

## CASE STUDY IN AN ELDERLY PATIENT WITH SENSORY PERCEPTION DISTURBANCE : HYPERTENSION IN PADUKUHAN GENTINGAN, YOGYAKARTA

Aisah Laila Fitriani<sup>1</sup>, Zubaida Rohmawati<sup>2</sup>

<sup>1</sup>Nursing Professional Education Student, Faculty of Health Sciences, Universitas 'Aisyiyah Yogyakarta, <sup>2</sup>Lecturer, Nursing Professional Education Program, Faculty of Health Sciences, Universitas 'Aisyiyah Yogyakarta  
*email: [aisahlailafitriani@gmail.com](mailto:aisahlailafitriani@gmail.com)*

### ABSTRACT

Hypertension is one of the most common non-communicable diseases experienced by the elderly and can trigger serious complications if not handled properly. Objective: This study aims to explore the process of gerontic nursing care in a 73-year-old elderly with a history of hypertension and sensory perception disturbance in Padukuhan Gentingan, Yogyakarta. Methods : The study used a descriptive case study approach for two weeks with seven meetings. The interventions provided included education on a hypertension diet, hypertension exercise, and blood pressure monitoring. Results : The results showed an increase in sensory perception, peripheral perfusion, and pain control in the client. Conclusion : These findings reinforce the importance of the role of gerontic nursing in encouraging elderly adherence to non-pharmacological hypertension management through a holistic approach and family involvement.

Keywords: Gerontological Nursing; Hypertension; Exercise; Diet.

### Background

Old age is the final stage in the life process of an individual or a phase where an individual naturally experiences various kinds of changes in balance in terms of physical, mental, social, and spiritual aspects, occurring after the age of 60. This group, categorized as elderly, undergoes a process known as aging (Ruswadi, 2022). Aging is the gradual disappearance of the tissue's ability to repair or regenerate itself and maintain its normal structure and function, leading to its inability to withstand damage and changes. This occurs because the physical condition of the elderly can hinder or slow down the decline in bodily functions caused by increasing age (Astuti et al., 2024).

Decline in old age can occur in physical and psychological aspects. In the elderly, this decline includes deterioration in bodily functions, one of which is the function of blood vessels. Motivation plays an important role in this decline. Elderly individuals with low motivation to engage in activities tend to experience faster physical decline. On the other hand, those with high motivation experience slower physical decline. Therefore, the role of gerontic nursing is very important in providing appropriate support and intervention to slow this decline and improve the quality of life through a holistic and individualized approach (Christanto et al., 2022).

Gerontic nursing for the elderly is a nursing specialty that carries out roles and responsibilities within the healthcare system using scientific knowledge, skills, technology, and the art of care to optimize the elderly's functioning comprehensively, including bio-psycho-cultural aspects, aiming to help the elderly help themselves, live independently, and face their problems so they can live more prosperous lives (Riswanda, 2024).

One of the prominent health problems in the elderly group is the high prevalence of non-communicable diseases (NCDs). Data from the Ministry of Health of the Republic of Indonesia show a concerning trend of increasing NCD prevalence. In 2021, there was a significant rise in cancer (1.8%), stroke (10.9%), chronic kidney disease (3.8%), and diabetes mellitus (8.5%). Among these, hypertension experienced the highest surge, from 25.8% to 34.1%, making it one of the most common health problems in Indonesia (Kemenkes RI, 2020).

Clinically, hypertension is defined as a persistent increase in blood pressure, with systolic pressure  $\geq 140$  mmHg or diastolic pressure  $\geq 90$  mmHg (Tiara, 2020). Blood pressure consists of two components: systolic, when the heart pumps blood, and diastolic, when the heart relaxes (Telaumbanua & Rahayu, 2021). Often asymptomatic, hypertension is known as a silent killer (Kemenkes RI, 2020). A study by Winanti et al. (2024) revealed that more than half of elderly individuals with hypertension were unaware of their condition before health screening, emphasizing that this disease is often present without symptoms. Furthermore, the older the age, the higher the prevalence of hypertension (Prang et al., 2021).

In addition to age, the elderly face limitations in maintaining health. Data show that many do not regularly take medication, fail to control their hypertension, and are unaware that they have high blood pressure. Some also experience difficulty taking antihypertensive drugs due to their side effects (Christanto et al., 2022). The causes of hypertension are multifactorial and divided into two categories. The first is non-modifiable risk factors, such as advanced age, family history, and gender (Adhari, 2024). The second is modifiable risk factors, such as being overweight, high salt diet, lack of physical activity, smoking, alcohol consumption, and psychological stress (Summasalisa et al., 2025).

If not controlled, chronic hypertension can lead to various serious complications in vital organs such as the brain, heart, and kidneys. Prolonged high blood pressure can damage blood vessels and increase heart workload, which may lead to stroke, myocardial infarction, kidney failure, and brain damage (Siswanto et al., 2023).

The management of hypertension involves two main approaches: non-pharmacological and pharmacological. The non-pharmacological approach includes lifestyle changes such as a healthy diet (e.g., DASH diet), increased physical activity, quitting smoking, reducing alcohol intake, and stress management. A study by Abdulah et al. (2022) showed that structured physical activity, such as elderly gymnastics or brisk walking for at least 150 minutes per week, can reduce systolic blood pressure by 5–8 mmHg. If lifestyle modification is insufficient, pharmacological therapy using single or combination antihypertensive drugs is recommended based on clinical conditions.

## Methods

This research is a descriptive study using a case study approach conducted on one elderly person in Gentingan Hamlet, Yogyakarta. The focus of the study was to explore the process of nursing care for an elderly patient experiencing hypertension. The provision of nursing care was carried out for two weeks, with a total of seven intervention meetings. The aim of this study was to determine the level of elderly adherence to a hypertension diet and the effectiveness of hypertension exercise through a nursing care approach.

The nursing care process was carried out through several stages, including building a trusting relationship with the elderly and their family, assessment, nursing diagnosis, planning, implementation, and evaluation. Data were collected through in-depth interviews to explore the complaints felt by the elderly using the gerontic nursing care guidebook. Determination of the nursing diagnosis and care plan referred to the Indonesian Nursing Diagnosis Standards (SDKI), Indonesian Nursing Outcomes Standards (SLKI), and Indonesian Nursing Interventions Standards (SIKI).

The implementation stage is the execution of the previously arranged nursing care plan, where the plan is translated into direct actions for the patient. Next, the evaluation was carried out using the SOAP (Subjective, Objective, Assessment, and Plan) approach to assess the impact of the interventions on the patient's health condition. The final stage of this process was documentation, where the researcher recorded all health status changes experienced by the elderly during the intervention.

## Results

An elderly male aged 73 years, unemployed, without formal education, and living with his wife and children in Padukuhan Gentingan, Yogyakarta. The Nursing Profession student conducted home visits as part of gerontic nursing practice. During the visit, the elderly complained of frequent tingling in the extremities, especially in the lower limbs, experienced upon waking or appearing suddenly. The elderly also had a history of hypertension with the most recent blood pressure measurement reaching 169/112 mmHg but did not regularly take medication. The elderly also reported feeling soreness in the legs after heavy physical activity and had difficulty performing religious rituals such as prayer due to these complaints. Based on physical, mental, and functional assessments, the elderly appeared independent in daily activities but had issues related to sensory perception and health management.

Mr. S, aged 73 years, had a history of hypertension in recent years but did not undergo regular treatment because he felt fine. Before the nursing intervention, he complained of frequent tingling in his hands and feet, especially upon waking, and soreness in the lower limbs after heavy activity such as walking long distances or working in the rice fields. Based on the emerging nursing problems, the nursing diagnosis determined was sensory perception disturbance related to neuropathy as evidenced by paresthesia complaints.

Mr. S stated that the tingling made him feel uncomfortable, especially when performing morning activities. The outcome label used based on SDKI was sensory perception disturbance (D.0110). After seven nursing care meetings over a 3-week period, the client's sensory perception showed improvement, with the outcome code (L.09083). One of the main interventions provided by the researcher based on the Indonesian Nursing Intervention Standards (SIKI) was education and demonstration of hypertension exercise and regular blood pressure monitoring.

In addition, the client was also diagnosed with ineffective peripheral perfusion (D.0009) indicated by elevated blood pressure. After being given interventions in the form of a hypertension diet and hypertension exercise, as well as family support, there was an improvement in peripheral perfusion with the outcome code (L.02011).

Another identified issue was acute pain (D.0077), characterized by pain in the lower extremities after heavy activity. After providing simple exercises such as hypertension exercise demonstrations and strategies to manage pain, as well as involving the family in the care process, pain control improved with the outcome code (L.08064).

Table 1. Report of Visit Results for Elderly Mr. S with Hypertension in Gentingan Hamlet, Yogyakarta.

No	Date of Visit	Activities and Outcomes
1	Sunday, 02 March 2025	Introducing himself, building a good relationship with the elderly and family, explaining the purpose of the visit, making a contract for the next visit and also having a blood pressure check with the result of 200/119 mmHg.
2	Tuesday, 04 March 2025	The client's personal data, complaints felt, history of current illness, previous illnesses, complete general condition of the patient, physical examination and blood pressure examination were obtained with the results of 188/108 mmHg.
3	Thursday, 06 March 2025	The results of an incontinence assessment, psychosocial, and spiritual assessment were obtained. A blood pressure check was performed, which showed a reading of 180/102 mmHg. Counseling was provided on hypertension, its causes, and prevention methods.

4	Friday, March 2025	07	The results of the functional assessment of the elderly, the gerontic mental status assessment, and the YESAVAGE assessment were obtained. A blood pressure examination was performed with the result of 175/98 mmHg, counseling was provided on healthy eating and lifestyle habits for hypertension sufferers, demonstrations and hypertension exercise exercises were conducted.
5	Saturday, March 2025	8	Postural blood pressure examination results were obtained in three positions: 177/98 mmHg while sleeping, 179/112 mmHg while sitting, and 185/104 mmHg while standing. Previously presented material and hypertension exercises were reviewed. Furthermore, the nursing care provided was comprehensively explained concisely in language easily understood and accepted by the elderly.
6	Wednesday, March 2025	12	A blood pressure check was carried out with the result of 165/80 mmHg, complaints of tingling in the extremities have decreased over the past few days after doing hypertension exercises every morning and trying the hypertension diet that was taught, in addition to a review of the understanding of the material for the elderly in care.
7	Friday, March 2025	14	Evaluation of activities during the 7 meetings that have been held.

Based on the results of the implementation carried out on the elderly Mr. S for two weeks in Padukuhan Gendingan, Yogyakarta. Based on the table above, the results show that a healthy lifestyle for hypertension with a hypertension diet and hypertension exercises is effective.

## Discussion

Hypertension is a major health issue commonly experienced by the elderly, where blood vessel tissues change with increasing age. Arteries become stiff, causing blood pressure to rise. Hypertension is sometimes referred to as the "silent killer" because it often does not cause visible or noticeable symptoms. Although hypertension affects nearly half of the elderly population, many may not realize they have it. If hypertension is not controlled through lifestyle changes and medication, it can lead to serious health problems including cardiovascular diseases (such as heart disease and stroke), vascular dementia, eye problems, and kidney disease. However, these conditions can be prevented by controlling hypertension (Deswita, 2024)

Counseling and education need to be provided to give understanding about the definition of hypertension, its causes, symptoms, and complications. In addition to knowledge about hypertension, the elderly also need sessions on physical activities for hypertension, one of which is hypertension exercise (Telaumbanua & Rahayu, 2021).

Based on this, seven nursing home visits were conducted for the elderly with hypertension to provide education and continuous nursing care. The first visit was conducted to introduce oneself, establish a good relationship with the elderly and family, explain the purpose of the visit, and conduct blood pressure measurement, which resulted in 200/119 mmHg. The second visit involved collecting identity data, complaints, current and past medical history, general condition of the patient, physical examination, and blood pressure measurement with a result of 188/108 mmHg.

The third visit included assessment of incontinence, psychosocial and spiritual conditions, and education about hypertension, its causes, and prevention, with a blood pressure result of 180/102 mmHg. The fourth visit assessed the elderly's functional status, geriatric mental status, and used the YESAVAGE scale. The visit included education on healthy diet and lifestyle for hypertensive patients and hypertension exercise demonstrations, with a blood pressure result of 175/98 mmHg.

The fifth visit involved postural blood pressure measurements in three positions—lying down (177/98 mmHg), sitting (179/112 mmHg), and standing (185/104 mmHg)—as well as a review of previously delivered material and hypertension exercise practice. Nursing care was also explained in simple, easy-to-understand language for the elderly.

The sixth visit showed a blood pressure reading of 165/80 mmHg, and the tingling complaints in the extremities had subsided over the past few days after performing hypertension exercises every morning and attempting the recommended hypertension diet. A review of the patient's understanding of the material was also conducted.

The seventh and final visit was an evaluation of all activities over the seven sessions. The results from these home nursing visits showed that a healthy lifestyle, including a hypertension diet and exercise, was effective.

The series of nursing home visits showed a gradual reduction in blood pressure and an increase in the elderly's understanding of how to implement a healthy lifestyle, including hypertension exercise and diet, as part of managing blood pressure and preventing further complications. On the final visit, Friday, March 14, 2025, a full evaluation was conducted of all activities performed over the seven meetings. During the visits, a gradual decrease in blood pressure occurred along with improved understanding and engagement of the elderly in applying a healthy lifestyle to manage hypertension.

This result aligns with research showing that regular hypertension exercise can significantly reduce systolic and diastolic blood pressure in elderly hypertensive patients because physical activity such as exercise improves blood vessel elasticity, blood circulation, and naturally regulates blood pressure to prevent spikes due to inactivity and prolonged stress (Ramadhani, 2022). Structured physical activity like hypertension exercise also helps increase the release of endorphins, providing relaxation and comfort, which make elderly patients more enthusiastic and confident in maintaining their daily health.

Other studies also show a decrease in average blood pressure from 145/88 mmHg to 138/83 mmHg in elderly patients after regularly doing hypertension exercise, indicating the importance of exercise in controlling hypertension, especially when combined with education and continuous blood pressure monitoring as conducted in this case study (Sulistiyawati, 2025). The elderly became more aware of the importance of blood pressure control through healthy lifestyles, regular physical activity, and adherence to a hypertension diet to prevent complications such as stroke, kidney failure, and heart problems that may affect their quality of life.

Thus, conducting seven nursing home visits focused on education, hypertension exercise, blood pressure monitoring, and evaluating the elderly's understanding proved effective in helping the elderly manage blood pressure. In addition to lowering blood pressure, these activities improved the elderly's self-care skills and independence in maintaining optimal health, thus expectedly improving their overall quality of life.

## Conclusion

The implementation of gerontic nursing care for elderly patients with hypertension and sensory perception disturbance in Padukuhan Gentingan showed positive outcomes. Interventions in the form of hypertension diet education, hypertension exercise, and blood pressure monitoring effectively improved sensory perception, peripheral perfusion, and pain control. The elderly demonstrated increased compliance with a healthy lifestyle, influenced by understanding and active family involvement. These findings affirm the importance of holistic and sustainable nursing approaches in hypertension management among elderly patients to improve their quality of life.

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