

Case Report: Application Of Walking Activity Intervention To Reduce Pain Scale And Blood Pressure In Clients With Hypertension In Tangerang Regency

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Abstract: Hypertension, or high blood pressure, is a medical condition in which the blood pressure in a person's arteries is above the normal limit, hypertension can increase a person's risk of developing heart disease, stroke, kidney disease, and other complications. The aim of study is to describe family nursing care for Mrs. S, a Hypertension patient, with walking activity intervention against reduction of pain scale and blood pressure. The method used is a case report with descriptive technique. Based on the assessment, data was obtained that the patient had a history of hypertension twelve years ago and complained of dizziness, pain in the nape, often consuming salty food, rarely exercising, and not having a routine health check. Nursing diagnosis in patients is ineffective health management, the intervention is to monitor blood pressure on the pain scale and provide nonpharmacological techniques to lower blood pressure and pain scale by the application of walking activities. The implementation of nursing carried out is walking activities for 30 minutes on three consecutive days within a week. The results of the nursing evaluation problem were resolved. Conclusion from the application of walking activities given to clients to lower blood pressure and pain scale.

Keywords: hypertension, walking activities

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Introduction

Hypertension is a condition in which systolic blood pressure in a person's body is more than or equal to 140 mmHg and or diastolic blood pressure is more than or equal to 90 mmHg (Ministry of Health of the Republic of Indonesia, 2023). Hypertension, or high blood pressure, is a medical condition in which the blood pressure in a person's arteries is above normal limits, hypertension can increase a person's risk of developing heart disease, stroke, kidney disease, and other complications (World Health Organization, 2022). From some of the definitions above, it can be said that

hypertension is a non-communicable disease and is found all over the world.

Then according to the WHO data report, Adults worldwide suffer from hypertension and the prevalence of hypertension in the world reaches an alarming number, according to the study, more than 1.13 billion people worldwide suffer from hypertension. This shows that hypertension is a global health problem that needs serious attention (World Health Organization, 2022). In addition, according to research by the Ministry of Health of the Republic of Indonesia, Hypertension or high blood pressure is the number one cause of death in the

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world, with 90-95% of cases dominated by hypertension. In Indonesia, according to the 2023 Indonesian Health Survey (SKI) and the 2011-2021 non-communicable disease (NCD) cohort study, hypertension is the fourth highest risk factor for death with a percentage of 10.2% (Ministry of Health, 2024).

Then based on Banten Basic Health profile data in 2019, the prevalence in Banten Province that has hypertension is 8.61% (Risesdas Banten, 2018). On the other hand, in Tangerang City, hypertension disease is included in the initial order at 28.74%, Tangerang Regency 23.6% (Risesdas Banten, 2018). The data shows that the incidence of hypertension in Banten Province is still high in the Tangerang City and Tangerang Regency areas (Risesdas Banten, 2018). From some of these prevalences, it can be said that the incidence of hypertension in the world and in Indonesia is still high.

In addition, there are risk factors for hypertension, namely age, gender, family history, genetics (risk factors that cannot be changed or controlled), smoking habits, salt consumption, preservative consumption, saturated fat consumption, used cooking oil, alcohol consumption habits, obesity, lack of physical activity, stress, estrogen use (Ministry of Health of the Republic of Indonesia, 2018). In addition to risk factors for hypertension, there are also clinical manifestations that often appear in hypertensive patients, namely an increase in blood flow to the kidneys which makes them frequent urination at night (nocturia), damage to the retina as a result of hypertension in the form of blurred vision and usually accompanied by nausea and vomiting and dizziness accompanied by pain or headache in the morning after waking up

Pain is an uncomfortable sensory and emotional condition due to potential or actual tissue damage. Then pain management is divided into 2 groups, namely pharmacology and non-pharmacology, pharmacology generally uses analgesics, although analgesics are very effective in overcoming pain, analgesics have an addictive and harmful impact on the body. For non-pharmacological management itself, one of them is by doing walking exercises or the application of walking activities (Potter et al., 2021) In line with research conducted by (Bayudianto et al., 2022) about Walking exercises are exercises in hypertensive patients that are useful for stabilizing the blood pressure of hypertensive patients. Doing sports in a narrow sense is exercise to strengthen or nourish the body with walking exercises that are the use of muscles in doing exercises for more than 30 minutes or relatively long which in general walking exercise is not only useful for fostering physical freshness, but can also treat several types of diseases including hypertension, in hypertensive patients it is

useful for lowering blood pressure (Bayudianto et al., 2022)

In addition, walking within 30 minutes also obtained results that there was an impact on a decrease in systolic blood and diastolic blood pressure in older adults (Annazmi et al., 2022). This is also in line with the research conducted by Larasiska & HN (2017) has carried out a walking activity intervention to lower blood pressure for 20-30 minutes, the results were obtained that there was an average decrease in blood pressure of 10-15 mmHg, the average respondent was a woman (75%), and the age criteria of the respondents in this study were the elderly aged 60-69 years (25%), 70-79 years old (33.3%), and 80-89 years old (41.7%). In line with the research conducted by (Aliftitah & Oktavianisya, 2020) namely There is an effect of walking 30 minutes on reducing blood pressure in the elderly group in Errabu Village in 2019, which was carried out for 2-3 times a week and this study is based on the criteria of an average elderly woman.

Then the results of the study were obtained which showed that of the 20 respondents before the morning walking activity, there were 12 respondents with a systolic blood pressure of 140 mmHg and 15 respondents with a diastolic blood pressure of 90 mmHg. And after the morning walk activity, there were 9 respondents with systolic blood pressure of 140 mmHg and 8 respondents with diastolic blood pressure between 80 and 90 mmHg (Silwanah et al., 2020). Walking has a positive effect, such as reduce risk of Cardiovascular Disease

As evidenced by the application of walking activities in hypertensive patients, the results were obtained that after walking for 2-3 times a week for 30 minutes, it can relieve pain in the nape of the neck and the heart does not pound anymore and does not feel tightness anymore (Indasari, 2021). This study was in line with research conducted by Ardi et al. (2023) who have provided interventions to overcome problems carried out to hypertensive clients by implementing physical activities in the morning to reduce the pain scale from moderate pain, decreasing to mild pain. Then based on the observations of the people of Cengklong Kosambi village, they are familiar with non-pharmacological treatment, namely walking activities, so that it can make it easier for a person to carry out or apply these walking activities in their daily lives, especially the elderly.

This intervention is the application of Evidence Based practice (EBN) according to the results of several researchers such as Bayudianto et al., (2022); Cahyani & Cahyani), Silwanah et al., (2020), Indasari (2021), Priyantari (2017), Aliftitah & Oktavianisya (2020) dan Ardi et al. (2023). Based on the literature that the author

has read, there are still few studies that measure the effect of the application of walking activities on two variables simultaneously, namely on the reduction of pain scale and blood pressure. Moreover, previous studies showed there were differences in the outcome variables. Furthermore, walking activity could be considered a self-care activity that can be maintain by hypertension patient themselves. Self-care activity is crucial for patient with chronic illness to achieve better quality of life (Elon et al., 2021). Based on this background, it can be concluded that walking is one of the non-pharmacological treatments, which can provide effectiveness in reducing the scale of pain and blood pressure in hypertensive patients. Thus, the author is interested in providing nursing care for families with hypertension problems through walking activity therapy to reduce pain scale and blood pressure.

Method

The method used is a case report with a descriptive technique. Based on the assessment, data was obtained that the patient had a history of hypertension twelve years ago and complained of dizziness, pain in the nape of the neck, often consuming salty food, rarely exercising, and not having a routine health check.

The patient' nursing diagnosis in was ineffective health management, the intervention was to monitor blood pressure on the pain scale and provide nonpharmacological techniques to lower blood pressure and pain scale by the application of walking activities. The implementation of nursing carried out is walking activities for 30 minutes on three consecutive days within a week. The procedure was adopted by Surbakti (2014), namely using standard operating procedures (SOP) Walking techniques according to the Indonesian Ministry of Health (2014).

Result and Discussion

Blood Pressure Test Results

Table 1. Before Walking Activities

	Systolic blood pressure (unit)	Diastolic blood pressure (Unit)	Total
Day 1st	170	100	170/100 mmhg
Day 2nd	160	90	160/90 mmhg
Day 3rd	150	90	150/90 mmhg

Table 2. After the Walking Activity

	Systolic blood pressure (unit)	Diastolic blood pressure (Unit)	Total
Day 1st	160	90	160/90 mmhg
Day 2nd	150	90	150/90 mmhg

Day 3rd	140	80	140/80 mmhg
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Results of the Pain Scale examination using the Numeric Rating Scale (NRS) explain below.

Table 3. Before walking

	Pain scale	Valuation
Day 1st	4	Moderate pain
Day 2nd	3	Mild pain
Day 3rd	2	Mild pain

Table 4. After the walking activity

	Pain scale	Valuation
Day 1st	3	Mild pain
Day 2nd	2	Mild pain
Day 3rd	1	Mild pain

From the results of the data before and after the above walking activities, it is explained that interventions have been given regarding education on the meaning of hypertension, causes, complications, prevention, hypertension diet and treatment or treatment hypertension independently at home, walking activities carried out for 3 days a week there was a decrease in the pain scale in Mrs. S's left calf and there was also a decrease in blood pressure. Of the interventions that have been given, namely education about hypertension, Mrs. S and her family have understood the definition, causes, prevention, complications, diet, as well as the treatment and treatment of hypertension. Mrs. S and her family said that they had implemented walking activities every morning independently even though they were still accompanied by Mrs. S assisted by taking amlodipine 1x a day 10 mg. The author delivered the intervention to the patient with at least one family member present to accompany the patient. The family member role as social support for the patient in maintaining the self-care activities to achieve better health outcome (Hanifah et al., 2021). The current study showed improvement health outcome, indicating by lowered bool pressure and pain scale.

Walking activities can improve blood flow, In line with Istiqomah and Sari (2023) that walking activity exercises can break cholesterol in the form of fat in the blood which narrows blood flow, thus walking activities are very influential on hypertension, in carrying out this walking activity one of the expected goals is to improve blood circulation to the legs. This is in line with research that has obtained results that there is an effect after walking activities can reduce bad cholesterol (LDL) levels and maintain blood pressure stability, increase heart rate, facilitate blood circulation in the body, and strengthen the heart. In addition, walking has a positive effect, namely it can reduce blood pressure, improve lipid profiles, reduce body fat ratio, emotional and

mental well-being, reduce pain and reduce heart disease (Omura et al., 2019).

Conclusion

Family nursing care at home is family nursing care with other health services that can be provided at home, to support family health service policies in the community so that they can overcome the health problems of clients and their families at home using non-pharmacological treatment.

The achievement of the implementation of Evidence Based Practice (EBN) with walking activity intervention was carried out on Mrs. S aged 78 years with hypertension for 3 days, the results of the walking activity intervention were obtained to reduce blood pressure and pain scale in hypertensive clients. With blood pressure results 170/100 mmHg before walking and blood pressure 140/80 mmHg after walking then obtained pain scale results of 4 (moderate) before walking and pain scale 1 (mild). The intervention was carried out in 3 meetings and the results were obtained on the third day, it can be concluded that walking activities can reduce blood pressure and pain scale.

Then the decrease in blood pressure is not purely from walking activities because the client also applies a hypertensive diet and takes amlodipine 10 mg and the number of samples is limited, namely there is only one sample, so the results of this study cannot be used to generalize the effect of walking on the decrease in blood pressure in the elderly.

This study has some limitations that need to be addressed. First, the decrease in blood pressure cannot be attributed solely to walking activities, as the client also adhered to a hypertensive diet and took amlodipine 10 mg. Moreover, blood pressure measurements were taken only before and after exercise. Future research should include measurements before and after exercise, as well as at regular intervals post-exercise, to better understand the duration of the intervention's effects. Also, this study involved only one sample, which limits the ability to generalize the findings to the broader elderly population with hypertension.

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Author Contributions

The second author already has a concept that was then developed by the first author, then the first author used the case report description method by providing scientific interventions, namely the application of walking activities to lower blood pressure and pain scale. Measurements were made using an aneroid Spig

manometer and a numerical rating scale, and this intervention was carried out under the supervision of the second author.

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Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper. All research activities, data collection, and analysis were conducted independently and objectively. No financial, personal, or professional affiliations have influenced the outcomes of this study. The integrity and validity of the research findings are upheld, ensuring transparency and impartiality in reporting the results.

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