

Motivation and self-efficacy as key factors influencing self-care in hypertensive adults: A cross-sectional study in Indonesia

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OPEN ACCESS

Jurnal Keperawatan Padjadjaran (JKP)

Volume 13(2), 182-190
© The Author(s) 2025
<http://dx.doi.org/10.24198/jkp.v13i2.2609>

Article Info

Received : Sept 18, 2024
Revised : July 23, 2025
Accepted : August 25, 2025
Published : August 30, 2025

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Citation

Upoyo, A. S., Sari, Y., Sutrisna, E., Taufik, A., & Han, H. R. (2025). High blood pressure self-care profile and its related factors among hypertension patient. *Jurnal Keperawatan Padjadjaran*, 13(2), 182-190. <http://dx.doi.org/10.24198/jkp.v13i2.2609>

Website

<http://jkp.fkep.unpad.ac.id/index.php/jkp>

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E-ISSN: 2442-7276
P-ISSN: 2338-5324

Abstract

Background: Self-care is crucial for enhancing life quality and preventing cardiovascular, renal, and vascular complications in individuals with hypertension. However, self-care among patient's hypertension remains suboptimal.

Purpose: Our research aimed to identify the determinants of self-care practice among hypertensive patients in Indonesia.

Methods: A survey that was cross-sectional. It carried out among 209 adults with hypertension attending community health centers in Central Java, Indonesia. Self-care behaviors, motivation, self-efficacy, and knowledge were assessed using the validated Hypertension Self-Care Profile (HBP-SCP) and Hypertension Knowledge-Level Scale (HKLS). Chi-square and multivariable logistic regression tests were used to evaluate the data.

Results: Bivariate analysis revealed significant correlation between self-care behavior and motivation ($p < 0.001$), self-efficacy ($p < 0.001$), and history of hypertension in the family ($p = 0.018$). No significant associations were observed for age, gender, education, occupation, body mass index, blood pressure, or knowledge (all $p > 0.05$). Multivariable analysis demonstrated that motivation ($OR = 2.22$, 95% $CI = 1.10-4.45$, $p = 0.025$) and self-efficacy ($OR = 7.84$, 95% $CI = 3.99-15.39$, $p < 0.001$) were independent determinants of good self-care.

Conclusion: Motivation and self-efficacy are key determinants of hypertension self-care behaviors among Indonesian adults. Interventions should prioritize strengthening motivation and building self-efficacy through motivational interviewing, skills training, and structured follow-up by nurses and other healthcare professionals.

Keywords: hypertension; motivation; self-care behavior; self-efficacy

Introduction

According to data from the World Health Organization (WHO), 22% of the world's population had high blood pressure (HBP) in 2019, with Southeast Asia accounting for more than one-third (36%) of all cases. By 2025, the prevalence of hypertension is projected to increase, affecting an estimated 29% of adults worldwide (WHO, 2023). In Indonesia, hypertension remains a major public health concern, with more than 185,000 reported cases in 2018, making it the most common non-communicable disease in the country (Widyawati, 2021). This rising burden underscores the need for effective strategies that strengthen self-care practices to decrease complications and enhance life quality.

Self-care is essential part of managing chronic diseases, enabling patients to maximize their well-being by monitoring, controlling, and managing symptoms, while also preventing complications and minimizing disturbances in body functions (Gusty & Merdawati, 2020). In the context

of hypertension, self-care encompasses a range of daily health-promoting behaviors such as adhering to a low-salt diet, taking prescribed medications consistently, engaging in regular physical activity, avoiding smoking, maintaining a healthy weight, and abstaining from alcohol consumption (Konlan & Shin, 2023). These practices not only support blood pressure control but also play a central role in preventing target-organ damage and long-term complications involving the heart, kidneys, and vascular system. Evidence further indicates that effective hypertension self-care contributes to better quality of life, improved treatment outcomes, and reduced healthcare costs (Wilandika, 2019). Thus, strengthening self-care behaviors is crucial for addressing the growing burden of hypertensive in both clinical and community settings.

Despite the well-documented benefits of hypertension self-care, research shows that adherence in Indonesia remains alarmingly low. One study reported that fewer than 10% of patients with hypertension engaged in the expected self-care behaviors (Hussen et al., 2020). Similarly, a study involving 209 Indonesian patients found that more than half (59%) demonstrated poor self-care (Upoyo et al., 2021). Another investigation reported an average self-care score of 52.56 on a scale of 20–80, reflecting suboptimal practice levels (Ulya, 2023). Evidence from systematic reviews also highlights the complexity of factors influencing self-care, ranging from demographic characteristics such as age, gender, and socioeconomic status to more proximal factors such as limited knowledge of blood pressure management, inadequate follow-up treatment, and unaddressed risk factors for hypertension (Konlan & Shin, 2023). Collectively, prior studies confirm that self-care among Indonesian patients with hypertension is consistently poor, yet the underlying determinants remain insufficiently understood. Therefore, the present study aimed to examine the determinants of hypertension self-care behaviors in Indonesia.

Materials and Methods

Design

The research used a cross-sectional design as part of quantitative methodology. Researchers can find correlations between independent variables and self-care practices among people with hypertension by using the cross-sectional technique, which gathers data at a specific point in time. While this design does not establish causality, it is particularly useful for examining the prevalence of behaviors and exploring potential determinants within a defined population.

Population and sampling

Patients with hypertension who lived in Banyumas Regency, Central Java, made up the study population. Jacob Cohen's formula was utilized to determine the sample size, which indicated

a minimum requirement of 203 participants. Ultimately, 209 respondents were recruited, meeting or exceeding the calculated threshold. Inclusion criteria consisted of individuals with a history of hypertension who were prepared to

participate in the study. Criteria for exclusion included a documented history of mental disorders, the presence of complications, or severe visual and hearing impairments as recorded in medical charts at the community health center. Participants were selected using a consecutive sampling technique, whereby all eligible patients visiting the community health center during the study period and meeting the criteria were invited to participate. Those who agreed and provided written informed consent were included as research subjects. This sampling strategy ensured adequate representation of hypertensive patients in the study setting while maintaining ethical standards.

Instrument

The research instruments consisted of five components: respondent characteristics, knowledge, self-efficacy, motivation, and self-care practices for hypertension. The measured variables were defined in accordance with Orem's self-care theory, which emphasizes the individual's capacity to perform activities that maintain health and well-being (Orem, 2021). Respondent characteristics included age, gender, educational attainment, occupation, body mass index, family history of hypertension, and blood pressure status.

Knowledge was assessed using the Hypertension Knowledge-Level Scale (HKLS) originally created by Erkoc (2012). The instrument was translated and adapted into the Indonesian context by Ernawati et al. (2020), demonstrating good reliability, as evidenced by the hypertension subscale's Cronbach's alpha rating of 0.758 and the non-hypertension subscale's of 0.858.

Self-efficacy, motivation, and self-care practice were assessed utilizing the Hypertension Self-Care Profile (HBP-SCP), developed by Han (2014) and subsequently validated in Indonesia (Upoyo et al., 2021). The Indonesian version of the HBP-SCP demonstrated excellent psychometric properties, with a content validity index of 0.963 and internal consistency reliability coefficients ranging from 0.911 to 0.955 ($p \leq 0.05$). The instrument is structured as a Likert-type questionnaire with response options ranging from 1 ("not at all") to 4 ("very much"), encompassing domains of self-care behaviors, motivation, and self-efficacy. Higher total scores indicate greater levels in each domain with minimal score 20 and maximal score 40. For analysis, scores above the sample mean were categorized as "high," while scores equal to or below the mean were categorized as "low."

Data collection

The research was carried out in Banyumas Regency, Central Java, Indonesia, between May and August

Table 1. Respondent Characteristics (n=209)

Variable	Frequency (n)	Percentage (%)
Gender		
Male	20	9.6
Female	189	90.4
Work		
No Work	126	60.3
Active Work	83	39.7
History hypertension in family		
Yes	83	39.7
No	126	60.3
Knowledge		
Poor	102	48.8
Good	107	51.2
Self-efficacy		
Low	106	50.7
High	103	49.3
Motivation		
Low	91	43.5
High	118	56.6
Age		
High risk (>60 years old)	66	31.6
Low risk (<60 years old)	143	68.4
Education Level		
Primary education	197	94.3
High education	12	5.7
IMT		
Abnormal	136	65.1
Normal	73	34.9
Blood pressure		
Uncontrolled (>140/90 mmHg)	187	89.5
Controlled (<140/90 mmHg)	22	10.5
Self-care behaviors		
Poor	101	48.3
Good	108	51.7

2024. Data collection was conducted at several community health centers that routinely provide services for patients with hypertension. Each patient was given a thorough description of the study's goals, methods, possible dangers, and advantages prior to participation. Patients who agreed to participate provided written informed consent in accordance with ethical research standards. After consent was obtained, respondents were asked to complete the structured questionnaire under the supervision and guidance of trained members of the research team. Assistance was provided to participants who had difficulties in understanding or reading the items to

ensure accuracy and completeness of responses. This process helped maintain data quality and minimized the risk of missing or invalid responses.

Data analysis

The study variables and sample characteristics were summarized using descriptive statistics, such as means, standard deviations, frequencies, and percentages. For analytical purposes, participants were categorized as having either high or low levels of self-care behavior, motivation, self-efficacy, and knowledge based on whether their scores were above or below the sample mean for each variable.

Table 2. Factors influencing self-care behaviors (n=209)

Variable	Self-care behaviors (n= 209)				p value
	Poor		Good		
	n	%	n	%	
Age					
High risk (>60 years old)	37	56.1	29	43.9	0.170
Low risk (<60 years old)	64	44.8	79	55.2	
Blood pressure					
Uncontrolled (>140/90 mmHg)	88	47.1	99	52.9	0.399
Controlled (<140/90 mmHg)	13	59.1	9	40.9	
IMT					
Abnormal	63	46.3	73	53.7	0.429
Normal	38	52.1	35	47.9	
Gender					
Male	9	45	11	55	0.938
Female	92	48.7	97	51.3	
Education Level					
Primary education	97	49.2	100	50.8	0.284
High education	4	33.3	8	66.7	
Work					
No Work	60	47.6	66	52.4	0.912
Active Work	41	49.4	42	50.6	
History hypertension in family					
Yes	49	59	34	41	0.018*
No	52	41.3	74	58.7	
Self-efficacy					
Low	76	71.7	30	28.3	<0.001*
High	25	24.3	78	75.7	
Motivation					
Low	65	71.4	26	28.6	<0.001*
High	36	30.5	82	69.5	
Knowledge					
Poor	55	53.9	47	46.1	0.149
Good	46	43	61	57	

Note: *there is significant correlation (<0.05)

To find the variables linked to self-care practice, bivariate analyses were performed. Variables with a p-value <0.25 in the bivariate tests, including age and family history of hypertension, were subsequently entered into the multivariable logistic regression model along with motivation, self-efficacy, and knowledge. This approach was adopted to reduce the risk of excluding potentially important predictors. Multivariable logistic regression was then performed to examine the independent associations between these variables and hypertension self-care behavior. Odds ratios (ORs) with 95% confidence intervals (CIs) were computed in order to measure the

associations' strength. A p-value of less than 0.05 was used to determine statistical significance.

Ethical consideration

The Ethics Commission of Jenderal Soedirman University's Faculty of Health Sciences granted ethical approval for this study (Approval No. 1438/EC/KEPK/V/2024; dated May 2, 2024). All procedures were carried out in compliance with accepted ethical guidelines for studies involving human subjects. Prospective participants were given thorough explanations by the research team about the study's goals, potential advantages,

Table 3. Dominant factors influencing self-care behavior (n=209)

Variable	Coef	S.E.	Wald	df	p value	OR	CI 95%	
							min	Max
Motivation	0.796	0.356	5.002	1	0.025	2.216	1.103	4.449
Self-efficacy	2.059	0.344	35.811	1	<0.001	7.841	3.994	15.391
Age	-0.322	0.376	0.734	1	0.391	0.725	0.347	1.514
Knowledge	0.308	0.339	0.823	1	0.364	1.361	0.700	2.646
History Hypertension in family	-0.201	0.356	0.319	1	0.572	0.818	0.407	1.644

potential hazards, and procedures. They were also made aware that there would be no monetary reward. Patients were reassured that their choice to participate or not would not impact the quality of healthcare they received, and participation was completely voluntary. Before any data was collected, written informed consent was sought from each responder. Throughout the study, participant data was de-identified and used only for research, ensuring confidentiality and anonymity.

Results

The study's respondents' attributes were age, sex, blood pressure, education, occupation, body mass index, family history of hypertension, knowledge, motivation, self-efficacy, and self-care behavior. The results of the frequency distribution are presented in [Table 1](#). As shown in the table, the majority of respondents were younger than 60 years (143 respondents; 68.4%) and female (189 respondents; 90.4%). A total of 126 respondents (60.3%) were unemployed, and 197 respondents (94.3%) had only basic education. Most respondents reported no family history of hypertension (126 respondents; 60.3%); however, 136 respondents (65.1%) had an abnormal body mass index and 187 respondents (89.5%) presented with uncontrolled blood pressure (systolic ≥ 140 mmHg). Regarding psychosocial and behavioral factors, Over 50% of those surveyed said they practiced self-care well (51.7%), good knowledge (51.2%), and high motivation (56.6%), although low self-efficacy was reported by 50.7% of respondents.

A number of variables, such as responder characteristics, knowledge, motivation, and self-efficacy affected self-care practice. [Table 2](#) shows the results of a bivariate analysis that looked at the link between these characteristics and self-care practice using the chi-square test (2×2). According to the findings, 49 respondents were more likely to report poor self-care practices if they had a family history of hypertension. Additionally, the majority of respondents who had low motivation (71.4%) and low self-efficacy (71.7%) also showed poor self-care. Self-care practice was found to be significantly correlated with motivation ($p<0.001$), self-efficacy ($p<0.001$), and family history of hypertension ($p=0.018$), according to statistical analysis. Age

($p=0.170$), gender ($p=0.938$), education ($p=0.284$), occupation ($p=0.912$), body mass index ($p=0.429$), blood pressure ($p=0.399$), and knowledge ($p=0.149$) did not show any significant associations.

Multivariate analysis was conducted using logistic regression to identify independent predictors of self-care behavior. Variables with a p-value <0.25 in the bivariate analysis were included in the model, namely motivation, self-efficacy, age, knowledge, and family history of hypertension. The results of the logistic regression are presented in [Table 3](#). Findings indicated that motivation and self-efficacy were significant determinants of self-care behavior, with p-values of 0.025 and <0.001 , respectively. The strength of association was reflected in the odds ratios (OR), where participants with higher motivation were more than twice as likely to report good self-care behavior (OR=2.22, 95% CI=1.10–4.45), while those with higher self-efficacy were nearly eight times more likely to do so (OR=7.84, 95% CI=3.99–15.39). In the adjusted model, other factors such as age, knowledge, and family history of hypertension did not show statistical significance.

Discussion

This study highlights the crucial role of motivation, self-efficacy, and family history of hypertension in shaping self-care behaviors among patients. Motivation emerged as a key factor influencing compliance with suggested treatment plans and lifestyle changes. This result is in line with earlier research, like [Tan et al. \(2022\)](#), which found that motivational factors have a significant impact on medication adherence in people with hypertension. Motivation, both intrinsic and extrinsic, is closely tied to an individual's needs, drives, and goals ([Bandhu et al., 2024](#)). Patients who are motivated tend to demonstrate greater persistence in following medical advice, engaging in healthy lifestyle practices, and maintaining consistent self-care routines. Similarly, [Ainiyah et al. \(2023\)](#) emphasized that motivated individuals are more likely to integrate self-care practices, such as maintaining a balanced diet, engaging in physical activity, and adhering to prescribed therapy, into their daily lives. Collectively, these findings underscore the central role of motivation in enabling patients to take active responsibility for managing their condition and

achieving better control of hypertension.

The majority of respondents reported that they did not smoke; however, only a few paid attention to the salt content listed on food packaging. This pattern suggests that while awareness of the dangers of smoking has been well internalized—leading to healthier behavior—knowledge regarding the importance of salt restriction remains limited. People who are well-informed about the negative effects of smoking are more likely to stop or abstain from smoking, but there is still a lack of knowledge regarding dietary salt. Many respondents may not fully recognize the role of excessive sodium intake in raising blood pressure and increasing cardiovascular risk. Motivation, which is a central driver of behavior, is shaped not only by knowledge but also by prior experiences and perceived relevance (Kassahun et al., 2020; Tan et al., 2022). Therefore, patients who understand the direct link between salt intake and blood pressure control are more likely to be motivated to monitor food labels and adopt healthier dietary practices. Strengthening health education that emphasizes practical strategies for salt reduction could therefore enhance both self-care adherence and motivation in hypertensive people.

Self-care behavior is closely related to self-efficacy, which is the belief in one's own ability to take medication as prescribed, eat a healthy diet, exercise regularly, and lower risk factors. This is in line with the results of Tan et al. (2021), who found a significant correlation between hypertension patients' self-efficacy and self-care behaviors. In the current investigation, however, more than half of the respondents demonstrated low self-efficacy (50.7%), suggesting limited confidence in their ability to consistently perform recommended self-care activities. Interestingly, the majority of respondents reported abstaining from alcohol consumption, which may be influenced by cultural and religious norms in Indonesian society that stigmatize alcohol use (Maula & Yuniastuti, 2017). Such negative social perceptions may encourage healthier behavior in this area. By contrast, most respondents reported rarely paying attention to nutritional information, particularly the composition of saturated and trans fats on food packaging. This gap reflects limited health awareness and highlights the influence of educational level, social support, and environmental factors on self-care practices (Khairy et al., 2021; Setyopranoto et al., 2022; Ulya, Upoyo, & Taufik, 2023). According to Bandura (2004), self-efficacy can be strengthened through mastery experiences, observational learning from peers, verbal persuasion, and the enhancement of physical and emotional states. Therefore, interventions aimed at building self-efficacy—such as peer modeling, skills training, and supportive counseling—are essential to empower patients with hypertension to engage more consistently in effective self-care behaviors.

In this investigation, the vast majority of respondents did not have a history of hypertension in the family. However, among those with a positive

family history, 59% reported poor self-care behaviors, indicating a significant association between family history and self-care practices. This finding is consistent with Setiandari (2020), who observed that family history is not only correlated with an increased risk of developing hypertension but also shapes individuals' health-related experiences and behaviors. Ideally, having a history of hypertension in family should heighten awareness and encourage more proactive self-care. Nevertheless, the opposite pattern was observed in this study, suggesting that awareness alone may not be sufficient to drive healthy behavior. This discrepancy may be explained by differences in health consciousness and public awareness. Prior research in the same region reported that community awareness of the dangers of hypertension remains low, which may contribute to inadequate self-care practices even among individuals from families with a history of the disease (Setyopranoto et al., 2022). These results highlight the need of strengthening health education and family-based interventions to improve self-care behaviors among at-risk groups.

Age, gender, education, occupation, and body mass index were among the characteristics that were found to have no significant correlation with self-care behavior. This result is in line with Gusty et al (2022) 's study, which likewise found no connection between these demographic factors and self-care behaviors. Table 1 indicates that the vast majority of research participants were under 60 years of age (68.4%), female (90.4%), and not employed (60.3%). These characteristics may contribute to a level of cognitive maturity that allows respondents to make decisions regarding their health behaviors, regardless of demographic differences. Moreover, recent evidence indicates that lifestyle changes, particularly the global trend toward sedentary behavior, have increased the risk of hypertension across diverse population groups, making traditional demographic distinctions less predictive of self-care behavior (Spehar et al., 2020). This suggests that behavioral and psychosocial factors, rather than demographic characteristics, may play a more critical role in determining adherence to hypertension self-care.

Although the majority of respondents had abnormal body mass index values (<18.5 or >24.9 ; 65.1%) and uncontrolled blood pressure (systolic ≥ 140 mmHg; 89.5%), more than half (51.7%) reported good self-care behavior. This may be partly explained by the fact that over half of the respondents (51.2%) demonstrated good knowledge of hypertension. As noted by Kassahun et al. (2020), knowledge can influence individual behaviors and decision-making related to health. However, the present study found that knowledge and education were not significantly associated with self-care behavior. This apparent contradiction suggests that knowledge alone may not be sufficient to change health practices. Similar findings have been reported in previous studies, which observed

that knowledge and educational attainment do not necessarily translate into greater awareness, positive perceptions, or consistent engagement in self-care activities (Pahria et al., 2022; Setyopranoto et al., 2021). These findings underscore the significance of addressing psychosocial elements including social support, self-efficacy, and motivation

in addition to knowledge enhancement when designing interventions to improve self-care among hypertensive patients.

This study revealed no correlation between self-care behavior and knowledge, a finding consistent with previous research (Pahria, et al, 2022; Tan et al., 2022). Similarly, other demographic and clinical variables, including age, sex, education, occupation, BMI, and blood pressure, showed no significant relationship with self-care behavior. To identify the key determinants, multivariate logistic regression was carried out employing bivariate analytic variables with $p < 0.25$. The findings showed that the main variables impacting hypertension self-care behavior were motivation and self-efficacy.

This aligns with the Health Belief Model, which emphasizes that behavior is strongly influenced by an individual's perceived self-motivation and self-efficacy (Joho & Alphonse, 2021; Jones et al., 2016). These findings suggest that improving motivation and strengthening self-efficacy are critical strategies for enhancing self-care practices among patients with hypertension. Interventions designed to empower patients, build confidence in their ability to perform self-care, and foster internal motivation are therefore essential components of effective hypertension management.

Strengths and Limitation

This study has several strengths. It utilized validated instruments, including the Hypertension Self-Care Profile (HBP-SCP) and the Hypertension Knowledge-Level Scale (HKLS), both of which had been adapted and psychometrically tested in the Indonesian context, thereby enhancing the reliability of the findings. The sample size also exceeded the minimum required by Jacob Cohen's formula, providing sufficient statistical power and representativeness. In addition, the study examined a broad range of factors encompassing demographic, clinical, psychosocial, and behavioral variables, offering a more comprehensive understanding of the determinants of self-care behavior. The integration of Orem's Self-Care Theory and the Health Belief Model further strengthened the conceptual grounding of the analysis.

Nevertheless, It is important to recognize constraints. The cross-sectional design prevents causal inference, which restricts the potential to determine whether the identified factors directly influence self-care behavior over time. The fact that the study was limited to one regency may limit the findings' applicability to other areas with distinct cultural norms or socioeconomic contexts. Moreover, data collection depended on self-reported surveys,

which can be vulnerable to social desirability or recall bias, particularly when it comes to delicate lifestyle choices like food and exercise.

Finally, while motivation, self-efficacy, and knowledge were examined, other potentially influential factors such as health literacy, social support, or comorbidities were not assessed, which may have provided a more nuanced understanding of self-care practices.

Nursing implication

The findings of this study underscore the central role of motivation and self-efficacy in shaping self-care behaviors among patients with hypertension. For nurses, this highlights the need to move beyond traditional education-based approaches and incorporate strategies that actively build patient confidence and internal drive. Nursing interventions should focus on enhancing self-efficacy through skills training, peer modeling, and guided practice in daily self-care routines such as blood pressure monitoring, dietary management, and medication adherence. Motivational interviewing techniques can also be employed to strengthen patients' intrinsic motivation, help them set realistic goals, and support sustained lifestyle changes.

In addition, nurses can integrate family members into care planning, especially for patients with a history of hypertension in family, to create a supportive environment that reinforces healthy behaviors. Community-based nursing programs should also prioritize culturally tailored education that emphasizes practical aspects of hypertension management, including reducing salt intake and monitoring food labels—areas where patient awareness remains limited. Regular follow-up through nurse-led clinics or community outreach can provide ongoing encouragement and problem-solving support. Ultimately, by prioritizing strategies that enhance both motivation and self-efficacy, nurses can be extremely important in empowering patients to adopt and sustain effective self-care practices, thereby lowering complications and enhancing life quality for individuals living with hypertension.

Conclusions

This study provides important implications for nursing practice and hypertension management. Motivation and self-efficacy emerged as the key determinants of self-care behaviors among patients with hypertension, highlighting the need for healthcare providers to give focused attention to these psychological and behavioral dimensions. Nurses, in particular, are strategically positioned to support patients by fostering motivation through individualized counseling, motivational interviewing, and goal-setting strategies, while also enhancing self-efficacy through skills training, positive reinforcement, and structured follow-up. Strengthening these two factors can empower

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patients to adhere more consistently to self-care routines, including as taking medications as prescribed, making dietary changes, exercise, and regular medical treatment. By prioritizing interventions that build motivation and self-efficacy, nursing practice can make a significant contribution to reducing complications, improving blood pressure control, and ultimately enhancing the life quality of individuals living with hypertension.

Declaration of Interest

None

Acknowledgment

We are grateful to LPPM Universitas Jenderal Soedirman for providing financing for the study under the 2024 Basic Research Scheme.

Funding

None

Data Availability

None

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