PANAKEIA 3 (1) 2026

PANAKEIA JOURNAL OF EPIDEMIOLOGY

https://e-journals2.unmul.ac.id/index.php/panakeia/index

ANALYSIS OF FACTORS RELATED TO HYPERTENSION SELF-MANAGEMENT IN THE ELDERLY AT THE SAMARINDA CITY HEALTH CENTER

Afni Alfianur[1]✉, Siswanto[1], Irfansyah Baharuddin Pakki[1], Akhmad Azmiardi[1], Muhamad Zakki Saefurrohim[1]

[1]Faculty of Public Health, Universitas Mulawarman

Article Info

Article History:
Submitted 6/4/2026
Revised 6/7/2026
Accepted 6/14/2026

Kata Kunci: Faktor-faktor, Hipertensi, Lansia, Manajemen Diri

Keywords: *Factors, Hypertension, Elderly, Self-Management*

Abstrak

Latar Belakang: Hipertensi merupakan salah satu penyakit degeneratif yang prevalensinya terus meningkat. Terutama pada kelompok lansia. Berdasarkan data Survei Kesehatan Indonesia 2023, prevalensi hipertensi di Kalimantan Timur mencapai setengah juta jiwa dengan jumlah kasus yang tinggi di Kota Samarinda. Terutama di wilayah kerja Puskesmas Kota Samarinda. **Tujuan:** Penelitian ini bertujuan untuk mengetahui analisis faktor-faktor yang berkaitan dengan Pengetahuan, Kepercayaan Diri, Dukungan Keluarga, Dukungan Tenaga Kesehatan, Kepatuhan Pengobatan, dan Tekanan Darah terhadap Faktor-faktor yang Berkaitan dengan Manajemen Diri Hipertensi pada Lansia Hipertensi di Puskesmas Kota Samarinda. Penelitian ini menggunakan desain analitik observasional dengan pendekatan cross-sectional yang akan dilakukan pada tahun 2025 dengan sampel 117 responden lansia menggunakan teknik cluster sampling. **Hasil:** Hasil penelitian menunjukkan adanya korelasi antara pengetahuan (p=0,001), kepercayaan diri (p=0,001), kepatuhan pengobatan (p=0,001), dukungan keluarga (p=0,001), dukungan petugas kesehatan (p=0,000), dan tekanan darah (p=0,000) dengan manajemen diri hipertensi pada lansia di Puskesmas Kota Samarinda. **Kesimpulan:** Hipertensi dijuluki sebagai pembunuh senyap, dapat menyerang siapa saja dan tidak memiliki gejala spesifik. Penurunan elastisitas pembuluh darah seiring bertambahnya usia membuat lansia lebih rentan. Mengadopsi gaya hidup yang tepat akan sangat membantu menjaga tekanan darah tetap normal.

Abstract

Background: *Hypertension is one of the degenerative diseases whose prevalence continues to increase. Especially in the elderly group. Based on data from the 2023 Indonesian Health Survey, the prevalence of hypertension in East Kalimantan reached half a million people with a high number of cases in Samarinda City. Especially in the work area of the Samarinda City Health Center.* ***Objectives:*** *This study aims to find out the analysis of factors related to Knowledge, Self-Confidence, Family Support, Health Worker Support, Medication Compliance and Blood Pressure to Factors Related to Hypertension Self-Management in Hypertensive Elderly at the Samarinda City Health Center. This study uses an observational analytical design with a cross-sectional approach which will be carried out in 2025 with a sample of 117 elderly respondents using cluster sampling techniques.* ***Results:*** *The results showed a correlation between knowledge (p=0.001), self-confidence (p=0.001), medication adherence (p=0.001), family support (p=0.001), health worker support (p=0.000), and blood pressure (p=0.000) and hypertension self-management in the elderly at the Samarinda City Health Center.* ***Conclusion:*** *Hypertension is dubbed as a silent killer. can attack anyone and does not have specific signs Decreased elasticity of blood vessels with age makes the elderly more vulnerable. Adopting a proper lifestyle will go a long way in keeping blood pressure normal.*

INTRODUCTION

Hypertension is a common medical problem among the elderly and is positioned as the center of public health services including in Indonesia. People in Indonesia who are over 60 years old are called elderly or elderly. With age, parents experience physical, mental, and social decline. One example of physical decline is its susceptibility to disease, especially degenerative diseases. Hypertension is one of the most common degenerative diseases experienced by older people (28).

In Indonesia, according to Basic Health Research (Riskesdas) in 2018, the prevalence of hypertension with the results of measurements in the population based on age category is 34.1%. Where the prevalence of hypertension in the elderly reaches 55.2% of sufferers. The number of hypertension cases in Indonesia is 63,309,620 people and the death rate in Indonesia due to Hypertension is 427,218 deaths. Data shows that the incidence of hypertension in Indonesia is ranked 6th out of 10 chronic non-communicable diseases. The incidence of hypertension prevalence in Indonesia increased from 25.8% in 2013 to 34.1% in 2018.

According to data from the East Kalimantan Health Office (Dinkes), the number of hypertension patients in East Kalimantan (East Kalimantan) continues to increase. Since the last three years, the people of East Kalimantan have suffered from diseases that are categorized as non-communicable diseases, where in 2021 there were 206,848 people. Then in 2022 there were 448,644 and more in 2023 reaching half a million people 595,689 people suffering from hypertension.

Based on data from BPS (Central Statistics Agency of Samarinda City), the highest number of cases, namely Hypertension, in 2021 was recorded at 33,085 patients, then in 2022 there were 43,838 patients recorded, then in 2023 there was an increase in cases to 45,235 sufferers. Based on data at UPTD. The incidence of hypertension cases is also included in the 10 most diseases in the working area of the Samarinda City Health Center and ranks first in the number of people who are always known. In 2021, there were 344 patients, then in 2022 there were 568, then in 2024 the period (January-November) increased to 752 cases. Cases of hypertension at the Samarinda City Health Center rank 16th out of 26 health centers spread across the Samarinda City area.

Hypertension is also influenced by self-concept, in this case the individual's lifestyle is not correct, for example in Indonesia many people consume foods that contain a lot of salt or excessive sodium content, so that it becomes one of the factors that cause hypertension, usually the wrong self-concept in a person occurs due to a lack of in-depth knowledge about hypertension disease, therefore health education or education is very necessary in terms of lowering the case of hypertension. (35)

In patients with hypertension that is not prevented, it can result in complications such as heart disease, stroke, vascular disease, and nerve disorders. The higher the blood pressure,

the greater the risk of damage to the heart and blood vessels in major organs such as the brain and kidneys. One of the behavioral factors for preventing hypertension recurrence so that blood pressure does not rise is knowledge, confidence in the compliance of hypertensive patients with medication consumption, then the existence of family support. With good family support, it is hoped that the elderly with hypertensive behavior will be able to comply with instructions from health workers and can prevent recurrence increases. Based on this background, the researcher is interested in knowing in detail the relationship between knowledge, *self-efficacy,* family support, health worker support, medication compliance, blood pressure on self-pampering in the elderly in the work area of the Samarinda City Health Center.

METHOD

This study is a quantitative research that is analytical in nature Observational using a *cross-sectional* study approach because data collection of independent variables and dependent variables is carried out and collected at the same time. This research will be carried out in May-June 2025. The population in this study includes all elderly groups in the working area of the Samarinda City Health Center, with a sample of 117 respondents. The technique used is cluster

Then, during the implementation in the field, the selection of respondents was carried out directly using *Purposive Sampling* based on inclusion criteria because it considered the conditions at the research location and the willingness of visitors, the sample in this study was visitors to the Elderly Posyandu in the Samarinda City Health Center Working Area in 2025.

The data collection process was carried out through direct interviews with respondents using structured questionnaire instruments and data related to posyandu visits was obtained through recording or reporting of respondents. The data that has been collected is then processed and analyzed through two stages, namely univariate analysis to describe the distribution of each variable, and bivariate analysis to determine the relationship between independent and dependent variables. The statistical test used in bivariate analysis is *the chi-square* test with a 95% confidence level (α=0.05).

RESULT AND DISCUSSION

Table 1. Analysis of the Relationship between Knowledge and Self-Management

Knowledge	**Self-Management**						*P-Value*
	Less		**Good**		**Total**		
	n	%	n	%	n	%	

Knowledge	Self-Management						*P-Value*
	Less		Good		Total		
Low	33	76,7	16	21,6	49	41,9	<0.001
Good	10	23,3	58	78,4	68	58,1	
Total	**43**	**100**	**74**	**100**	**117**	**100**	

Respondents with low knowledge mostly had poor self-management (76.7%), while respondents with good knowledge mostly had good self-management (78.4%). The results of the Chi-square test showed a p-value of <0.001 (ρ<0.05), so there was a significant relationship between knowledge and self-management of hypertension in the elderly at the Samarinda City Health Center.

The findings of this study suggest that good knowledge allows hypertensive patients to better understand the importance of self-management, such as adherence to taking medications, maintaining a low-salt diet, exercising regularly, and controlling blood pressure regularly. On the other hand, lack of knowledge can cause sufferers to not realize the importance of preventive efforts, lack of adherence to treatment, and ultimately increase the risk of recurrence and complications of hypertension. The results of this study are in line with research conducted by Sari (2020) which states that knowledge has a significant role in the compliance of hypertension patients. Patients with good knowledge were shown to be three times more compliant in carrying out treatment than those with less knowledge. In this study, although most of the respondents had high knowledge, the results showed that there were still some respondents with less knowledge 49 (41.9%) who failed to do self-management 33 (76.7%). These findings identify that knowledge is one of the main factors that affect the ability of the elderly to manage their diseases. This condition is in line with Rahmah's (2023) research which found that low levels of knowledge are significantly related to poor self-management behavior in the elderly with hypertension (p=0.002).

Based on the existing conditions, at the time of the Posyandu for the elderly, it was found that some of the respondents were elderly with a basic education background, so their ability to understand health information, read or participate in counseling was limited, this is in line with the research of Rahmawati and Nurjanah (2022) which explained that the level of education affects the ability of individuals to receive and understand health information.

In addition, access to health information is still low, some elderly people are not used to using information media such as television, social media or mobile phones. The information obtained is often not sustainable, because counseling activities at the Posyandu are not carried out regularly, this condition is strengthened by Sitorus (2021) research which states that low digital literacy in the elderly group hinders them from obtaining health information independently. Another factor is the lack of family support Based on interviews, it was found that some families are busy working and do not have time to accompany the elderly during examinations at the posyandu. In

addition, there is a decline in cognitive function due to old age, decreased memory and concentration cause information once provided by health not to last long.

Table 2. Analysis of the Relationship *of Self-Efficacy* with Self-Management

Self-Efficacy	**Self-Management**						*P-Value*
	Less		**Good**		**Total**		
	n	%	n	%	n	%	
Low	39	90,7	0	0,0	39	33,3	<0.001
Height	4	9,3	74	100	78	66,7	
Total	**43**	**100**	**74**	**100**	**117**	**100**	

Based on Table 4.15, the majority of respondents with low self-efficacy had poor self-management (90.7%), while respondents with high self-efficacy almost all had good self-management (100%). The results of the Chi-Square test showed a P-value = 0.001 (ρ<0.05), so there was a significant relationship between self-efficacy and hypertension self-management in the elderly at the Samarinda City Health Center.

The findings of this study indicate that self-confidence or *self-efficacy* is a factor that greatly determines a person's ability to do self-management. *Self-efficacy* or belief is a person's assessment of his ability or competence in performing tasks, achieving goals and overcoming obstacles. These results are in line with research conducted by Rahmawati (2020) which shows that self-confidence is closely related to the compliance of hypertension patients in undergoing treatment. In addition, Yuliana's (2021) research also confirms that *self-efficacy* is an important psychological factor that contributes to the success of chronic disease management.

Self-efficacy is needed so that hypertension sufferers are motivated to be able to obtain a better degree of health through their belief in carrying out self-care management. By carrying out effective self-care management, it can minimize complications, increase satisfaction, increase confidence and independence and improve the quality of life of people with hypertension (Setyorini, 2018).

In this study, although most of the respondents had high self-confidence, the results showed that there were still some respondents with low self-confidence. This is influenced by various factors, including a lack of previous success experience, how many elderly people admit to having repeatedly undergone treatment but their blood pressure is unstable, thus reducing their motivation to continue treatment or maintain a healthy lifestyle. According to Bandura (1997), the experience of success is one of the main sources of the formation of *self-efficacy.* Respondents with hypertension who have never managed to control their

blood pressure or often relapse will feel less confident in their own abilities. In addition, age factors and physical conditions of the elderly also have more comorbidity diseases that can hinder the implementation of hypertension self-management. How many elderly people said they felt limited in doing self-management activities such as exercising, preparing healthy food, and then they stated that they were easily tired or forgot to take medication as recommended. Research by Rahmawati (2020) shows that old age is often associated with a decrease in *self-efficacy* due to biological and psychological limitations.

Table 3. Analysis of the Relationship of Medication Compliance with Management

Medication Compliance	Self-Management						*P-Value*
	Less		Good		Total		
	n	%	n	%	n	%	
Non-compliant	42	97,7	6	8,1	48	41,0	<0.001
Obedient	1	2,3	68	91,9	69	59,0	
Total	**43**	**100**	**74**	**100**	**117**	**100**	

Based on Table 3, the majority of respondents who did not comply with medication had poor self-management (97.7%), while respondents who were compliant with medication mostly had good self-management (91.9%). The results of the Chi-Square test showed a P-value = 0.001 ($\rho<0.05$), so there was a significant relationship between medication adherence and hypertension self-management in the elderly at the Samarinda City Health Center.

The results of the study showed that there was a relationship between medication adherence and hypertension self-management. The success of treatment in hypertensive patients is influenced by many factors, one of which is the patient's compliance in taking medication. Antihypertensive drugs have been proven to control the blood pressure of hypertensive people within stable limits. Antihypertensive drugs play a role in reducing the incidence of complications that can occur due to unstable blood pressure in people with hypertension.

Based on the level of self-management, the majority of respondents were in the category of good self-management, namely as many as 68 (91.9%) were included in the category of administering medication. These results show that although the elderly have abilities in self-management such as regulating diet, maintaining physical activity or monitoring blood pressure, this is not directly proportional to adherence to taking medications. In this study, although most of the respondents were obedient to take medication, there were 48 (41.0%) who did not comply with taking medication.

Based on the existing condition situation from the results of the interview of the inhibiting factors, namely long suffering, boredom Some elderly people feel quite healthy when they do not feel symptoms, so they stop taking medication

without consulting health workers. In fact, hypertension is known as a *silent killer* because it does not cause obvious symptoms despite high blood pressure (Ministry of Health of the Republic of Indonesia, 2021). There are traditional beliefs and the use of herbal medicines, how many elderly people prefer to use alternative medicine such as traditional herbs they believe that the continuous use of chemical drugs can damage the kidneys or liver. Rahmawati and Bajorek (2018) found that 30-40% of hypertension patients in Indonesia use herbal medicine and some stop medical treatment because of this belief. Strong traditional beliefs can hinder patients' adherence to a doctor's therapy regimen. Another factor is the tendency in the elderly to forget to take medication, especially when they are traveling or not at home. This phenomenon is part of the compliance problem that is closely related to the age factor and the ability of self-management to carry out treatment independently.

Table 4. Analysis of the Relationship between Family Support and Self-Management

Family Support	Self-Management						*P-Value*
	Less		Good		Total		
	n	%	n	%	n	%	
Less	32	74,4	5	6,8	37	31,6	<0.001
Good	11	25,6	69	93,2	80	68,4	
Total	**43**	**100**	**74**	**100**	**117**	**100**	

Based on Table 4.17, the majority of respondents with poor family support had poor self-management (74.4%), while respondents with good family support mostly had good self-management (93.2%). The results of the Chi-Square test showed a P-value = 0.001 (ρ<0.05), so there was a significant relationship between family support and hypertension self-management in the elderly at the Samarinda City Health Center.

The findings of the study show that there is a relationship between family support and hypertension self-management. This study is in line with Putri and Rahayu (2021) who stated that hypertension patients with good family support are 3.5 times more likely to have effective self-management compared to low family support. The factor of open communication and attention in the family is an important key in forming adaptive behavior to chronic diseases such as hypertension. In addition, research by Wulandari et al., (2022) states that family support is significantly related to hypertension self-management skills. In this study, although most of the respondents received good family support, there were 37 (31.6%) respondents who received family support who lacked self-management, this condition illustrates that family support has a very important role in the ability of the elderly to manage their hypertension.

Based on the existing situation, how many elderly people say they stay alone at home because their children work all day, this results in a lack of emotional attention and practical support that should be given by the family, such as reminding

the schedule of taking medicine, accompanying them to the posyandu, or listening to the health complaints of the elderly. This shows that most of the elderly who do not receive optimal support come from **families with a lower middle economic level.** In these conditions, **family members focus more on earning a living so** that **they do not have enough time to accompany or pay attention to the needs of the elderly** at home, this is in line with research **by Rahayu et al. (2022)** also stated that socioeconomic factors and family workload affect the intensity of support for elderly family members. Families with a high economic burden tend to have less interaction time, so their involvement in elderly care is low.

In addition to economic factors, conditions on the ground also show that some families do not understand the importance of their role in helping the elderly manage hypertension. During the Posyandu activity, the health worker explained that how many families were not present to accompany the elderly, even though their presence was very helpful in strengthening the motivation and confidence of the elderly. This finding is in line with **research by Yuliani and Prasetyo (2023)** which shows that **low family support is significantly related to poor self-management of elderly hypertensive patients.**

In addition, the emotional aspect also plays an important role. Some elderly people in this study admitted that they felt reluctant to complain or ask for help to their children because they did not want to be troublesome. This worsens the condition of hypertension and causes self-management to be suboptimal. The limited family support also has an impact on the lack of motivation of the elderly to attend the posyandu regularly. From the results of observations during the study, the elderly who attended consistently generally received encouragement or accompanied by family members. On the other hand, those who do not receive attention are often absent because no one is delivering, are lazy to come alone, or feel that they are well enough.

Table 5. Analysis of the Relationship of Health Worker Support with Self-Management

Health Workers	**Self-Management**						*P-Value*
	Less		**Good**		**Total**		
	n	%	n	%	n	%	
Less	29	67,4	2	2,7	31	26,5	<0,001
Good	14	32,6	72	97,6	86	73,5	
Total	**43**	**100**	**74**	**100**	**117**	**100**	

Based on Table 4.18, the majority of respondents with the support of health workers have less self-management (67.4%), while respondents with good health worker support mostly have good self-management (97.6%). The results of the Chi-Square test showed a P-value = 0.001 ($\rho<0.05$), so there was a significant relationship between health worker support and hypertension self-management in the elderly at the Samarinda City Health Center. The results of the study showed that there was a relationship between health worker support and self-management. The results of these findings indicate that most of the respondents have a positive perception of the performance of health workers in providing education related to hypertension. In line with research conducted by Oktaviani (2025) that the role of health workers as educators is able to improve patients' ability to manage their health independently.

The findings of this study strengthen the understanding that health workers, especially those in basic services such as health centers, have an important role in improving the ability of the elderly to take care of themselves independently. The support provided by health personnel can be in the form of information about diseases, guidance in the use of medications, periodic monitoring of blood pressure, to assistance in lifestyle changes, such as dietary arrangements, physical activity and stress management.

In addition, the support of health workers also increases the participation of the elderly in participating in the Prolanis program. Health workers at the Samarinda City Health Center routinely carry out prolanis activities every week, provide counseling, facilitate prolanis gymnastics and blood pressure measurements. Elderly people involved in prolanis tend to have better blood pressure due to regular monitoring and continuous support from medical personnel. In addition, the findings in the field of how many elderly people routinely participate in monthly control activities organized by the health center, this shows awareness and commitment to good self-management in dealing with hypertension. This shows that structured and sustainable health worker support is able to encourage the elderly to be actively involved in their health management.

The results of the study were obtained that as many as 31 (26.5%) respondents showed that they received less support from health workers than the results of further analysis The elderly who have hearing or memory limitations often do not fully understand the health messages conveyed quickly. This lack of two-way communication causes many elderly people to not know in detail the self-management measures that should be carried out at home. In line with the research of Rahmawati & Hidayat (2022), the low two-way communication between patients and health workers causes patients to lack understanding of the independent steps that must be taken in controlling blood pressure, thus hindering the self-management ability of hypertension patients.

In addition, from the results of the interviews, most of the elderly stated **that they were reluctant to tell about their condition honestly** because they were afraid of being scolded or criticized if they did not comply with treatment. This closed

attitude causes health workers to be unable to provide support that meets the needs of the elderly. In line with **research by Kusnadi et al. (2022)** which explains that negative perceptions of health workers (fear, embarrassment, or feeling inferior) can hinder effective communication and reduce the acceptance of support. Another condition found in the field is **the irregularity of the schedule of activities of the elderly posyandu**, this makes the elderly not get health information regularly, so that their knowledge and motivation in carrying out self-management decreases. Another condition that was also found during the research on the role of posyandu cadres that has not been maximized in several posyandu, cadre activities are more focused on collecting attendance data and measuring blood pressure, while health education has not been running effectivel

Table 6. Analysis of the Relationship of Blood Pressure with Self-Management

Blood Pressure	**Self-Management**						*P-Value*
	Less		**Good**		**Total**		
	N	%	N	%	N	%	
Uncontrolled	43	100	1	1,4	44	37,6	<0.001
Controlled	0	26,8	73	46,2	73	62,4	
Total	**43**	**100**	**74**	**100**	**117**	**100**	

Based on Table 6. Respondents with uncontrolled hypertension almost entirely had poor self-management (100%), while respondents with controlled hypertension had all good self-management (46.2%). The results of the Chi-Square test showed a P-value = 0.001 ($\rho<0.05$), so there was a significant relationship between hypertension status and hypertension self-management in the elderly at the Samarinda City Health Center.

The results of this study show that self-management is closely related to blood pressure stability. In line with research by Wulandari and Hidayat (2023) which states that hypertension patients with low levels of self-management are 3 times more at risk of experiencing uncontrolled blood pressure compared to those who have good self-management. In this study, smoking habits and consumption of alcoholic beverages were not the cause of the elderly experiencing hypertension because the majority of respondents were women who did not smoke and consumed alcoholic beverages. However, gender factors can cause hypertension because reduced estrogen levels in women who have gone through menopause can be one of the triggers for

high blood pressure (Kusumawaty, J, Hidayat, N, & Ginanjar, E, 2016).

Based on the situation, the conditions in the field show that some elderly people admit that their parents or siblings also experience high blood pressure, some even say that since a young age their blood pressure has often been high, and this condition continues into old age. This indicates the **influence of hereditary (genetic) factors** on the incidence of hypertension in the elderly in the working area of the Samarinda City Health Center. In line with **research by Guyton & Hall (2020),** genetic factors can contribute to around **30–50% of the risk of hypertension,** especially in the elderly age group and some elderly people still have the habit of consuming foods high in salt such as salted fish, chili peppers, and processed foods. The food is consumed for economic reasons **and hereditary customs.** This habit leads to increased sodium retention in the body which results in an increase in blood pressure. In this study, all respondents were aged 60-74 years, which was included in the category of early elderly where in the elderly, hypertension occurs due to the aging process. A study proves that the incidence of high blood pressure in patients over 65 years old occurs in 60-80% of vulnerable people (Wiliyanarti, 2016). The results of the study showed that there was a relationship between blood pressure and self-management. This means that the greater the value of self-management of eating, the lower the blood pressure in the elderly and conversely, the smaller the value of self-management, the higher the blood pressure.

CONCLUSION

Based on the results of a study on 117 elderly respondents at the Samarinda City Health Center, it can be concluded that there is a significant relationship between the level of knowledge, *self-efficacy*, adherence to taking medication, family support, health worker support, and blood pressure with hypertension self-management in the elderly. Seniors with a good level of knowledge, high self-confidence, adherence in taking medications, and good support from family and health workers tend to have better hypertension self-management skills. In addition, good hypertension self-management is also associated with more controlled blood pressure. These factors are interrelated in supporting the success of hypertension management in the elderly, so it is an important aspect in efforts to prevent hypertension complications at the primary health service level.

Based on the results of this study, it is recommended that the elderly increase their knowledge about hypertension through health education, maintain medication adherence, and implement a healthy lifestyle as part of hypertension self-management. The elderly are also expected to be able to increase their self-confidence in carrying out treatment and blood pressure control independently. Family support needs to be improved through attention, supervision, and motivation to the elderly in undergoing treatment and health control on a regular basis. For health workers at the Samarinda City Health Center, it is hoped that they

can continue to improve education, counseling, and monitoring the health of the elderly on an ongoing basis so that hypertension self-management skills are better. Meanwhile, for the next researcher, it is recommended to develop research by adding other variables that can affect hypertension self-management, such as diet, physical activity and stress levels, conducting gender analysis in self-management behavior, researching at the institutional level (nursing homes or social service communities), and using more diverse research methods to obtain more in-depth results.

REFERENCES

Adrian, S. J. (2019). Traditional Acupressure Medicine in the Modern Era in Society. Journal of the World Mirror of Medicine (CDK), 46(3), 172–178.

Akbar, F., Darmiati, D., Arfan, F., & Putri, A. A. Z. (2021). Training and Assistance for Elderly Posyandu Cadres in Wonomulyo District. Journal of Abdidas, 2(2), 392–397. https://doi.org/10.31004/abdidas.v2i2.282

Annalia, Wardhani, Maria, Insana, Murdiany, A. N. (2019). The relationship between self-efficacy and the management of hypertension recurrence prevention in the working area of the Martapura II Health Center, South Kalimantan.

Anugrah, Y., Saibi, Y., Betha, O. S., & Anwar, V. A. (2020). Medication compliance of hypertension patients at the South Tangerang Regional General Hospital (RSUD).

Ayu, M. S. (2021). Analysis of Classification of Hypertension and Cognitive Function Disorders in the Elderly. JUMANTIK (Scientific Journal of Health Research), 6(2),

Ayu, S. et al. (2020) 'The Relationship of Self Efficacy with Medication Adherence in Hypertensive Patients in the Working Area of the Tejakula 1 Health Center', 5(2), pp. 286293.

Bandura, A. (1997). *Self-Efficacy: The Exercise of Control.* New York: W.H. Freeman and Company.

Bandura, A. (2012). On the Functional Properties of Perceived Self-Efficacy Revisited. Journal of Management, 38, 9-44.

Damayantie, N. (2018). The relationship between knowledge about hypertension and

hypertension treatment attitudes in hypertensive patients. Netha, 06, 224–232. https://doi.org/10.26699/jnk.v5i3.ART.p224

Dedi Kurnia, Nandar Wirawan, & Nur Damayanti. (2024). Medication Compliance with the Incidence of Primary Hypertension Relapse in Padaulun Village, Majalaya District, Bandung Regency. Healthy Journal, 13(1), 47–64. https://doi.org/10.55222/healthyjournal.v13i1.1489

There are two RKF. The relationship between family support and the quality of life of the elderly in people with hypertension. Duham Ruth Kania Friscilla. 2021; 1–58

Family Support for Medication Compliance of Elderly Hypertensive Patients at Government Primary Service Facilities in Denpasar. Bali Medicine Journal, 9(1), 11–25. https://doi.org/10.36376/bmj.v9i1.200

Ekasari, M. F., Suryati, E. S., Badriah, S., Narendra, S. R., & Amini, F. I. (2021).

Erni Djibu. (2021). No. The Effect of the Role of Nurses as Educators on Medication Compliance in Hypertensive Patients Dipiskesmas Dinoyo Malang, Malang City, 75(17), 399–405.https://doi.org/10.1177/0149206311410606

Fitriani, A. (2021). *The effect of health education on improving knowledge and self-management of hypertension patients*. Health Scientific Journal, 9(1), 12–20.

Guyton, A. C., & Hall, J. E. (2020). *Textbook of Medical Physiology* (14th ed.). Philadelphia: Elsevier.

Hasan, M. (2019). *The Relationship of Knowledge Level with Self-Management Compliance of Hypertensive Patients.* Journal of Public Health, 11(2), 45–52.

Ida Ayu, M. P. S., Dewi, D. A. P. S., Sudiari, M., & Dewi, N. M. A. C. (2022).

Kartikasari, I., & Afif, M. (2021). Management of Hypertension in the Era of the COVID-19 Pandemic.Journal.Um-Surabaya.Ac.Id,30(1),72–79http://journal.umsurabaya.ac.id/index.php/proceedingseries/article/view/13708

Ministry of Health of the Republic of Indonesia. (2021). *Guidelines for Hypertension Management in Basic Health Service Facilities.* Jakarta: Ministry of Health

of the Republic of Indonesia.

Ministry of Health of the Republic of Indonesia. Results of Basic Health Research in 2018. Ministry of Health of the Republic of Indonesia. 2018; 53(9):1689–99.

Ministry of Health of the Republic of Indonesia. Hypertension The Silent Killer. Ministry of Health of the Republic of Indonesia.

Recognize the causes, signs of symptoms and their handles. Hypertension, 28.

Kholifah, F. N., Bintanah, S., Handarsari, E., Study, P., III, D., Faculty, G., Nursing, I., & Health, D. (2016). Fiber and Nutritional Status Related to Blood Pressure in Inpatient Hypertension Patients at Tugurejo Regional General Hospital, Semarang. Journal of Nutrition, 5(2), 21–30.

Kusnadi, R., Handayani, T., & Sari, P. (2022). *Elderly Perceptions of Health Worker Support in Hypertension Management in the Cempaka Health Center Area*. Journal of Community Nursing, 10(2), 88–97.

Kusumawaty, J., Hidayat, N., & Ginanjar, E. (2016). *The Relationship of Risk Factors with the Incidence of Hypertension in the Elderly*. Journal of Public Health, 11(2), 135–142.

Listianti, E., & Abulyatama, K. U. (2024). Jaya Baru Health Center, Banda Aceh City.

Manafe, L.A. and Berhimpon, I. (2022) 'The Relationship between the Rate of Elderly Depression and the Social Interaction of the Elderly in BPSLUT Senja Cerah Manado', Scientific Journal of Hospitality 749, 11(1), pp. 749–758.

Opinion, A. B. (2022). Factors Affecting Hypertension Prevention Behavior in the Elderly in the Working Area of the Darussalam Health Center, Medan City 2022 Thesis by. i–155.

Muhlis, M., & Jihan Prameswari, A. (2020). Compliance with the use of drugs in hypertensive patients at the outpatient installation of one of the hospitals in the Special Region of Yogyakarta. Journal of Indonesian Pharmaceutical Personnel, 3(1), 104– 113. https://doi.org/10.36387/jifi.v3i1.491

Notoatmodjo, S. (2014). *Health Behavioral Sciences.* Jakarta: Rineka Cipta.

Novri Yanti Harahap. (2021). The Relationship between the Level of Knowledge about Hypertension and Efforts to Prevent Hypertension Relapse in the Elderly. Nursing Media: Makassar

Health Polytechnic, 12(1), 101. https://doi.org/10.32382/jmk.v12i1.2039

Nuraini B. Risk Factors of Hypertension. Vol. 4, J Majority. 2019. 10–19 p Nursalam. (2017). Nursing Science Research Methodology (4th ed). Jakarta

Oktaviani, D. (2025). *The Relationship between the Role of Nurses as Educators and Family Support with Self-Care Management in Hypertensive Patients*. Indonesian Journal of Nursing, 13(1), 45–53.

Osamor. (2020). The Concept and Process of Family Nursing. Pustaka As Salam.

Pratiwi, A. (2020). The Effect of Slow Deep Breathing on Blood Pressure in Hypertensive Patients.MedicalMask,8(2), 263–267.https://doi.org/10.52523/maskermedika.v8i2.414.

Prayitnaningsih, S., Rohman, M. S., Sujuti, H., Abdullah, A. A. H., & Vierlia, W.

Priyadarsani, A. M. A., Sutresna, I. N., & Wirajaya, I. G. (2021). The relationship between the level of knowledge about hypertension and efforts to prevent hypertension recurrence in the elderly. Nursing Media: Makassar Health Polytechnic, 12(1), 101. https://doi.org/10.32382/jmk.v12i1.2039

Putri, L. A. (2019). The relationship between self efficacy and self-management in hypertensive patients. *Journal of Nursing*, 11(2), 77–85

Putri, L. M., & Rahayu, E. (2021). *Analysis of the Relationship between Family Support and Self-Management Ability in Hypertension Patients in the Working Area of the Karanganyar Health Center*. Journal of Health Sciences, 9(3), 254–262.

Rahayu, E., Widodo, A., & Lestari, D. (2022). *The Influence of Socioeconomic Factors on Family Support in the Elderly with Hypertension*. Indonesian Journal of Public Health, 8(2), 142–150.

Rahmah, A., Widyaningsih, T., & Hartono, R. (2023). The Relationship between Knowledge and Self-Management Behavior of Elderly Hypertension at the Central Banjarmasin Health Center. *Kalimantan Journal of Public Health*, 9(1), 32–40.

Rahmawati, D., & Nurjanah, L. (2022). *The Relationship between Education Level and Knowledge about*

Hypertension Prevention in the Elderly. Journal of Nursing and Health Sciences, 13(2), 115–122.

Rahmawati, D., Lestari, P., & Hidayat, R. (2020). *The Relationship between Economic Status and Family Support with Medication Compliance in Hypertensive Patients in the Working Area of the Gamping 2 Sleman Health Center.* Journal of Nursing Science, 8(2), 75–83.

Rahmawati, N., & Hidayat, R. (2022). The Effect of Health Worker Service Quality on Hypertension Management Compliance. Journal of Primary Health, 17(1), 55–64).

Rahmawati, R., & Bajorek, B. (2018). *Understanding Patient Beliefs about Antihypertensive Medication: A Qualitative Study in Indonesia. Chronic Illness Journal*, 14(4), 345–356.

Rahmawati, S., Lestari, D., & Kusuma, R. (2022). The Effect of *Self-Management* on Blood Pressure Control in Hypertensive Patients. *Indonesian Health Scientific Journal*, 9(3), 175–184.

Rezza Eka Maykurnia. (2020). The relationship between the level of knowledge about lifestyle (Life Style) and the incidence of hypertension in the elderly at the elderly posyandu in Krokeh village, Sawaan District, Madiun Regency.

Ropitasari, C. (2022). Karsa Husada Garut College of Health Sciences D-III Pharmacy Study Program D-III Pharmacy Study Program. An overview of behavioral efforts to prevent recurrence in hypertensive patients at the Leles Health Center.

Rusminingsih, E., Mubarokah, S. M., Purnomo, T. R., & Marwanti. (2021). The Relationship between Self-Efficacy and Self Care Management in Hypertensive Patients in Karanglo Village, South Klaten. Proceedings of the National Seminar of UNIMUS, 4, 1481–1489.

Sabaté, E. (2003). *Adherence to Long-Term Therapies: Evidence for Action.* Geneva: World Health Organization. Medical Salon.

Sari, D. (2020). *The Relationship of Knowledge with Hypertension Patients' Adherence in Treatment.* Journal of Nursing, 8(3), 155–163.

Sari, W. P., Wicaksono, A. A., Baroroh, F., Study, P., Profession, P., Pharmacy, F., & Dahlan, U. A. (2023).

Education on Hypertension Prevention and Control in Outpatients at the Imogiri 1 Health Center, Bantul Regency for the November 2022 period. Proceedings of the National Seminar of the Center for Drug Information and Studies, 2(1), 10–14.

Setyorini, A. (2018). The Relationship between Self Efficacy and Self Care Management of the Elderly Suffering from Hypertension at the Elderly Posyandu Padukuhan Panggang III Fostered by the Panggang I Health Center Gunungkidul. *Health Sciences and Pharmacy Journal*, *2*(2), 58-64.

Siska Afrilya Diartin, Reni Zulfitri, & Erwin, E. (2022). Overview of social interaction of the elderly based on the classification of hypertension in the elderly in the community. Indonesian Journal of Medical and Health Sciences, 2(2), 126–137. https://doi.org/10.55606/jikki.v2i2.864

Siti Masita Zahra Ohoira, Harleli Harleli, & Siti Nurfadilah H. (2023). Factors related to the prevention of hypertension recurrence in hypertensive patients in the working area of the Wua Wua Health Center in 2023. Detector: Journal of Health Sciences Research Innovation, 2(1), 124–136. https://doi.org/10.55606/detector.v2i1.3148

Sitorus, A., Simanjuntak, N., & Harahap, R. (2021). Digital Literacy and Access to Health Information for the Elderly in Urban Areas. *Journal of Nursing and Health*, 9(3), 155–163.

Sombili, S. S., Sulfian, W., Tumewu, Y., Nursing, I., Widya, U., & Palu, N. (2023). The relationship between the level of knowledge about hypertension and efforts to prevent hypertension recurrence in the elderly in the internal medicine poly. Tambusai Health Journal, 4 (September), 4289–4299.

Suciana, F., Agustina, N. W., & Zakiatul, M. (2020). The long-term correlation of suffering from hypertension with the level of anxiety of people with hypertension. Journal of Nursing and Public Health Scholar Utama, 9(2), 146. https://doi.org/10.31596/jcu.v9i2.595

Sumartini, N. P., Zulkifli, Z., & Adhitya, M. A. P. (2019). The Effect of Hypertension Gymnastics for the Elderly on Blood Pressure of the Elderly with Hypertension in the Working Area of the Cakranegara Health Center,

Turida Village in 2019. Integrated Nursing Journal, 1(2), 47. https://doi.org/10.32807/jkt.v1i2.37

Suryani, D., & Lestari, M. (2023). *The Effect of Emotional Stress on Blood Pressure in Elderly Patients with Hypertension in the Working Area of the Sukamaju Health Center*. Journal of Health Sciences, 9(1), 45–53.

Toulasik, Y. A. (2019). The Relationship Between Family Support and Medication Compliance in Hypertensive Patients at Prof. DR. WZ. Johannes Kupang-NTT. In Thesis. http://repository.unair.ac.id/82081/2/FKP.N. 19-19 Yourh.pdf

Triono, A., & Hikmawati, I. (2020). The Effect of Family Support on Blood Pressure Control Behavior in Elderly Hypertensive Patients at the Sumbang Health Center 1. Journal of Muhammadiyah Nursing, 7(3), 7–

Wahid Tri Wahyudi, F. A. N. (2020). The Relationship of Family Support in Patients with High Blood Pressure in Hypertension Control in the Working Area of the Panjang Health Center, Bandar Lampung City. Malahayati Nursing Journal, 2(3), 525–534.

Warjiman, Unja, E. E., Gabrilinda, Y., & Hapsari, F. D. (2020). Screening and Education of Hypertension Patients. Journal of Serving Insan Asylum (JSIM), 2(1), 15–26.

Wicaksono, S. (2019). Incidence of Increased Blood Pressure (Hypertension) in the Elderly in Hamlet 1, Kembangseri Village, Talang Empat District, Central Bengkulu in 2015. Journal of Rapesia Medicine, 5(1), 1–6. https://doi.org/10.33369/juke.v5i1.8765

Wiliyanarti, P. F. (2016). *The Relationship of Age Factors with the Incidence of Hypertension in the Elderly in the Working Area of the Wonokromo Health Center Surabaya*. Journal of Health Sciences, 5(2), 112–118.Guyton, A. C., & Hall, J. E. (2020). *Textbook of Medical Physiology* (14th ed.). Philadelphia: Elsevier.

Wulandari, D., & Hidayat, A. (2023). The Relationship of Self-Management with Blood Pressure Levels in the Elderly with Hypertension. *Journal of Nursing and Community Health*, 12(1), 55–63.

Wulandari, N., Fitriani, D., & Santoso, H. (2022). *The Relationship between Family Support and Self-*

Management of Hypertension Patients at Puskesmas X. Journal of Public Health, 14(2), 115–123.

Yuliani, R., & Prasetyo, A. (2023). *The Relationship between Family Support and Self-Management in the Elderly with Hypertension in the Working Area of the Sukamaju Health Center*. Journal of Community Nursing, 11(1), 55–64.