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Hypertension Health Education and Hypertension Exercise Training in The Elderly at Wisma Cempaka UPT PSTW Jember

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A B S T R A C T

The elderly are at higher risk of developing various degenerative diseases. Hypertension is often called the "Silent Killer", which can unwittingly cause death due to complications without proper treatment. Therefore, hypertension health education is expected to increase knowledge of the elderly, and hypertension exercise training can help reduce complications. This community service program aims to increase the elderly's knowledge of hypertension and be able to apply the hypertension exercise method at Wisma Cempaka UPT PSTW Jember. The community service method uses a gerontic nursing care approach which includes various stages, namely an initial survey related to hypertension through blood pressure checks in the elderly, then carrying out hypertension counseling with counseling methods and interactive discussions, then continuing with training on how to apply hypertension exercise by students and a joint demonstration with the Wisma elderly. Cempaka UPT PSTW Jember. The results of this activity indicate an increase in knowledge among the elderly regarding hypertension from 42% to 75% at the end of the activity. The average decrease in elderly blood pressure is ten mmHg in systolic and five mmHg in diastole after exercise hypertension for three consecutive days. This proves the importance of health education and training in the form of hypertension exercise to be carried out continuously in controlling blood pressure and minimizing the risk of hypertension complications in the elderly. Therefore, monitoring of exercise training and sustainable hypertension health education is expected to be continued regularly to maintain the health of the elderly.

INTRODUCTION

The Elderly is more than 60 years old (Kemenkes, 2019). Aging is a natural process that cannot be avoided and takes place continuously. The aging process will cause anatomical, physiological, and biochemical changes in the body that will affect the function and ability of the body as a whole. Therefore, the elderly are more susceptible to degenerative diseases when compared to young people. Degenerative disease is a chronic disease that significantly affects a person's quality of life and productivity (Ariyanti et al., 2020). One of the degenerative diseases that often appears without signs and symptoms is hypertension.

Hypertension is a degenerative disease which is a non-communicable disease that is often referred to as a silent killer because there were no complaints or abnormalities at the beginning; only high blood pressure data were obtained (Suryaningsih et al., 2022). The elderly have an increased risk for hypertension-related changes during the aging process, particularly the cardiovascular system (Yunanto et al., 2020).

Hypertension is a condition where systolic blood pressure is > 140 mmHg and diastolic blood pressure is > 90 mmHg.

Hypertension or high blood pressure is a condition when blood pressure is above 140 mmHg. Hypertension is often called "The Silent Killer", which means that disease without realizing it can cause death; most patients do not know or do not realize that they have hypertension, so that there is no effort to control blood pressure so that it continues with the emergence of complicated complications such as heart disease, stroke, kidney disease, kidney damage. Optic retina, vascular disease, nerve disorders and disorders of the brain (Pardede et al., 2020).

Hypertension is a non-communicable disease that is one of the world's leading causes of premature death. WHO estimates that the global prevalence of hypertension is 22% of the total world population. The African region has the highest prevalence of hypertension at 27%, while Southeast Asia is the third highest, with a majority of 25% of the total population. Riskesdas 2018 show the prevalence of hypertension in the population > 18 years based on national measurements of 34.11% (Kemenkes, 2019). Hypertension in the elderly will have a negative effect wrong, and the other is that it affects the physical quality so that it impacts fulfilling self-care in the form of daily activities (Intan et al., 2021). Hypertension can affect the level of mobility of the elderly and their ability to carry out daily activities (Konitatillah et al., 2021). Physical activity can improve metabolism and blood circulation, maintain body weight and health, reduce the hormone which can trigger stress, and increase the hormone endorphins that give a feeling of happiness and relaxation. The benefits of regular exercise have been shown to reduce blood pressure reduce the risk of stroke, heart attack, kidney failure, and other vascular diseases (Kirnawati et al., 2021).

Results Based on a study conducted by PSP2N28 students of Gerontic Nursing Phase, Faculty of Nursing, University of Jember on May 3, 2022 at Wisma Cempaka UPT PSTW Jember Regency, it was found that the majority of residents in Wisma Cempaka were male (100%) with the highest age is 60 -70 years (56%), have high blood pressure with a total systolic blood pressure of 130-200 mmHg obtained by 6 people (63%) of 13 people with a history of stroke as many as 2 people. Therefore, it is necessary to have health education and hypertension exercise as a blood pressure controller in the elderly at Wisma Cempaka, UPT PSTW Jember.

METHOD

This community service method uses a gerontic nursing care approach. The activity was carried out on 5-7 May 2022 in the elderly at Wisma Cempaka, UPT PSTW Jember by; two stages, such as a health education by providing counseling to increase the knowledge of the elderly related to hypertension. The materials provided are knowledge, signs and symptoms, causative factors, complications, hypertension

diet, and hypertension management; b) Training to exercise hypertension by students of the Jember University Nursing profession. Hypertension exercise training is carried out by teaching gymnastic movements, starting from walking in place, clapping hands, clapping fingers, and intertwining fingers, a letter I hand, thumb cross, little finger fighting and index fighting, letter hand I, tapping wrist, hand clenching then moved up and down (Neng et al., 2020).

Data collection began with measuring blood pressure before being given the intervention and pretesting a questionnaire on the level of knowledge of hypertension to measuring blood pressure after being given the intervention of hypertension exercise and post-testing the level of understanding of hypertension.

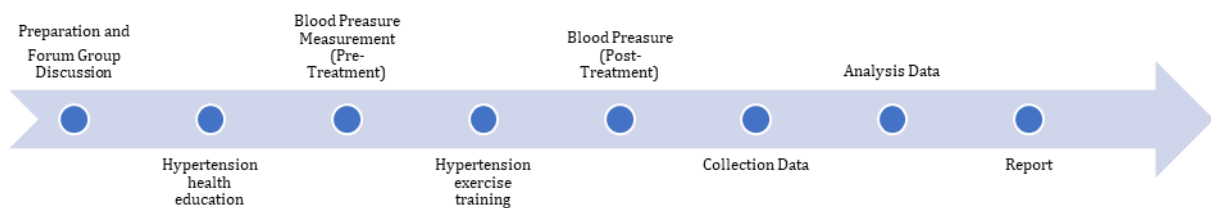


Figure 1. Flowchart community service activity

RESULT AND DISCUSSION

Based on the analysis of the characteristics of the respondents, the number of older people in Wisma Cempaka is 13 people with an age range of 58-84 years with male gender, and all the elderly in Wisma Cempaka are unemployed. The results of the blood pressure examination before giving the intervention showed six people had hypertension. The data can be seen in Tables 1 and 2.

Table 1. Demographic data for the elderly at Wisma Cempaka UPT PSTW Jember (n=13)

Categories	Frequency	Presentation
Age		
58-84 years old	13	100%
Gender		
Man	13	100%
Woman	0	0
Profession		
Unemployment	13	100%

Table 2. The results of blood pressure measurement in elderly before treatment

Respondents	Blood Pressure (BP)
Mr. K	100/60 mmHg
Mr.KM	100/70 mmHg
Mr. B	120/80 mmHg
Mr. M	160/60 mmHg*
Mr. Y	140/80 mmHg*
Mr.G	150/90 mmHg*
Mr. M	100/60 mmHg
Mr. H	120/90 mmHg
Mr. S	90/60 mmHg
Mr. Y	160/90 mmHg*
Mr.YS	140/80 mmHg*

Mr. A	200/120 mmHg*
Mr. S	110/70 mmHg

Source: Primary data, 5 May 2022

Before activities were implemented on May 5, 2022, a pretest was conducted to assess the knowledge level of 13 older people at Wisma Cempaka. After the health education was carried out, a posttest was conducted to assess whether there was an increase in knowledge. The enthusiasm of the elderly at Wisma Cempaka is very high. The activeness of the elderly shows this at the time of counseling and during discussions. Hypertension health promotion can be used as an alternative to preventing hypertension and a solution to improve the health status of the elderly (Susanto et al., 2019).

Based on the results of data analysis carried out on the pretest and posttest values in the elderly, it is known that there is an increase in the knowledge of the elderly before and after health education regarding hypertension. Before health education, the knowledge level of the elderly was 42%, and after health education, the knowledge level of the elderly increased to 75%. The data can be seen in Table 3. The knowledge of the elderly has increased, as evidenced by a fast and appropriate response during discussion sessions.

Table 3. Level of Knowledge of the Elderly about Hypertension (n=13)

Knowledge level	Frequency
Before activity	42%
After activity	75%

Source: Primary data, 05 May 2022



Figure 2. (a) Hypertension health education, (b) Blood pressure measurement, (c) Hypertensive exercise

After the elderly understand all the hypertension movements, they exercise with students. Exercise lasts three consecutive days, 5-7 May 2022. Hypertension exercise is done by teaching gymnastic movements. The movement starts from walking in place, clapping hands, clapping fingers, and intertwining fingers, hands letter I, crossing the thumbs, fighting the short side, and fighting the index finger, a letter I hand, tapping the wrist, clenching, clapping the waist and calves, alternately clapping the stomach, tiptoe. The hands are clenched and then moved up and down (Neng et al., 2020). Hypertension exercise was carried out together, and interviews were conducted about how the elderly felt. A total of 10 out of 13 elderlies feel refreshed and healthier because of sweating. Hypertension exercise has been shown to help lower blood pressure more quickly in hypertensive patients undergoing pharmacological treatment when compared to lowering blood pressure in hypertensive patients who only received pharmacological treatment (Anwari et al., 2018). Hypertension sufferers can carry out hypertension exercises regularly so they will be able to control their blood pressure (Martani et al., 2022).

From the results of data analysis carried out on the value of blood pressure measurements, the test results showed systolic and diastole before and after the hypertension exercise intervention. Before hypertension exercise, the minimum systolic value was 90, and the maximum was 200. After hypertension exercise, the minimum diastolic value was 60, and the maximum was 100. The results of blood pressure measurements by comparing before and after hypertension exercise blood pressure showed a decrease. The decrease in blood pressure in the elderly is an average of 10mmHg systolic and 5mmHg diastolic blood pressure. This can happen because hypertension exercise can reduce anxiety and stress, so that blood vessels experience vasodilation. Anxiety has been associated with increased sympathoadrenal activity, suggesting a biological pathway by which anxiety may increase the risk of cardiovascular disease (Andrade et al., 2019; Paine et al., 2015).

According to Tina et al., (2021), hypertension exercise is a physical activity exercise that can be done where exercise movements for hypertension sufferers are carried out for 30 minutes with stages of 5 minutes of warm-up exercise. Twenty minutes of movement songs and five cooling movements with a frequency of 4 times in 2 weeks simultaneously can lower blood pressure and reduce the risk of stroke, heart failure, and other blood vessel diseases. In addition, exercise can help lose weight and increase muscle mass, reducing fat and thus helping the body maintain blood pressure. Every 5 kg weight loss will reduce the load by 20% (Hernawan & Rosyid, 2017).

CONCLUSION

Health education and training in hypertension exercise can reduce blood pressure in the elderly so that the health status and quality of life of the elderly can increase. The group activity therapy activities carried out by students at Wisma Cempaka UPT PSTW Jember went well. The results of this activity showed an

increase in the knowledge of the elderly about hypertension and exercise after health education was carried out. Then there was a decrease in systolic and diastolic blood pressure after the hypertension exercise was carried out. The next activity plan is to collaborate with officers at UPT PSTW Jember to schedule hypertension exercises at Wisma Cempaka UPT PSTW Jember routinely.

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REFERENCES

- Andrade, D. de M., Amaral, J. F., Trevizan, P. F., Toschi-Dias, E., Silva, L. P. da, Laterza, M. C., & Martinez, D. G. (2019). Anxiety increases the blood pressure response during exercise. *Motriz: Revista de Educação Física*, 25.
- Anwari, M., Vidyawati, R., Salamah, R., Refani, M., Winingsih, N., Yoga, D., Inna, R., & Susanto, T. (2018). Pengaruh senam anti hipertensi lansia terhadap penurunan tekanan darah lansia di Desa Kemuningsari Lor Kecamatan Panti Kabupaten Jember. *The Indonesian Journal of Health Science*, 160–164.
- Ariyanti, R., Preharsini, I. A., & Sipolio, B. W. (2020). Edukasi Kesehatan Dalam Upaya Pencegahan dan Pengendalian Penyakit Hipertensi Pada Lansia. *To Maega: Jurnal Pengabdian Masyarakat*, 3(2), 74–82.
- Hernawan, T., & Rosyid, F. N. (2017). Pengaruh senam hipertensi lansia terhadap penurunan tekanan darah lansia dengan hipertensi di panti wreda Darma Bhakti Kelurahan Pajang Surakarta. *Jurnal Kesehatan*, 10(1), 26–31.
- Intan, A. D., Susumaningrum, L. A., Rasni, H., Susanto, T., & Masruro, M. (2021). Hubungan Fungsi Kognitif dengan Perawatan Diri: Aktivitas Sehari-hari pada Lansia Hipertensi di UPT PSTW Jember. *NERS Jurnal Keperawatan*, 17(1), 21–28.
- Kemenkes, R. I. (2019). Hipertensi si pembunuh senyap. *Kementrian Kesehatan RI*, 1–5.
- Kirnawati, A., Susumaningrum, L. A., Rasni, H., Susanto, T., & Kholida, D. (2021). Hubungan Tingkat Spiritual dan Religiusitas dengan Tekanan Darah pada Lansia Hipertensi. *Jkep*, 6(1), 26–39.
- Konitatillah, S. K. M., Susumaningrum, L. A., Rasni, H., Susanto, T., & Dewi, R. (2021). Hubungan Kemampuan Mobilisasi dengan Risiko Jatuh pada Lansia Hipertensi. *JKEP*, 6(1), 9–25.
- Martani, R. W., Kurniasari, G., & Angkasa, M. P. (2022). Pengaruh Senam Hipertensi Terhadap Tekanan Darah Pada Lansia: Studi Literature. *Jurnal Ilmu Keperawatan Dan Kebidanan*, 13(1), 83–87.
- Neng, R., Novia, N., Nova, A., Rahmi, A., Novita, S., Rima, N., Nirwanti, N., Rahman, N., Yuda, G., & Junaedi, J. (2020). Penyuluhan Tentang Senam Hipertensi Di Kp. Sukadanuh RT02 RW10 Desa Linggamukti Kecamatan Sucinaraja. *Jurnal Pengabdian Masyarakat Dalam Kesehatan*, 2(2), 26–28.

- Paine, N. J., Watkins, L. L., Blumenthal, J. A., Kuhn, C. M., & Sherwood, A. (2015). Associations of Depressive and Anxiety Symptoms with 24-hour Urinary Catecholamines in individuals with untreated high blood pressure. *Psychosomatic Medicine*, 77(2), 136.
- Pardede, L., Sianturi, R., & Veranita, A. (2020). Peningkatan Kepatuhan Pola Hidup Melalui Penyuluhan Kesehatan Pada Klien Hipertensi. *Jurnal Ilmiah Keperawatan Altruistik*, 38–47.
- Suryaningsih, N. P. E., Wita, I. W., Wiryawan, I. N., & Dewangga, M. S. Y. (2022). GAMBARAN FAKTOR RISIKO HIPERTENSI PADA MASYARAKAT DI DESA UNGASAN, KECAMATAN KUTA SELATAN, KABUPATEN BADUNG. *Jurnal Medika Udayana*, 11(1), 87–91.
- Susanto, T., Rasny, H., Susumaningrum, L. A., Yunanto, R. A., & Nur, K. R. (2019). Prevalence of hypertension and predictive factors of self-efficacy among elderly people with hypertension in institutional-based rehabilitation in Indonesia. *Education*, 21(1), 14–21.
- Tina, Y., Handayani, S., & Monika, R. (2021). Pengaruh Senam Hipertensi Terhadap Tekanan Darah Pada Lansia. *Jurnal Kesehatan Samodra Ilmu*, 12(2), 118–123.
- Yunanto, R. A., Susanto, T., Rasni, H., Susumaningrum, L. A., & Nur, K. R. M. (2020). Prevalence of hypertension and related factors among older people in nursing home of jember, east java, indonesia. *NurseLine Journal*, 4(2), 146–153.