood-pressure regulation place the elderly at high risk of hypertension, and poorly controlled hypertension can lead to stroke, coronary heart disease, and renal failure (Jayanti et al., 2022). Successful blood-pressure control depends not only on medical treatment but also on behavioral and social factors, including regular blood-pressure monitoring, consistent use of antihypertensive medication, a low-salt diet, and routine physical activity. Not every elderly person is able to sustain these behaviors consistently; a lack of knowledge about hypertension may prevent understanding of the importance of blood-pressure control, an unsupportive attitude toward treatment may reduce adherence, and family support plays an important role in helping the elderly comply with treatment and adopt healthy lifestyle behaviors, such as reminding them of medical appointments, facilitating access to health services, and providing motivation.

Hypertension control can be promoted by adopting the "CERDIK" behavior, which encompasses regular health check-ups, avoidance of tobacco, consistent physical exercise, a balanced diet, adequate rest, and effective stress management. Research by Seprina et al. (2022) found that greater adherence to CERDIK behavior is associated with better blood-pressure control among elderly hypertensive patients, a finding consistent with Fadila and Syafriati (2024). Behavioral changes such as routine check-ups, dietary improvement, adequate rest, and safe physical activity represent key strategies for hypertension control, yet many individuals fail to sustain them; knowledge, attitude, and family support are among the factors that shape this behavior.

Based on the background above, the researcher was interested in examining the factors that influence hypertension control among the elderly in Pesu Village, Maospati District, Magetan Regency.

MATERIALS AND METHODS

This study used a quantitative analytic method with a cross-sectional design, in which all variables were observed at a single point in time. The study aimed to identify the factors that influence hypertension control among the elderly in Pesu Village, Maospati District, Magetan Regency.

The target population consisted of all elderly residents diagnosed with hypertension in Pesu Village, totaling 127 people according to the priority health program data of the local health center. The sample size was calculated using the Slovin formula with a 10% margin of error, yielding a minimum sample of 56 respondents. Respondents were selected using simple random sampling, a technique that gives every member of the population an equal chance of being selected.

The inclusion criteria were: elderly hypertensive patients aged 55-65 years who agreed to participate as respondents; diagnosed with hypertension based on health-worker records or blood-pressure measurement; and residing in Pesu Village for at least six months prior to the study. The exclusion criteria were: elderly people who were undergoing inpatient treatment at a health facility at the time of the study; and those who declined or were unwilling to participate as respondents.

Data were collected using a structured questionnaire covering four variables: knowledge (X1), attitude (X2), family support (X3), and hypertension control (Y). The knowledge questionnaire used a true/false format (15 items), the attitude questionnaire used a five-point Likert scale (15 items), and the family support and hypertension-control questionnaires used frequency-based response options (15 items each). All instruments were developed based on Lawrence Green's health-behavior theory and the CERDIK behavioral concept, and

were tested for validity and reliability on 30 respondents with similar characteristics to the study population prior to use. Validity testing using Pearson correlation (df=28, r-table=0.361) showed that all items across the four variables were valid (r-count > 0.361, p<0.05). Reliability testing produced Cronbach's Alpha values of 0.712 (knowledge), 0.772 (attitude), 0.867 (family support), and 0.805 (hypertension control), all exceeding the 0.60 threshold and indicating that the instruments were reliable.

The study was conducted in Pesu Village, Maospati District, Magetan Regency, an area selected for its relatively high number of elderly hypertensive residents and its accessibility for data collection. Data were analyzed using IBM SPSS Statistics through univariate analysis (frequency distribution), bivariate analysis using the Chi-Square test (with Fisher's Exact Test applied when the expected-count assumption was not met) to examine the association between each independent variable and hypertension control, and multivariate analysis using binary logistic regression to determine the most dominant factor influencing hypertension control. Variables with p≤0.25 in the bivariate analysis were included in the multivariate model. This study was conducted in accordance with the principles of research ethics, including respect for human dignity, confidentiality, non-maleficence, beneficence, and justice; all respondents provided informed consent prior to participation.

RESULTS AND DISCUSSION

Characteristics of Respondents

Table 1 presents the demographic characteristics of the 56 respondents. Most respondents were aged 60-64 years (44.6%), female (80.4%), and had completed only primary school (41.1%).

Table 1 Characteristics of Respondents

Characteristic	n	%
Age group		
55-59 years	20	35.7
60-64 years	25	44.6
≥65 years	11	19.6
Sex		
Male	11	19.6
Female	45	80.4
Education		
Primary school	23	41.1
Junior high school	18	32.1
Senior high school	13	23.2
Higher education	2	3.6
Total	**56**	**100**

Source: Primary data, 2026

Table 1 shows that respondents' ages ranged from 55 to 65 years, with the largest proportion in the 60-64 year group. The predominance of female respondents (80.4%) is consistent with the higher risk of hypertension among women after menopause. The relatively low educational attainment of most respondents (73.2% had only primary or junior high school education) may affect their capacity to receive and process health information, including information about hypertension control.

Univariate Analysis

Table 2 shows the distribution of respondents according to knowledge, attitude, family support, and hypertension control.

Table 2 Distribution of Knowledge, Attitude, Family Support, and Hypertension Control

Variable / Category	n	%
Knowledge		

Variable / Category	n	%
Poor	27	48.2
Good	29	51.8
Attitude		
Negative	22	39.3
Positive	34	60.7
Family support		
Absent	25	44.6
Present	31	55.4
Hypertension control		
Poor	12	21.4
Good	44	78.6

Source: Primary data, 2026

Slightly more than half of the respondents (51.8%) had good knowledge about hypertension control, while 48.2% had poor knowledge, indicating that understanding of hypertension control in this population is not yet evenly distributed. Most respondents (60.7%) held a positive attitude toward hypertension-control efforts, and 55.4% reported receiving family support. Overall, 78.6% of respondents demonstrated good hypertension control, while 21.4% still showed poor control, suggesting that although routine activities such as the elderly integrated health post (Posyandu Lansia) have supported blood-pressure management in Pesu Village, a meaningful proportion of elderly residents still require closer monitoring and continued education.

Bivariate Analysis

The Chi-Square test was used to examine the association between each independent variable and hypertension control. The results are summarized in Table 3.

Table 3 Chi-Square Test Results for Knowledge, Attitude, and Family Support with Hypertension Control

Variable	Poor Control n (%)	Good Control n (%)	p-value	PR
Knowledge			0.036	3.222
Poor	9 (16.1)	18 (32.1)		
Good	3 (5.4)	26 (46.4)		
Attitude			0.028	3.091
Negative	8 (14.3)	14 (25.0)		
Positive	4 (7.1)	30 (53.6)		
Family support			0.002	6.200
Absent	10 (17.9)	15 (26.8)		
Present	2 (3.6)	29 (51.8)		

Source: Primary data, 2026

Note: PR = prevalence ratio comparing the lower (poorer) category to the better category for each variable.

All three independent variables showed a statistically significant association with hypertension control ($p<0.05$). Respondents with poor knowledge had a 3.222-fold higher prevalence of poor hypertension control compared with those with good knowledge ($p=0.036$). Respondents with a negative attitude had a 3.091-fold higher prevalence of poor control compared with those holding a positive attitude ($p=0.028$). The strongest association was found for family support: respondents without family support had a 6.200-fold higher prevalence of poor hypertension control compared with those who received family support ($p=0.002$).

These findings are consistent with Lawrence Green's health-behavior theory, in which knowledge and attitude act as predisposing factors and family support acts as a reinforcing factor for health behavior. Good knowledge helps the elderly understand the importance of routine blood-pressure checks, medication adherence, and a healthy diet, while a positive attitude increases willingness to adopt these behaviors consistently. However, knowledge and a positive attitude alone are not always sufficient; a substantial minority of respondents (48.2% with poor knowledge and 39.3% with a negative attitude) still require continued education, particularly through simple and repeated messaging delivered via the Posyandu Lansia and Puskesmas services, given that most respondents had only a primary or junior-high education. Family support-through reminding medication schedules, accompanying health checks, preparing low-salt meals, and providing motivation-appears to translate more directly and consistently into actual control behavior than knowledge or attitude alone (Dianti et al., 2023).

Multivariate Analysis

Variables with p≤0.25 in the bivariate analysis (knowledge, attitude, and family support) were entered into a binary logistic regression model to identify the most dominant factor influencing hypertension control. The results are shown in Table 4.

Table 4 Logistic Regression Results for Factors Influencing Hypertension Control

Variable	B	S.E.	Wald	Sig.	Exp(B)
Knowledge	0.959	0.801	1.433	0.231	2.610
Attitude	0.715	0.781	0.839	0.360	2.045
Family support	1.827	0.887	4.243	0.039	6.218

Source: Primary data, 2026

After controlling for the other variables, only family support remained a statistically significant predictor of hypertension control (Sig.=0.039; Exp(B)=6.218), while knowledge (Sig.=0.231; Exp(B)=2.610) and attitude (Sig.=0.360; Exp(B)=2.045) were no longer significant. Elderly respondents who received family support had approximately 6.2 times greater odds of achieving good hypertension control than those who did not, after adjusting for knowledge and attitude. Because family support produced the largest Exp(B) value among the three variables, it was identified as the most dominant factor associated with hypertension control among the elderly in Pesu Village.

This finding underscores that, although knowledge and attitude form an important cognitive and motivational foundation, translating that foundation into sustained control behavior depends heavily on the reinforcing role of the family. Elderly individuals frequently face physical limitations, memory decline, or reduced capacity for independent self-care; family members who remind them of medication schedules, accompany them to health checks, help prepare appropriate meals, and provide emotional encouragement substantially strengthen adherence (Sakinah et al., 2021). This is consistent with Lawrence Green's framework, which positions family support as a reinforcing factor that can amplify the effect of predisposing factors such as knowledge and attitude. Programs aimed at improving hypertension control among the elderly should therefore not rely on individual education alone but should actively involve family members as partners in monitoring and encouraging healthy behavior.

CONCLUSION

This study found that slightly more than half of the elderly respondents in Pesu Village had good knowledge (51.8%) and a positive attitude (60.7%) toward hypertension control, while 55.4% received family support and 78.6% demonstrated good hypertension control overall. Knowledge, attitude, and family support were each significantly associated with hypertension control in bivariate analysis (p<0.05), and among these, family support was the most dominant factor in the multivariate model (p=0.039; Exp(B)=6.218), with elderly respondents receiving family support having approximately six times greater odds of achieving good control. These findings imply that efforts to improve hypertension control among the elderly should combine health education to strengthen knowledge and attitude with the active involvement of family members, particularly through routine reminders, accompaniment to health services, and support for healthy dietary and lifestyle practices. Health centers, together with village governments and community health cadres, are encouraged to strengthen family-inclusive education and monitoring programs, such as through the Posyandu Lansia, to sustain long-term hypertension control among the elderly.

REFERENCES

Adnyana, I. M. D. M., Sari, N. W., & Arifin, Z. (2023). Epidemologi penyakit tidak menular (A. I. Asir, Ed.). CV. Media Sains Indonesia.

Annisa, A., Dwirosalia, D., Wangi, H., & Pembahasan, H. (2024). Faktor-faktor yang ada hubungan dengan pengendalian tekanan darah penderita hipertensi di beberapa lokasi di wilayah Indonesia periode tahun 2011 sampai dengan tahun 2021. Borneo Medical Journal, 2(1), 10-14. https://doi.org/10.56326/bmj.v2i1.1770

Arindari, D. R., & Puspita, R. (2022). Hubungan dukungan keluarga dengan kepatuhan diet hipertensi pada lansia di Puskesmas Ariodillah. Ejournal Medika, 5, 94-103. https://doi.org/10.55541/emj.v5i1.201

Dianti, A. R., Sari, A., & Hakim, A. L. (2023). Hubungan tingkat pengetahuan, sikap, dan dukungan keluarga dengan upaya pengendalian hipertensi pada lansia. Jurnal Kesehatan, 3(1), 19-25.

Dinas Kesehatan Kabupaten Magetan. (2024). Profil kesehatan Kabupaten Magetan 2024 (No. 4).

Diniayuningrum, A., Auliya, N., Irbah, N. A., Sulastri, Roro, S., & Fauziyah, N. (2025). Pemberdayaan lansia wanita dalam pencegahan dan pengendalian hipertensi di Kelurahan Sembungharjo, Semarang. Jurnal Pengabdian Masyarakat, 2(2), 78-84.

Dwi Maryani, R., Yulianto, S., & Sulisetyawati, S. D. (2024). Hubungan dukungan keluarga dengan pengendalian hipertensi di Posyandu Dusun Ngamban. Jurnal Kesehatan, 20, 1-10.

Fadila, R. A., & Syafriati, A. (2024). Penerapan perilaku cerdik terhadap pengendalian tekanan darah pada lansia penderita hipertensi di Puskesmas Kampus Palembang. Jurnal Ilmiah Kesehatan, 5(3), 5475-5484.

Jayanti, T., Sulaeman, A., Rokayah, C., & Nurinda, J. (2022). Pencegahan dan pengendalian hipertensi pada lansia di Kampung KB Desa Cibiru Wetan. Jurnal Peduli Masyarakat, 4(4). https://doi.org/10.37287/jpm.v4i4.1578

Kemenkes RI. (2022). Permenkes No. 13 Tahun 2022 tentang perubahan atas Permenkes No. 21 Tahun 2020 tentang rencana strategis Kementerian Kesehatan tahun 2020-2024 (No. 3), 1-592.

Kemenkes RI. (2023). Survei Kesehatan Indonesia.

Kemenkes RI. (2024). Buku pedoman pengendalian hipertensi di fasilitas kesehatan tingkat pertama, 1-71.

Kementerian Kesehatan Republik Indonesia. (2024). Laporan tematik Survei Kesehatan Indonesia (SKI) tahun 2023: Potret Indonesia sehat.

Sakinah, A. S., Utomo, W., & Agrina, A. (2021). Hubungan dukungan keluarga dan peran tenaga kesehatan dengan kepatuhan kontrol ke pelayanan kesehatan pada lansia penderita hipertensi selama pandemi Covid-19. Berkala Ilmiah Mahasiswa Ilmu Keperawatan Indonesia, 9(2), 99-108. https://doi.org/10.53345/bimiki.v9i2.210

Sari, Y. N. I. (2022). Berdamai dengan hipertensi (1st ed.). Tim Bumi Medika.

Seprina, Herlina, & Bayhakki. (2022). Hubungan perilaku CERDIK terhadap pengontrolan tekanan darah pada lansia hipertensi di masa pandemi COVID-19. Jurnal Keperawatan, 5(1), 66-73.

Sugiyono, P. (2022). Metode penelitian kuantitatif, kualitatif, dan R&D. CV Alfabeta.

World Health Organization. (2025). Global report on hypertension (Vol. 01).