



The Effectiveness Of Elderly Gymnastics In Reducing Blood Pressure In Elderly Hypertension Sufferers In RT. 14, Jalan Gedang Subdistrict, Bengkulu City

Dana Wisandi ¹, Puspa Chandra Leka ², Delka Mayang Sari ³, Ria Pitriani ⁴, Epet Triana ⁵
Fikitri Marya Sari ⁶

^{1,2,,3,4,5,6} Universitas Dehasen Bengkulu

Email : ¹ danawisandi@gmail.com

Received [06-01-2026]

Revised [15-06-2026]

Accepted [18-06-2026]

Abstract. Hypertension is a common chronic disease among the elderly and poses a risk of serious complications, including stroke, heart disease, and organ dysfunction. This study aimed to evaluate the effectiveness of elderly exercise in reducing blood pressure among hypertensive elderly in RT 14, Jalan Gedang Subdistrict, Bengkulu City. The method used was a community service program involving health education, counseling, and hypertensive exercise practice conducted by 11 students of the S1 KKN students from the Faculty of Health Sciences, Dehasen University, Bengkulu together with cadres and community leaders, in collaboration with community cadres and local leaders. The exercise sessions lasted 30 minutes, recommended to be performed once a week, accompanied by blood pressure monitoring to observe the intervention's effects. Observations showed that the elderly in RT 14 had a high prevalence of hypertension, influenced by lifestyle factors, dietary patterns, and family history. Through this program, the community received education about hypertension, non-pharmacological therapy, and exercise practices that could lower blood pressure and improve the quality of life of the elderly. The program was also supported by the distribution of leaflets as additional educational media. In conclusion, regular elderly exercise integrated with health education can enhance knowledge, awareness, and self-management among the elderly in controlling hypertension. This activity is expected to serve as a sustainable health promotion model for the elderly community in the local area.

Keywords: *Exercise For The Elderly, Blood Pressure, Hypertension In The Elderly.*

INTRODUCTION

Hypertension is a major health problem commonly experienced by the elderly. This condition is characterized by elevated systolic blood pressure ≥ 140 mmHg and/or diastolic blood pressure ≥ 90 mmHg, which can lead to various serious complications such as stroke, coronary heart disease, kidney disorders, and even death (Yuliana et al., 2023). As the body ages, the body undergoes various physiological changes, including decreased elasticity of blood vessel walls and increased arterial stiffness. These changes make the elderly more susceptible to hypertension than other age groups.

According to the World Health Organization (2023), approximately 1.28 billion adults aged 30–79 worldwide live with hypertension. In Indonesia, data from the Indonesia Hypertension Profile indicates that of a total population of approximately 269.6 million, approximately 40% have hypertension (WHO, 2023). According to the 2022 Bengkulu Province Health Profile, the

number of hypertension cases in the province reached 168,519, or approximately 64%. North Bengkulu Regency recorded the highest prevalence rate at 95%, followed by Rejang Lebong at 91%, Seluma at 83%, Lebong at 82%, Muko-Muko at 81%, and Kepahiang at 48%. Bengkulu City ranked seventh with a prevalence rate of 41%, while Central Bengkulu had the lowest rate at 22% (Provincial Health Office, 2022). A field survey in the Jalan Gedang Community Health Center (Puskesmas) working area recorded 286 individuals with hypertension from January to November 2025.

Observations by Dehasen University Community Service Program (KKN) students in Neighborhood Association (RT) 14, Jalan Gedang Village, revealed 12 elderly individuals with hypertension, with primary symptoms being dizziness, fatigue, and sleep disturbances. This condition not only impacts health status but also impacts the elderly's quality of life and ability to carry out daily activities (Yuliana et al., 2023). Therefore, easy-to-implement, safe, and sustainable interventions are needed to help control blood pressure in this group.

One non-pharmacological intervention that has proven effective is elderly exercise. Elderly exercise is a form of physical activity tailored to the abilities and physical condition of older adults, making it safe for regular practice. This activity can improve blood circulation, decrease peripheral vascular resistance, reduce stress, and promote relaxation, all of which can help lower blood pressure. Furthermore, elderly exercise also provides additional benefits such as improving fitness, maintaining balance, strengthening muscles, and encouraging positive social interactions among older adults (Andrianto, 2022).

Although elderly exercise has been recognized as a simple method to help lower blood pressure, to date, no research has specifically evaluated the effectiveness of elderly exercise programs in RT 14, Jalan Gedang Village. The effectiveness of a program can vary across regions due to differences in participation rates, population characteristics, and environmental conditions. Therefore, this study is important to determine the impact of elderly exercise activities on lowering blood pressure in elderly people with hypertension in the region.

Based on this description, this encouraged the community service team to assess the effectiveness of elderly gymnastics in reducing blood pressure in hypertensive elderly people in RT 14, Jalan Gedang Village, Bengkulu City.

RESEARCH METHODS

The Community Empowerment Program (KKNT) utilizes counseling, practice, and education methods. The program's partners are residents of RT 14, Jalan Gedang Village, Gading Cempaka District, Bengkulu City. The activity was held on December 3, 2025, involving 11 KKNT students from Dehasen University, Bengkulu, in collaboration with the neighborhood head, neighborhood head, community leaders, cadres, and elderly residents.

The intervention consisted of 30-minute elderly exercise sessions, led by Group 3 students from the Faculty of Health Sciences, Dehasen University. Residents of RT 14 were encouraged to participate in hypertension exercises once a week and undergo blood pressure checks to help lower blood pressure.



Figure 1

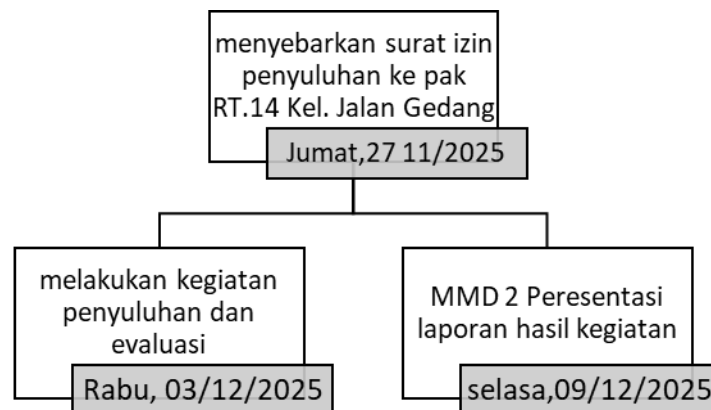


Figure 2

RESULTS AND DISCUSSION

According to data from the Jalan Gedang Community Health Center, RT 14, 12 residents suffer from hypertension. This condition is influenced by various factors, particularly high salt consumption, unhealthy lifestyle habits, and irregular eating patterns. In addition to lifestyle factors, family history or genetics also contribute to the high incidence of hypertension in the area. From an epidemiological perspective, host characteristics such as age, gender, education level, and public awareness also influence the risk of hypertension. Addressing hypertension through hypertension exercises for the elderly is highly effective as a non-pharmacological therapy because the exercises stretch blood vessels, increase elasticity, improve circulation, and reduce resistance, thus helping to naturally lower blood pressure in the elderly. These elderly exercise movements are very easy for the elderly in RT 14 to perform. They include warm-ups, core movements (arms, legs, shoulders, and chest), and cool-downs. They are performed regularly (2-3 times a week for 20-30 minutes) to control hypertension and improve the quality of life of elderly patients. As age increases, physiological changes such as arterial stiffness, decreased kidney function, and impaired blood pressure regulation further increase the risk of hypertension. Seeing the large number of elderly and women of childbearing age in Jalan Gedang Village, particularly in neighborhood 14, the Community Service Program (KKNT) team initiated outreach activities through the Hypertension Exercise program and education on healthy eating. This program aims to help reduce the incidence of hypertension and educate the public about prevention efforts. Activities include providing health information as a form of health promotion to increase public knowledge and awareness. Through education, it is hoped that the community will be able to understand the risks of hypertension and be encouraged to adopt healthy lifestyle behaviors based on the information they receive.



Figure 3 Elderly exercise



Figure 4 Blood Pressure Check



Figure 5 Hypertension counseling for the elderly

The results of this community service first display the characteristics of the elderly based on age, gender and occupation, elderly health data and elderly characteristics based on eating patterns and sports activities in one week in RT.08, Jalan Gedang Subdistrict.

Table 1 Characteristics Elderly Based on Age and Gender

Characteristics	Total (n=17)	Percentage (%)
Gender		
Woman	10	58.8
Man	7	41.2
Age		
55–75 years	17	100

Based on the respondent characteristics in Table 1, 58.8% of the study participants were female, while 41.2% were male. The predominance of female respondents is in line with the fact that women have a higher life expectancy and are more common in the elderly group. Furthermore, older women are more susceptible to hypertension due to postmenopausal hormonal changes that can affect blood pressure regulation. All respondents were between the ages of 55 and 75, an age group at higher risk for hypertension because the aging process causes decreased arterial elasticity, increased blood vessel stiffness, and changes in endothelial function.

Problem solving

A hypertension outreach activity was held at the Gedang Street Village Office and was attended by senior citizens who participated from beginning to end. During the outreach

session, residents listened to material presented by students from the Faculty of Health Sciences, Dehasen University, Bengkulu, and actively participated in the question-and-answer session, where participants who provided correct answers received door prizes as a token of appreciation. The community's enthusiasm was evident throughout the activity, and it is hoped that this outreach will increase their understanding of hypertension. Hypertension is one of the most common chronic diseases experienced by the elderly due to the aging process, which causes decreased blood vessel elasticity and increased peripheral resistance. Resolving hypertension through hypertension exercises for the elderly is very effective as a non-pharmacological therapy because exercise trains blood vessels to stretch, increases elasticity, improves circulation, and reduces resistance, thus helping to lower blood pressure in the elderly naturally. As people age, physiological changes such as arterial stiffness, decreased kidney function, and impaired blood pressure regulation further increase the risk of hypertension. This condition can lead to various serious complications, including stroke, heart disease, and other organ dysfunction, making education and efforts to control blood pressure in the elderly group very important. Elderly people with hypertension are also more vulnerable to experiencing a decline in quality of life due to physical limitations and a greater risk of complications (Sari & Lestari, 2022).

Community service activities also include hypertension exercises as a non-pharmacological effort to control blood pressure. Hypertension exercises function to increase blood flow and oxygen to body tissues, including the heart muscle, thereby helping cells produce energy. Although this physical activity can temporarily increase blood pressure, after the body rests, the blood vessels relax and blood pressure decreases. When performed regularly, these exercises can help lower blood pressure in the long term and improve blood vessel elasticity. Research shows that hypertension exercises performed with structured movements can lower systolic and diastolic blood pressure in the elderly, and the earlier and more regularly the exercises are performed, the more significant the reduction in blood pressure occurs (Sari & Lestari, 2022). The goal of this activity is to increase public knowledge about hypertension and non-pharmacological therapy through hypertension exercises, while also helping to lower blood pressure through more controlled management in RT.14, Jalan Gedang Village. This program is expected to increase community awareness, skills, and independence in managing hypertension, although challenges remain such as a lack of widespread implementation and low public knowledge about the benefits of hypertension exercises (Rahmawati & Yusuf, 2020). Therefore, an integrated approach between education and regular hypertension exercise practice is needed to improve the quality of life of the elderly and minimize the negative impact of this disease.

Community service activities also include the distribution of leaflets as an additional education medium. Various studies have shown that leaflets are an effective communication medium for increasing public understanding of hypertension, from symptoms and risk factors to preventive measures. Research in Indonesia found that distributing leaflets accompanied by education significantly increased public knowledge (Hidayat et al., 2021). Leaflets are easy to distribute, low-cost to produce, and particularly suitable for use in areas with limited internet access. The use of illustrations or images in leaflets significantly helps communities with low literacy levels understand the information presented (Ningsih & Arifin, 2020). In addition to being an efficient medium, leaflets can enhance other educational methods such as health campaigns, direct education, and community activities. However, leaflets' effectiveness can be reduced if people are reluctant to read or do not understand the content, so integration with other, more interactive educational methods is necessary. Continuous evaluation of the design, language, and visual presentation of leaflets is essential to ensure the information is easily

understood and reaches a wider audience in hypertension prevention efforts (Wulandari et al., 2023).

CONCLUSION

The Thematic Community Service Program (KKN-T) was implemented in RT 14, Jalan Gedang Village, Bengkulu City, in controlling blood pressure. The results of the community service showed that hypertension in the elderly is influenced by lifestyle factors, diet, and family history, and elderly exercise as a non-pharmacological intervention can lower blood pressure if done regularly. The distribution of leaflets as an additional educational medium also supports public understanding of hypertension and how to prevent it. These findings can be the basis for the Community Health Center and the Bengkulu City Health Office to design more structured promotive and preventive programs for the elderly, as well as serve as a reference for further research on non-pharmacological interventions for elderly hypertension.

REFERENCES

- Andrianto. (2022). Menangani hipertensi. Penerbit Airlangga University Press.
- Anggraini, R., Sari, D. P., & Putri, F. (2021). Efektivitas senam jantung sehat terhadap tekanan darah pada lansia hipertensi. *Kesehatan Masyarakat*, 15(2), 120–128.
- Badan Pusat Statistik. (2019). Provinsi Bengkulu dalam angka 2019. BPS Provinsi Bengkulu. <https://www.bps.go.id>
- Hidayat, R., Prasetyo, A., & Nirmala, D. (2021). Efektivitas penyuluhan dan leaflet dalam meningkatkan pengetahuan masyarakat tentang hipertensi. *Jurnal Promosi Kesehatan*, 13(2), 112–120.
- Kemendes RI. (2020). Pedoman pencegahan dan pengendalian hipertensi pada lansia. Jakarta: Kementerian Kesehatan Republik Indonesia.
- Kementerian Kesehatan Republik Indonesia. (2018). Riset Kesehatan Dasar (Riskesdas) 2018. Badan Penelitian dan Pengembangan Kesehatan. <https://www.litbang.kemkes.go.id>
- Najihah, A., & Ramli, M. (2023). Pengaruh senam lansia terhadap penurunan tekanan darah pada lansia hipertensi. *Keperawatan Indonesia*, 18(1), 45–52.
- Ningsih, L., & Arifin, M. (2020). Penggunaan media leaflet bergambar untuk edukasi kesehatan pada masyarakat pedesaan. *Jurnal Media Kesehatan*, 8(1), 45–53.
- Putri, S. M., Anggraini, D., & Lubis, R. (2021). Hubungan penyakit kronis lansia dengan risiko hipertensi: Tinjauan literatur. *Jurnal Gizi dan Kesehatan*, 9(3), 210–219.
- Rahmawati, E., & Yusuf, A. (2020). Tantangan penerapan program kesehatan hipertensi di masyarakat pedesaan. *Jurnal Pengabdian Masyarakat Sehat*, 5(1), 33–41.
- Sari, F., & Lestari, P. (2022). Pengaruh senam hipertensi terhadap tekanan darah pada lansia: Studi quasi-eksperimental. *Jurnal Kesehatan Lansia*, 7(2), 98–105.
- Solihin, R., Utami, L., & Putra, A. (2020). Peran aktivitas fisik terhadap kontrol tekanan darah pada lansia. *Ilmiah Kesehatan*, 12(3), 200–208.
- World Health Organization. (2023). Hypertension fact sheet 2023. WHO. <https://www.who.int/news-room/fact-sheets/detail/hypertension>
- Yuliana, A., Rabbani Ar Zulfikar, B., Nurhayati, R., Salsabila, A., Fauzi, A., Utami Amelia Tri, S., Nurjanah Sinta, D., Nurjahan, & Zidane Maulana Fauza, M. (2023). Hipertensi dan cara pengobatannya. Perkumpulan Rumah Cemerlang Indonesia.