

# HEALTH EDUCATION AND HYPERTENSION EXERCISE ACTIVITIES TO IMPROVE TREATMENT ADHERENCE AMONG HYPERTENSIVE PATIENTS IN TALAGA VILLAGE, WORKING AREA OF CIKUPA COMMUNITY HEALTH CENTER, CIKUPA DISTRICT, CIKUPA REGENCY, BANTEN PROVINCE PERIOD: SEPTEMBER 22 – NOVEMBER 15, 2025

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## ABSTRAK

Hipertensi merupakan salah satu penyakit tidak menular yang paling banyak ditemukan dan menjadi penyebab utama morbiditas serta mortalitas akibat penyakit kardiovaskular di seluruh dunia. Di Indonesia, prevalensi hipertensi masih menunjukkan tren peningkatan, khususnya di tingkat komunitas, yang dipengaruhi oleh rendahnya pengetahuan dan kepatuhan terhadap pengobatan. Kegiatan diagnosis komunitas dan intervensi ini bertujuan untuk mengidentifikasi akar permasalahan meningkatnya kasus hipertensi di wilayah kerja Puskesmas Cikupa serta mengevaluasi efektivitas edukasi dan senam hipertensi dalam meningkatkan pengetahuan dan kepatuhan pengelolaan hipertensi. Kegiatan dilaksanakan di Desa Talaga pada 30 Oktober 2025 dengan pendekatan diagnosis komunitas berdasarkan Paradigma Blum. Penentuan prioritas masalah dilakukan menggunakan metode USG dan Delphi, sedangkan analisis akar masalah menggunakan diagram fishbone dan metode 5 Whys. Intervensi yang diberikan meliputi edukasi mengenai hipertensi, cara penggunaan obat antihipertensi yang benar, serta demonstrasi senam hipertensi. Evaluasi dilakukan melalui pre-test dan post-test serta pendekatan dengan siklus Plan-Do-Check-Action (PDCA). Hasil menunjukkan bahwa 29,41% responden mengalami peningkatan skor pengetahuan minimal 20 poin, 76,47% mencapai skor post-test di atas 70, dan 29,41% memenuhi kedua kriteria tersebut. Dapat disimpulkan bahwa intervensi berupa edukasi dan senam hipertensi efektif dalam meningkatkan pengetahuan dan mendorong penerapan perilaku hidup bersih dan sehat sebagai pengendalian hipertensi di komunitas.

**Kata kunci** : aktivitas fisik, diagnosis komunitas, edukasi kesehatan, hipertensi, kepatuhan pengobatan

## ABSTRACT

*Hypertension remains one of the most prevalent non-communicable diseases and a major contributor to cardiovascular morbidity and mortality worldwide. In Indonesia, hypertension prevalence continues to increase, particularly at the community level, where awareness and adherence to treatment remain suboptimal. This community diagnosis and intervention study aimed to identify the root causes of increasing hypertension. The study was conducted in Talaga Village from October 30, 2025, using a community diagnosis approach based on the Blum Paradigm. Problem prioritization was performed using USG scoring and Delphi methods, while root cause analysis employed fishbone diagrams and the 5 Whys technique. Interventions consisted of hypertension education sessions, guidance on correct antihypertensive medication use, and demonstrations of appropriate hypertension exercises. Evaluation was carried out through pre-test and post-test questionnaires and a systems-based assessment using the PDCA cycle. The results showed that 29.41% of respondents experienced an increase of at least 20 points in knowledge scores, 76.47% achieved post-test scores above 70, and 29.41% met both criteria.*

**Keywords** : community diagnosis, health education, hypertension, physical activity, treatment adherence

## INTRODUCTION

Hypertension is a chronic non-communicable disease characterized by persistently elevated blood pressure and is a major risk factor for cardiovascular disease, stroke, heart failure, and chronic kidney disease. According to the 2024 Hypertension Management Guidelines, hypertension is defined as a systolic blood pressure of at least 140 mmHg and/or a diastolic blood pressure of at least 90 mmHg, confirmed through repeated measurements. The global burden of hypertension continues to rise, particularly in low- and middle-income countries where preventive efforts and treatment adherence are often inadequate (Seravalle & Grassi, 2023). In Indonesia, hypertension represents a significant public health challenge, with increasing prevalence reported in both urban and rural settings. Primary health care facilities, such as community health centers (Puskesmas), play a crucial role in early detection, health promotion, and long-term management of hypertension. However, limited public awareness, insufficient lifestyle modification, and low adherence to antihypertensive treatment remain major obstacles to effective disease control (*Hypertension Indonesia 2023 Country Profile; Prevalence, Impact, and Efforts In Controlling Hypertension & Diabetes in Indonesia The Result Of Indonesian Health Survey 2023 Figure 1. Discrepancy in Treatment-Seeking Behavior for Hypertension Among Productive-Age and Elderly Individuals Diagnosed*; Turana et al., 2019).

Data from Cikupa Community Health Center in 2025 indicate fluctuating yet persistently high numbers of hypertension cases, with 759 cases reported in June, 845 cases in July, and 816 cases in August. Despite these figures, the hypertension case detection target—set at 21% of the total population in the Cikupa working area, equivalent to approximately 1,400 individuals—has not been achieved. This gap suggests deficiencies in community knowledge regarding hypertension symptoms, risk factors, screening, treatment, and prevention (Statistik, 2025). Therefore, this study aimed to conduct a comprehensive community diagnosis to identify the main and root causes of increasing hypertension cases in Talaga Village and to implement targeted interventions in the form of health education and hypertension exercise. The ultimate goal was to improve community knowledge, encourage healthy behaviors, and support better treatment adherence among individuals with hypertension.

## METHOD

This study employed a community diagnosis design conducted in Talaga Village, within the working area of Cikupa Community Health Center, Cikupa District, Banten Province, from October 30, 2025. The community diagnosis framework was based on the Blum Paradigm, which considers environmental, behavioral, health service, and genetic factors influencing health status. Problem identification and prioritization were carried out through both scoring and non-scoring methods. The Urgency, Seriousness, and Growth (USG) scoring technique was used to rank identified health problems, while the Delphi method was applied to achieve consensus among stakeholders, including health workers and community representatives. Root cause analysis was conducted using fishbone diagrams and the 5 Whys technique to systematically explore underlying factors contributing to the priority problem.

Based on the identified root causes, short-term intervention strategies were developed and implemented. The interventions consisted of structured health education sessions covering hypertension definition, risk factors, symptoms, screening, treatment, and prevention, as well as guidance on correct antihypertensive medication use. In addition, demonstrations of appropriate hypertension exercises were conducted to promote regular physical activity as part of hypertension management. Evaluation of the interventions was performed using pre-test and post-test questionnaires to assess changes in participants' knowledge. A systems approach was

applied to assess input, process, and output components, while monitoring and evaluation followed the Plan–Do–Check–Action (PDCA) cycle to ensure continuous improvement of the intervention process.

## RESULT AND DISCUSSION

A total of 34 participants took part in Intervention 1. The mean age of the participants was  $40.80 \pm 7.50$  years, and all participants were female. The majority of participants were housewives (91.18%), while the remaining participants were community health volunteers (8.82%). Following the educational intervention, 10 respondents (29.41%) demonstrated an increase of at least 20 points between pre-test and post-test scores, whereas 24 respondents (70.59%) did not meet this criterion. Additionally, 26 respondents (76.47%) achieved post-test scores above 70. Overall, 10 respondents (29.41%) fulfilled both evaluation criteria. (table 1).

**Table 1. Result and Monitoring Intervention 1**

Characteristics	Number (%) n=34
<b>Age</b>	40.80 ( $\pm 7.50$ )
<b>Gender</b>	
Women	34 (100.0)
Men	0 (0.0)
<b>Occupation</b>	
Housewife	31 (91.18)
Community Health Volunteer	3 (8.82)
<b>20 Points increase after education</b>	
Respondent met the criteria	10 (29.41)
Respondent didn't met the criteria	24 (70.59)
<b>Post test result higher than 70</b>	
Respondent met the criteria	26 (76.47)
Respondent didn't met the criteria	8 (23.53)
<b>Number of respondents who met criteria 1 and 2</b>	
Respondent met the criteria	10 (29.41)
Respondent didn't met the criteria	24 (70.59)

In addition to knowledge improvement, participant engagement during the intervention was actively observed. All participants attended the educational session and were encouraged to actively follow the material presented. Community health volunteers were involved in supporting the activity and facilitating participant participation. The intervention also emphasized the importance of correct hypertension management behaviors, including medication adherence and regular physical activity, to reinforce the educational messages delivered during the session.

## DISCUSSION

The results of this study indicate that health education combined with hypertension exercise demonstrations can effectively improve community knowledge related to hypertension. Improved knowledge is a critical prerequisite for behavioral change, particularly in the adoption of healthy lifestyles and adherence to antihypertensive treatment. These findings are consistent with previous studies showing that community-based educational interventions can enhance awareness and self-management of chronic diseases. The identification of limited educational interventions as the root cause highlights the importance of regular, structured health promotion activities at the community level. Involving community

health cadres in education, screening, and follow-up activities is a strategic approach to strengthen primary health care services and ensure sustainability of interventions. The inclusion of hypertension exercise as part of the CERDIK program aligns with national health promotion strategies emphasizing regular physical activity.

However, the proportion of participants who met both evaluation criteria was relatively modest, suggesting the need for repeated interventions, longer follow-up periods, and complementary strategies such as individualized counseling or home visits. Future programs should also consider addressing additional barriers to treatment adherence, including socioeconomic factors and access to health services

## CONCLUSION

This community-based intervention demonstrated that health education on hypertension, combined with demonstrations of appropriate hypertension exercise, effectively improved participants' knowledge regarding hypertension management. The increase in post-intervention knowledge scores indicates that structured educational activities can enhance community understanding of hypertension and support healthier lifestyle behaviors. The involvement of community health volunteers played an important role in facilitating the intervention and promoting participant engagement. Although not all participants met the predefined evaluation criteria, the overall findings suggest that regular educational and physical activity-based interventions are valuable strategies for strengthening hypertension prevention and control at the community level. Sustained implementation and periodic reinforcement of similar programs are recommended to further improve treatment adherence and reduce the risk of increasing hypertension prevalence.

As a recommendation, future community-based hypertension programs should emphasize long-term sustainability through regular follow-up, integration with primary healthcare services, and continuous capacity building for community health volunteers. Additionally, expanding participant coverage and incorporating objective clinical outcomes, such as blood pressure measurements, may further strengthen the effectiveness and impact of these interventions on hypertension control at the population level.

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