



Optimizing the health of the elderly and menopausal women with self-management health education as an effort to treat hypertension in Talang Jambe Palembang

Lisda Maria ^{a,1,*}, Budi Kurniawan ^{b,2}, Nurul Hidayati ^{a,2}

^a Department of Nursing, STIKes Mitra Adiguna Palembang, Jalan Komplek Kenten Permai Blok J No.9-12, Bukit Sangkal, Kec. Kalidoni, Kota Palembang, Sumatera Selatan 30114, Indonesia

^b Special Dental and Oral Hospital of South Sumatra Province, Suka Jaya Street No. 316, Suka Bangun, Sukarami District, Palembang City, South Sumatra 3015, Indonesia

¹ lisdamaria83@gmail.com; ² budikurniawan1004@gmail.com; ³ nurulhidayatizulkarnain57@gmail.com

* Corresponding author

| ARTICLE INFO | ABSTRACT |
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| <p>Article history Received: 2025-01-14 Revised: 2025-03-09 Accepted: 2025-03-28 Published: 2025-04-22</p> <p>Keywords Elderly Menopause Self-Management Hypertension</p> | <p>Elderly people with hypertension are at risk of experiencing severe cardiovascular complications. Self-management education efforts are important to increase patient independence to prevent the severity of hypertension. The purpose of this community service (PKM) is to optimize the health of the elderly and menopausal women through self-management health education as an effort to treat hypertension in Talang Jambe Village, Palembang. This PKM program began with the consolidation of the Health Office and Talang Jambe Health Center to identify participants. There were 41 elderly and menopausal participants who participated in this PKM. At the implementation stage, blood pressure, knowledge and behavior were checked. The intervention was given in four sessions with a duration of 60 minutes. The evaluation included blood pressure conditions and knowledge, and behavior of participants. A total of 39 participants completed this program. Two participants did not complete it because their health conditions did not allow it. Data analysis used frequency distribution and the Paired T test and Wilcoxon test. The results of the PKM showed a significant increase in the mean knowledge score, from 56.67 ± 6.7 to 86.08 ± 7.63 (p = 0.000), and the mean value for behavior score, from 53.9 ± 6.03 to 85.31 ± 9.24 (p = 0.000). The majority of participants initially reported low levels of activity in terms of exercise frequency, but after the intervention, there was a marked increase, with more respondents exercising three to five times a week. Furthermore, diastolic blood pressure decreased from 108.28 ± 9.8 mmHg to 99.77 ± 10.39 mmHg (p = 0.000), and systolic blood pressure decreased from 197.72 ± 15.16 mmHg to 172.64 ± 10.46 mmHg (p = 0.000). The PKM program has been shown to be effective in improving knowledge, behavior, and blood pressure control in preventing hypertension complications.</p> |
| <p>Kata Kunci Lansia Menopause Manajemen Diri Hipertensi</p> | <p>Optimalisasi kesehatan lansia dan wanita menopause melalui pendidikan kesehatan manajemen diri sebagai upaya penanganan hipertensi di Desa Talang Jambe Palembang. Lansia dengan hipertensi berisiko untuk mengalami komplikasi kardiovaskular yang parah. Upaya pendidikan manajemen diri penting untuk meningkatkan kemandirian pasien dalam mencegah bertambah parahnya hipertensi. Tujuan Pengabdian Kepada Masyarakat ini (PKM) adalah untuk optimalisasi kesehatan lansia dan wanita menopause melalui pendidikan kesehatan manajemen diri sebagai upaya penanganan hipertensi di Desa Talang Jambe Palembang. Program PKM ini diawali dari konsolidasi Dinas Kesehatan dan Puskesmas Talang Jambe untuk identifikasi peserta. Terdapat 41 peserta lansia dan menopause yang mengikuti PKM ini. Pada tahap pelaksanaan dilakukan pemeriksaan tekanan darah, pengetahuan dan perilaku. Intervensi diberikan dalam empat sesi dengan durasi 60 menit. Evaluasi meliputi kondisi tekanan darah dan pengetahuan terkait tekanan darah, serta perilaku peserta. Sebanyak 39 peserta telah menyelesaikan program ini, sedangkan dua orang tidak dapat menyelesaikan karena kondisi kesehatan yang tidak memungkinkan. Analisis data menggunakan distribusi frekuensi dan uji <i>T Paired</i> dan <i>Wilcoxon</i>. Hasil PKM menunjukkan nilai rata-rata untuk pengetahuan meningkat dari 56,67±6,7 menjadi 86,08±7,63 (p = 0,000), dan nilai rata-rata untuk perilaku meningkat dari 53,9±6,03 menjadi 85,31±9,24 (p = 0,000). Mayoritas peserta awalnya melaporkan tingkat aktivitas yang rendah dalam hal frekuensi olahraga, tetapi setelah intervensi, terjadi peningkatan yang nyata, dengan lebih banyak responden berolahraga tiga hingga lima kali seminggu. Lebih jauh, tekanan darah diastolik turun dari 108,28±9,8 mmHg menjadi 99,77±10,39 mmHg (p = 0,000), dan tekanan darah sistolik turun dari 197,72±15,16 mmHg menjadi 172,64±10,46 mmHg (p = 0,000). Program PKM terbukti efektif dalam meningkatkan pengetahuan, perilaku, dan kontrol tekanan darah dalam mencegah komplikasi hipertensi.</p> |

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INTRODUCTION

Hypertension is one of the most common health problems among the elderly and menopausal women. Globally, the prevalence hypertension among woman aged 40-79 years range between 33% to 52%, with significant increase in the 70-79 age group, where it ranges from between 61% and 82% (Jadhav & Khilari, 2020). In Asia, *The prevalence of hypertension* in the elderly is estimated between 8-18% (Sy et al., 2022). In Indonesia, case Hypertension among women is 10.5%, with rates among the elderly and menopausal women ranging from from 11.8%-26.1%. Meanwhile, cases hypertension in South Sumatra reached 7.2%. (Kemenkes BKPK, 2023). A systematic review showed that the main risk factors for hypertension among the elderly in Indonesia include a high-sodium, low-potassium diet and a sedentary lifestyle which increases BMI, becomes main trigger of hypertension in the city. In rural areas, aging is a major risk factor, possibly due to physiological changes such as arterial stiffening, which can lead to increased blood pressure (Astutik et al., 2021).

Hypertension increases the risk of cardiovascular disease, stroke, and other health complications. Menopause is associated with higher risk of cardiovascular and metabolic, including hypertension, due to the disappearance effect of protection from estrogen (Siusiuka et al., 2024). Elderly and menopausal women experience various physiological change that affect pressure blood balance, so they need special attention in hypertension prevention and treatment effort (WHO, 2023). Health education becomes one of the effective strategies in increasing awareness and knowledge about the importance of maintaining normal blood pressure. Educational effort focusing on reducing sodium intake, increasing the consumption of food high in potassium (Lee & Shin, 2022), along with weight management, are essential (Ruzicka & Hiremath, 2024). Routine monitoring of blood pressure in the elderly and early intervention are also important (Dhiman & Chourasia, 2024).

The global burden of hypertension requires tailored interventions to improve awareness and management practices. Knowledge, Attitudes and Practices (KAP) assessment is an important tool for identifying gaps and formulating effective strategies (Miah et al., 2018). Self-management programs for the elderly in Indonesia have implemented to overcome low understanding of hypertension prevention through healthy lifestyle. These programs aim to increase the knowledge and skills among elderly, focusing on diet habits, physical activities, and stress management to prevent hypertension. Regardless of this effort, challenges remain in increasing awareness and promoting behavioral change among the elderly population. The understanding of hypertension through healthy lifestyles is still considered low. Therefore, education about balanced dietary habits, appropriate physical activity, and stress management is important the effort to prevent and control hypertension.

Community service through health education programs with emphasizing self-management of hypertension is expected to give positive and sustainable impact on elderly and menopausal women. This program is also in line with Sustainable Development Goals (SDGs) point 3, with focus in ensuring healthy lives and promoting well-being for all (United Nations, 2015). This project, which focuses on self-management health education for elderly and menopausal women in Talang Jambe, Palembang, directly contributes to this goal by enhancing awareness and practices related to hypertension prevention and management. By combining practical demonstrations with interactive teaching methods, the program has successfully encouraged behavioral change, with high levels of participant satisfaction and strong commitment to applying the techniques learned (Utomo & Hidayah, 2024). Although this short-term educational initiative has shown positive results, challenges remain in sustaining long-term behavioral changes and expanding the reach to a wider audience. Additionally, integrating family involvement and regular health check-ups can further enhance the effectiveness and sustainability of this program (Barlia & Putro, 2024).

Providing education on hypertension self-management for the elderly is a multifaceted approach that has shown promising results in improving health outcomes. These programs integrate health education, chronic disease management, and self-management strategies to empower elderly to take control of their health (Lin, 2024). The effectiveness of such programs is supported by various studies, which highlight improvements in blood pressure control, emotional well-being, and self-management behaviors among older adults. Through innovative and creative delivery of educational materials, the program aims to enhance understanding and awareness among elderly and menopausal women about the importance of managing hypertension (Natrapee Jaingam et al., 2024). This program used an approach that customized to participants' needs and characteristics, ensuring that the content is well-received and easily applicable in daily life (Ibrahim & Duana, 2024). By optimizing health education, it is expected that the prevalence of hypertension can be reduced, and the quality of life for elderly and menopausal women can be improved.

This community service initiative aims to enhance the health and well-being of elderly and menopausal women through self-management health education as a strategy for hypertension management in Talang Jambe, Palembang. Hypertension remains a prevalent non-communicable disease (NCD) among elderly women, and although routine integrated health service posts (*Posyandu Lansia*) have been implemented monthly, many participants still face challenges in managing their condition independently. Based on data from 67 active elderly and perimenopausal women enrolled in the PTM Puskesmas Program, 41 participants were identified as having either controlled or uncontrolled hypertension. Despite prior educational exposure at the health center, interviews revealed that a significant portion (29 participants) still struggle with self-management, particularly in consistently adopting physical and psychological coping strategies for blood pressure control.

METHOD

This community service program was conducted to enhance participants' ability to manage hypertension independently. The program was initiated by STIKes Mitra Adiguna Palembang, in collaboration with Talang Jambe Public Health Center and community health workers (*kader Posyandu Lansia*). This community service activity was carried out in November - December 2024 at the Talang Jambe Community Health Center and Posyandu Lansia. The primary objectives were to increase knowledge and awareness about hypertension, promote behavioral changes in diet and physical activity, and improve participants' ability to monitor and control their blood pressure. This activity begins with the initial stage through licensing and determining the target participants. The activity begins with coordination with the Palembang City Health Office and the Talang Jambe Health Center.

The program was structured into four stages: analysis, training, mentoring, and evaluation. In the analysis stage, baseline data collection and interviews were conducted to assess participants' existing knowledge and health practices. Recruitment of participants through socialization at the Lansia Posyandu and Posbindu in the Talang Bambe Health Center work area. Furthermore, a health check was carried out in the form of measuring blood pressure, characteristics and distributing questionnaires to identify the level of knowledge and behavior of participants regarding hypertension management. The hypertension management knowledge questionnaire was adopted from research by Hidayatullah and Rokhmiati (2023), while the hypertension management behavior was adopted from research by Sutrisno et al. (2018). Based on the assessment results, participants will be focused on groups with a high risk of hypertension and a low level of knowledge regarding health management. A total of 41 elderly and perimenopausal women diagnosed with hypertension were selected based on their participation in the PTM Puskesmas Program and their willingness to engage in structured health education activities. In this community service, 39 of the 41 participants completed the self-management program. Two participants did not complete the program because their health conditions worsened so they did not attend the third and fourth sessions.

The training stage involved two educational sessions (60 minutes each) covering hypertension awareness, self-management strategies, and lifestyle modifications using visual aids, booklets, and interactive discussions. During the mentoring stage, participants were encouraged to apply their learning through daily blood pressure monitoring, self-care diaries, and peer support groups facilitated by community health workers. Participants willing to participate in the activity will check their blood pressure first, followed by an educational session delivered through interactive counseling and live demonstrations. The sessions covered choosing foods that maintain blood pressure, stress management, cooking low-salt foods, and light physical exercise. The use of interactive tools in health education has been effective in improving self-management and blood pressure control among hypertensive patients (Fajriyah et al., 2024). The educational material focuses on the introduction of hypertension, its impact on health, and preventive and management steps that can be done independently. This educational activity is carried out in four sessions, each lasting 60 minutes, with a simple and practical approach for elderly and menopausal women so that the material is easy to understand and apply.

The final evaluation stage assessed the program's impact through post-test knowledge assessments, blood pressure measurements, and focus group discussions (FGDs). The findings from this stage will also be reported to the village and health center as a basis for recommendations for further programs. The results measured through this program are an increase in participants' knowledge about hypertension and its management, followed by changes in healthier behavior such as implementing a low-salt diet, regular exercise, and better stress management. In addition, it is expected that there will be an improvement in the health conditions of participants, which is indicated by a decrease in blood pressure and more optimal weight management. This program also targets the formation of peer support groups that can encourage the sustainability of independent health practices among the elderly and menopausal women.

RESULTS AND DISCUSSION

The community service team designed an educational self-management program that focused on self-management strategies for hypertension. The program included modules on hypertension awareness, dietary management (low-salt diet), physical activity, and stress management. Educational materials such as booklets, posters, and visual aids were developed to support interactive learning. In addition, health monitoring tools such as blood pressure records were prepared to encourage participants to monitor their health actively. Implementation of the program is shown in Figure 1.

The study's 39 respondents' characteristics are shown in Table 1. Participants over 65 years old made up the largest percentage (43.6%), followed by those 45–54 (30.8%) and 55–64 (25.6%). In terms of education, the majority of respondents (35.9%) held a university degree, while others had finished elementary school (17.9%), junior high school (23.1%), and senior high school (23.1%). Regarding occupation, 20.5% were retired, 23.1% were self-employed, 25.6% were working in other fields, and 30.8% were housewives. In terms of hypertension, 35.9% of people had uncontrolled hypertension, while 64.1% had it under control. Furthermore, 46.2% of respondents did not have a family history of hypertension, but 53.8% of respondents did.



Figure 1. Implementation of the program

Table 1. Respondent characteristics (n=39)

| Variable | n | Percentage |
|---------------------|----|------------|
| Ages (year) | | |
| 45-54 | 12 | 30,8% |
| 55-64 | 10 | 25,6% |
| >65 | 17 | 43,6% |
| Total | 39 | 100,0% |
| Educations | | |
| Elementary | 7 | 17,9% |
| Junior High School | 9 | 23,1% |
| Senior High School | 9 | 23,1% |
| University | 14 | 35,9% |
| Total | 39 | 100,0% |
| Works | | |
| Housewife | 12 | 30,8% |
| Retired | 8 | 20,5% |
| Self-employed | 9 | 23,1% |
| Other | 10 | 25,6% |
| Total | 39 | 100,0% |
| Hypertension Status | | |
| Uncontrollable | 14 | 35,9% |
| Under control | 25 | 64,1% |
| Total | 39 | 100,0% |
| Family History | | |
| Exist | 21 | 53,8% |
| No | 18 | 46,2% |
| Total | 39 | 100,0% |

Respondent data collection including age, education, occupation, hypertension status and family history is important to assess knowledge and behavior related to hypertension management is essential to understand and improve patient outcomes (AlHadlaq et al., 2019; Maluwa et al., 2025). The studies highlight the importance of knowledge and behavior in managing hypertension effectively. They emphasize the role of education and self-management in controlling hypertension and preventing its complications (Machalani et al., 2022).

Age is a significant factor, with older adults often experiencing higher rates of hypertension prevalence. However, studies have shown mixed results regarding its impact on self-management behaviors. For example, one study found no

significant association between age and self-management behaviors (Ningsih et al., 2024), while another identified an association between age and lifestyle changes for hypertension control (Iriana et al., 2022). Education level is consistently associated with hypertension knowledge and management. Higher education level is correlated with better understanding and management of hypertension (Hamid, 2024). Conversely, lower education level is associated with knowledge deficits, highlighting the need for targeted educational interventions (Figueiredo et al., 2023).

Family history did not show a significant direct relationship with lifestyle changes (Iriana et al., 2022). However, awareness of family history may motivate individuals to adopt preventive measures. Hypertension status, especially duration since diagnosis, influences the level of knowledge, with newly diagnosed individuals often having lower awareness (Hamid, 2024). While these factors are very important, the role of external environmental support and community intervention should not be overlooked. These can significantly enhance lifestyle changes and self-management practices, offering a broader perspective on managing hypertension effectively.

Table 2 illustrates the modifications in respondents' behavior, knowledge, and blood pressure that occurred prior to and subsequent to the health education intervention. The participants' comprehension of hypertension and self-management was considerably enhanced, as evidenced by a significant increase in the mean knowledge score from 56.67 ± 6.7 to 86.08 ± 7.63 ($p < 0.001$). In the same vein, the mean behavior score increased from 53.9 ± 6.03 to 85.31 ± 9.24 ($p < 0.001$), indicating a higher degree of compliance with lifestyle modifications, including stress management and diet. The intervention's efficacy in promoting consistent exercise was also demonstrated by a substantial increase in the number of respondents who engaged in physical activity ($p < 0.001$).

Table 2. Knowledge, Behavior, and Blood Pressure Before and After Education (n=39)

| Variable | Pre-Test | Post Test | Delta | P value |
|---------------------------------|--------------------|--------------------|---------------------|---------|
| Knowledge | | | | 0,000* |
| Mean \pm SD | 56,67 \pm 6,7 | 86,08 \pm 7,63 | 29,41 \pm 10,750 | |
| Median | 56,0 | 87,0 | | |
| Range | 46-67 | 71-98 | | |
| Behavior | | | | 0,000* |
| Mean \pm SD | 53,9 \pm 6,03 | 85,31 \pm 9,24 | 31,41 \pm 10,9 | |
| Median | 53,0 | 84,0 | | |
| Range | 45-67 | 70-100 | | |
| Exercise | | | | 0,000** |
| Mean \pm SD | 0,9 (0,7) | 3,51 (1,07) | -2,61 \pm 0,2 | |
| Median | 1 | 3,0 | | |
| Range | 0-2 | 2-5 | | |
| Blood pressure Systole (mmHg) | | | | 0,000* |
| Mean \pm SD | 197,72 \pm 15,16 | 172,64 \pm 10,46 | -25,07 \pm 18,98 | |
| Median | 197,0 | 174,0 | | |
| Range | 172-225 | 153-189 | | |
| Blood pressure Diastolic (mmHg) | | | | 0,000* |
| Mean \pm SD | 108,28 \pm 9,8 | 99,77 \pm 10,39 | -8,513 \pm 13,262 | |
| Median | 109,0 | 102,0 | | |
| Range | 93-124 | 82,115 | | |

Test description: *) T Paired Test, **) Wilcoxon Test

Both systolic and diastolic blood pressure were significantly reduced as a result of the intervention in the context of blood pressure control. Specifically, the mean systolic blood pressure decreased from 197.72 ± 15.16 mmHg to 172.64 ± 10.46 mmHg ($p < 0.001$), while the mean diastolic blood pressure decreased from 108.28 ± 9.8 mmHg to 99.77 ± 10.39 mmHg ($p < 0.001$). The observed changes were unlikely to have occurred by coincidence, as the significant p-values suggest that these improvements were statistically meaningful. The results emphasize that self-management education effectively enhances health knowledge, improves behavior, and reduces hypertension-related risks in perimenopausal and elderly women.

Self-management-based health education is an important component of self-care nursing theory, emphasizing the importance of individual perception and behavior change in managing chronic conditions such as hypertension. This approach has been shown to be effective in improving blood pressure control, especially in elderly hypertensive patients (Bahar, 2020). Hypertension knowledge significantly impacts management and adherence to treatment. Health education initiatives targeting patients with new and less knowledgeable hypertension are essential, as these groups often have lower awareness and knowledge of hypertension (Hamid, 2024). The level of knowledge of hypertensive patients about their disease and its risk factors is still low. Factors that influence this knowledge are employment in government agencies, duration of treatment, and distance from residence to health facilities. Therefore, health education needs to be focused on patients working in the non-government sector, patients who have only been on treatment for less than two years, and those living in remote areas to improve understanding of hypertension (Wolde et al., 2022). Integrating self-management

strategies into health education can significantly improve patients' ability to monitor and control their blood pressure, thereby improving their overall health outcomes. The following section explores the effectiveness of self-management interventions in the management of hypertension.

In line with research (Figueiredo et al., 2023), it shows that programs empowering patients and their families through education and self-care strategies lead to improved disease management. Post-intervention, participants showed increased knowledge, better self-care practices, and healthier lifestyle changes. Health literacy is directly related to better self-management behaviors, highlighting the importance of accessible health information and educational programs (Muthahharah et al., 2024). Effective self-management education must consider the perspectives of diverse stakeholders, including patients, health care providers, and policy makers. Customized communication, interactivity, and active monitoring are essential components of a successful self-management program (Soleimani et al., 2024).

This Study Prior to the intervention, participants exhibited a low to moderate understanding of hypertension management, with an average knowledge score of 56.67 ± 6.7 . Numerous participants exhibited insufficient awareness regarding dietary modifications, consistent blood pressure monitoring, and the significance of medication compliance. Following the acquisition of structured self-management education, the average knowledge score markedly rose to 86.08 ± 7.63 ($p < 0.001$), signifying a considerable enhancement. This indicates that focused instruction significantly improves participants' comprehension and their capacity to autonomously manage hypertension. Supported by previous studies, Health education significantly increases knowledge about hypertension, especially among seniors. enabling them to take preventive and proactive steps in managing their condition (Musyrah et al., 2024). Implementing a health management application is also effective in improving self-management knowledge and practices, especially in implementing diet, controlling blood pressure, and maintaining physical activity (Susanti et al., 2023). Educational interventions, either alone or in combination with other strategies, have been effective in improving self-management practices among hypertensive patients, leading to better blood pressure control (Ukoha-Kalu et al., 2023).

The writer's opinion states that this self-management program not only provides positive impacts physically, but also psychologically, especially in increasing participants' self-confidence and motivation to live a healthy lifestyle. With these results, it is hoped that the self-management health program can continue and be developed as a sustainable program in Talang Jambe. Synergy between the community, health workers, and local government are the key to the success of this program in efforts to prevent and control hypertension.

The implementation of self-management program for hypertension management in elderly and menopausal women in Talang Jambe, Palembang has two main limitations, namely the low level of health literacy of participants and limited resources and educational support facilities. The challenges faced are the resistance of participants in changing healthy living behavior due to old habits and minimal family support. The acceptance and implementation of new health behaviors are challenging for numerous geriatric participants who have adhered to the same dietary patterns and daily routines for decades. This phenomenon is consistent with the theory of health behavior change, which suggests that individuals are inclined to resist changing their established habits unless they perceive a significant personal risk or imminent benefit. Furthermore, cultural and socioeconomic factors are influential, as certain participants believe that hypertension is a natural part of aging rather than a condition requiring active management. As a recommendation, the program needs to use simpler and more interactive educational media, strengthen cooperation with health facilities, and form support groups (peer groups) to encourage sustainable behavior change.

CONCLUSION

The self-management education program for hypertension management among geriatric and menopausal women in Talang Jambe, Palembang effectively enhanced the knowledge and self-care practices of participants. An average reduction of 10 mmHg in systolic pressure and 7 mmHg in diastolic pressure was observed, suggesting improved hypertension control, and knowledge levels increased by 45%. Nevertheless, participants encountered significant obstacles in maintaining their self-management practices due to inadequate healthcare access and low health literacy. It is advisable to establish peer-support groups, expand collaborations with healthcare providers, and develop uncomplicated and engaging educational materials to reinforce healthy behaviors in the community in order to ensure long-term effectiveness.

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