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# Community-Based Hypertension Screening and Mindfulness Intervention in Awu Village, Banggai Regency

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*Education; Hypertension; Mindfulness*

***ABSTRACT***

***Background:*** *Hypertension is a major modifiable risk factor for cardiovascular disease. Community-based programs that combine screening, education, and practical self-management skills are crucial for its prevention and control.* ***Objective:*** *This community service initiative aimed to implement and evaluate such a program in Awu Village.* ***Methods:*** *The program consisted of three integrated components: (1) blood pressure screening for all participants, (2) educational sessions on non-communicable diseases and hypertension, assessed by pre- and post-tests, and (3) a practical mindfulness training session introducing techniques for stress management.* ***Results:*** *Screening of 45 participants revealed a high prevalence of pre-hypertension (42.2%), indicating a significant risk for progression to clinical hypertension. The educational intervention successfully improved knowledge, with the proportion of participants in the "good" knowledge category increasing from 53% to 76%. During mindfulness practice, participants were observed to be focused and relaxed, successfully engaging with the techniques. Qualitative feedback indicated that participants found the session beneficial for stress relief.* ***Conclusion and Suggestion:*** *This integrated program was effective in identifying cardiovascular risk, improving health literacy, and introducing a practical self-management tool. The high pre-hypertension rate underscores the urgency of such interventions. For sustained impact, it is recommended that the local health post (Posbindu) incorporate brief mindfulness exercises into its regular activities and establish community support groups to foster long-term practice, thereby contributing to the primary prevention of hypertension in Awu Village.*



## INTRODUCTION

Hypertension and diabetes are chronic conditions that, while incurable, can be effectively controlled. The primary clinical goal for these diseases is to prevent debilitating complications through lifestyle modifications, physical activity, and

disciplined medication adherence (Johnson et al., 2019). Uncontrolled hypertension is a silent threat, often presenting no symptoms while significantly elevating the risk of severe health outcomes, including heart disease, stroke, kidney failure, and blindness (Estrada et al., 2019).Consequently, regular blood pressure monitoring is a critical component of early detection and risk reduction (Gray, Vogel, Mehran, Leopold, & Figtree, 2024).

The burden of non-communicable diseases (NCDs) is substantial in Indonesia. According to the 2023 Indonesian Health Survey (SKI), prevalence rates are high for hypertension (29.2% based on measurement), diabetes (1.7% based on physician diagnosis), and heart disease (0.85%) (Indonesian Ministry of Health, 2023). Alarmingly, hypertension, high LDL cholesterol, and diabetes collectively account for approximately 30% of cardiovascular disease risk (Al-shoaibi et al., 2024).

Effective management of NCDs hinges on lifestyle changes. The Dietary Approaches to Stop Hypertension (DASH) diet, which emphasizes fruits, vegetables, whole grains, and lean proteins while reducing salt, red meat, and sugary drinks, has proven effective in lowering blood pressure and blood glucose (Rahimlou, Grau, Banaie, & Taheri, 2022). Regular physical activity, with a recommended 150 minutes per week, improves metabolic health and reduces blood pressure (Johnson et al., 2019; Ko, Bratzke, & Roberts, 2018; M. Yatim et al., 2019). Furthermore, avoiding risk factors like smoking—which induces oxidative stress and insulin resistance, leading to vascular damage (Li et al., 2024; Lusno, Haksama, Wulandari, & Sriram, 2020) and managing stress are crucial. Chronic stress activates the sympathetic nervous system, increasing vascular resistance and blood pressure (Dharmawan, Nurarifah, Utami, Singkali, & Yasin Wahyurianto, 2024). In this context, mindfulness has emerged as an effective therapeutic intervention for blood pressure control in cardiovascular diseases diseases (Wankhar et al., 2024).

Despite this knowledge, a preliminary study in Awu Village identified significant gaps in community understanding. Many residents lack knowledge about the causes, symptoms, prevention, and treatment of diabetes, hypertension, and heart disease. Compounding this issue is widespread medication non-adherence, driven by fears of dependency and kidney damage from long-term use. These factors, coupled with an observed increase in mental health complaints, create a pressing need for targeted intervention.

Therefore, this Community Service program (Pengabdian kepada Masyarakat, PkM) is designed to address the specific challenges in Awu Village. The proposed integrated solution includes: 1) Public health education on NCDs using accessible leaflets to dispel myths and provide accurate information, 2) Training for Posbindu cadres in NCD screening to enhance early detection capabilities, and 3) Instruction in mindfulness meditation for both cadres and the community as a practical tool for stress management and overall well-being. Through this multi-faceted approach, the program aims to support national NCD prevention efforts and improve both physical and mental health outcomes in Awu Village.

## IMPLEMENTATION METHOD

This community service program was executed on July 28, 2025, in Awu Village through a multi-stakeholder collaboration involving the Biak Health Center, local village officials, and the DIII Nursing Study Program of Luwuk, Health Polytechnic of Palu. Poltekkes. The intervention targeted 45 participants, primarily Posbindu cadres, and was structured in three core phases: preparation, implementation, and evaluation.

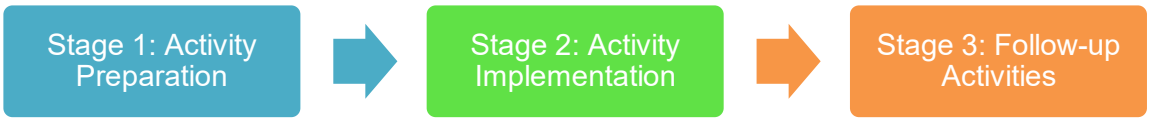


Figure 1 Stages of Implementation of Educational Activities and the Application of Mindfulness Therapy

In stage 1 is to prepare all devices that support activities properly such as leaflets, stationery, questionnaires, sphygmomanometers, material presentation media to speakers. The leaflet material contains the definition, classification, risk factors, symptoms, complications, hypertension management and mindfulness practices to lower blood pressure. In stage 2, the implementation of the activity began with participant registration, blood pressure screening, filling out pretest questionnaires, delivering materials (sharing sessions) and discussions. Continue to conduct mindfulness training which each session is carried out for about 5 minutes by practicing breathing focus, being aware of body sensations, observing thoughts without judgment and enjoying daily activities with full awareness In stage 3 is a follow-up activity by filling out a posttest questionnaire to assess knowledge about hypertension and mindfulness.

## RESULTS AND DISCUSSION

The number of participants who attended this community service activity was 45 participants with an age range of 18-71 years, blood pressure screening screening; Education on non-communicable diseases using leaflet media, empowering posbindu cadres and the community to do mindfulness as an effort to manage hypertension

### A. Blood Pressure Screening

Hypertension screening is carried out to find out the level of hypertension in the people of Awu Village. The results of blood pressure measurements can be seen in the table below:

**Table 1 Blood Pressure Screening**

| Blood Pressure | Total | Percentage |
|---|---|---|
| Normal | 12 | 26,7 |
| Pre Hypertension | 19 | 42,2 |
| Stage 1 Hypertension | 11 | 24,4 |
| Stage 1 Hypertension | 3 | 6,7 |

Less than one-third of the participants had normal blood pressure. The measurement results showed that the average participant experienced pre-hypertension (42%). Pre-hypertension is a condition of blood pressure that is above normal in the systolic range of 120-139 mmHg or diastolic 80-89 mmHg. Pre-hypertension can progress to hypertension if left uncontrolled (Utama, Sari, & Ningsih, 2025).

A total of 3 participants (7%) aged >70 years who experienced degree 2 hypertension with blood pressure reaching 211/101 mmHg. Increasing age is associated with a decline in the body's physiological function. Over time the artery walls of the large canals, especially the aorta, thicken and lose elasticity. This process results in an increase in wave speed and a measure of arterial stiffness. Increased arterial

stiffness will reduce the buffering function of the arterial vessels near the heart and increase the speed of pulse waves, both of which increase systolic pressure and pulse. Vascular stiffness is a precursor to hypertension.

The Posbindu (Integrated Fostered Post) activity in Awu Village, which is routinely carried out every month by the Biak Health Center, Banggai Regency, is a public health effort for early detection, monitoring, and prevention of Non-Communicable Diseases (NCDs) such as diabetes and heart disease. Regular blood pressure checks are very important every month as an NCD screening effort (Nurarifah & Sukmawati, 2024).

The screening results showed that the prehypertension participants did not experience symptoms. Symptoms of hypertension are generally asymptomatic, so they are often only noticed after complications have occurred (Upik, 2022). However, if no effort is made, it can develop into hypertension to cardiovascular disease (Febriana et al., 2024) Participants said that in addition to lifestyle, stress is a risk factor that can cause an increase in blood pressure. Stress triggers the release of stress hormones such as cortisol and adrenaline that cause the heart to beat faster and blood vessels to constrict, increasing blood pressure. Chronic stress can also trigger unhealthy behaviors such as lack of exercise and poor diet, which indirectly increases the risk of hypertension.

**B. Knowledge level**

The implementation of the activity began with an opening from students followed by remarks from representatives of the Biak health center and the Head of Awu village. All participants fill out the pre-test to be able to find out the level of knowledge about hypertension and mindfulness before providing education. Furthermore, an educational presentation was carried out with the theme *"Mindfulness: New Strategies in Hypertension Management"* accompanied by the enthusiasm of participants in the discussion session. At the end of the pesrta activity, a post test was given to find out the level of knowledge after being given educational materials.

Figure 2 Application of Mindfulness


Figure 3 Filling out the questionnaire

Changes in the level of knowledge before and after education can be seen in the following figure:

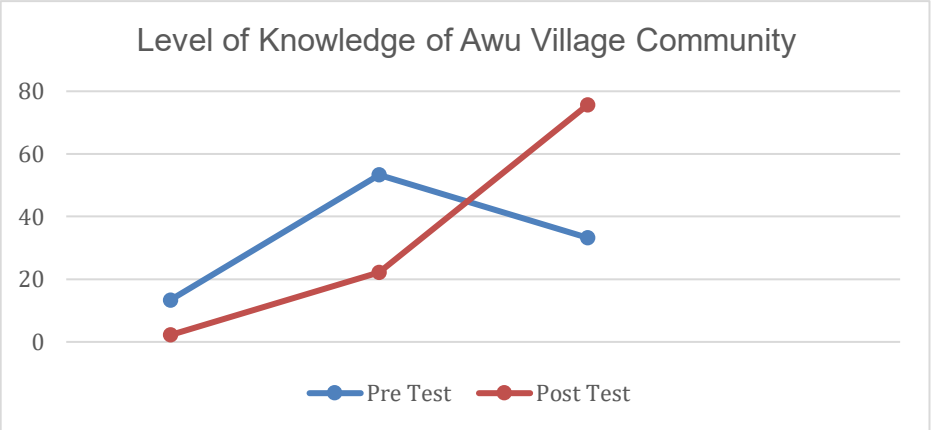


Figure 4. Respondent knowledge level improvement diagram

Educational activities show an increase in the level of knowledge of the Awu village community about Non-Communicable Diseases and mindfulness therapy. The pre-test showed that most of the participants had a sufficient level of knowledge (53%). Then there was an increase in knowledge when the post test became Good (76%).

Participants said that controlling stress must be done because it can affect heart health, including increasing blood pressure. The significant increase in participant understanding is in line with recent research findings showing that brief psychoeducation on mindfulness is effective in improving mental health literacy (Zhang, Lee, Mak, Ho, & Wong, 2021).

**C. Mindfulness Training**

Stress is one of the risk factors that can increase blood pressure, so the next activity is to carry out mindfulness therapy training to lower blood pressure in hypertensive people. Participants were instructed to be calm and focused with the directions given by the head of community service.

During the training, 45 participants (100%) were able to take part in the *Mindfulness* with the STOP technique well until the end of the session. The observation results showed a decrease in signs of physical anxiety (such as moving hands or feet) and participants appeared calmer and focused. In the experience-sharing sessions, many participants reported feeling a sensation of relaxation and described doing minfulness as "relieving the burden on the head". The success of the practice sessions, characterized by the ability of participants to achieve a state of relaxation, reinforces the evidence that simple mindfulness techniques such as *mindful breathing* and *Body Scan* can quickly activate the parasympathetic nervous system, which is responsible for the relaxation response (Creswell, 2017).

The very high enthusiasm of the participants indicates the high need for mental health interventions that are practical and can be carried out at any time. This reflects the findings (Dam et al., 2017) which states that despite the high public interest in mindfulness, there are often barriers to accessibility to structured, evidence-based training. This service activity succeeded in bridging this gap.

Participants' positive response to the exercise *mindful listening* Spontaneously (by making noise an object of meditation) indicates the adoption of the core principle of mindfulness: accepting the experience of the present without judgment. This adaptability is an early indicator of the formation of emotion regulation skills, which are at the core of the benefits of mindfulness (Guendelman, Medeiros, & Rampes, 2017). However, the main challenge, as also expressed in the study (Parsons, Crane,

Parsons, Fjorback, & Kuyken, 2017) is the sustainability of practice. High interest after training does not guarantee long-term practice. Therefore, the recommendation to form *Support Group* or follow-up sessions are essential to maintain consistency and build a community of mutually supportive practitioners, which can ultimately have a more sustainable impact on the psychological well-being of the community (Galante et al., 2021).

## CONCLUSIONS AND SUGGESTIONS

The integrated community service program, comprising hypertension screening, non-communicable disease (NCD) education, and mindfulness training, was successfully implemented in Awu Village. This success was facilitated by the strong collaboration between the academic institution, the Biak Health Center, Awu Village officials, and the community. The activity achieved its primary objectives: it significantly improved participants' understanding of hypertension—including its risk factors, complications, and the importance of medication adherence—and introduced mindfulness as a practical self-management tool. Post-activity evaluations confirmed a high level of participant engagement and a positive reception towards the techniques taught. The enthusiastic response to mindfulness meditation, in particular, highlights the community's readiness to adopt non-pharmacological strategies to manage stress, a key contributor to hypertension. Ultimately, this initiative has empowered Posbindu cadres and community members with essential knowledge and skills, forming a foundational step towards better cardiovascular health outcomes in Awu Village.

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## BIBLIOGRAPHY

Al-Makki, A., DiPette, D., Whelton, P. K., Murad, M. H., Mustafa, R. A., Acharya, S., … Khan, T. (2022). Hypertension pharmacological treatment in adults: A world health organization guideline executive summary. *Hypertension*, *79*(1), 293–301. https://doi.org/10.1161/HYPERTENSIONAHA.121.18192

Al-shoaibi, A. A. A., Li, Y., Song, Z., Hong, Y. J., Chiang, C., Nakano, Y., … Yatsuya, H. (2024). Associations of overweight and obesity with the risk of cardiovascular disease according to metabolic risk factors among middle-aged Japanese workers: The Aichi Workers' cohort study. *Obesity Research and Clinical Practice*, *18*(May 2023), 101–108. https://doi.org/10.1016/j.orcp.2024.02.006

Creswell, J. D. (2017). Mindfulness Interventions. *Annual Review of Psychology*, *68*, 491–516. https://doi.org/10.1146/annurev-psych-042716-051139

Dam, N. T. Van, Vugt, M. K. van, Vago, D. R., Schmalzl, L., Saron, C. D., Olendzki, A., … Kerr, C. E. (2017). Mind The Hype: A Critical Evaluation and Prescriptive Agenda for Research on Mindfulness and Meditation Nicholas. *Physiology & Behavior*, *176*(3), 139–148. https://doi.org/10.1177/1745691617709589.Mind

Dharmawan, R. L., Nurarifah, Utami, Singkali, D. P., & Yasin Wahyurianto. (2024). Faktor Yang Berhubungan Dengan Kekambuhan Hipertensi. *Ensiklopedia of*

*Journal*, *6*(2), 324–330.
Estrada, D., Sierra, C., Soriano, R. M., Jordán, A. I., Plaza, N., & Fernández, C. (2019). Grade of knowledge of hypertension in hypertensive. *Enfermería Clínica (English Edition)*, (xx). https://doi.org/10.1016/j.enfcle.2018.11.003
Febriana, M. O., Puspikawati, S. I., Prayoga, D., Abilia, A., Eksa, F., Loveni, U., … Nanda, F. (2024). Program Skrining Keliling Tekanan Darah Sebagai Langkah Awal Deteksi Dini Hipertensi di Dusun Badengan, Desa Kluncing, Kecamatan Licin, Banyuwangi. *Abdimas Universal*, *6*(1), 86–92. https://doi.org/10.36277/abdimasuniversal.v6i1.407
Galante, J., Friedrich, C., Dawson, A. F., Modrego-Alarcón, M., Gebbing, P., Delgado-Suárez, I., … Jones, P. B. (2021). Mindfulness-based programmes for mental health promotion in adults in nonclinical settings: A systematic review and meta-analysis of randomised controlled trials. In *PLoS Medicine* (Vol. 18). https://doi.org/10.1371/journal.pmed.1003481
Gray, M. P., Vogel, B., Mehran, R., Leopold, J. A., & Figtree, G. A. (2024). *Primary Prevention of Cardiovascular Disease in Women* (pp. 104–112). pp. 104–112.
Guendelman, S., Medeiros, S., & Rampes, H. (2017). Mindfulness and emotion regulation: Insights from neurobiological, psychological, and clinical studies. *Frontiers in Psychology*, *8*(MAR). https://doi.org/10.3389/fpsyg.2017.00220
Indonesian Ministry of Health, 2023. 2023. *Survey Kesehatan Indonesia Tahun 2023*. https://www.badankebijakan.kemkes.go.id/hasil-ski-2023/
Johnson, H. M., Sullivan-Vedder, L., Kim, K. M., McBride, P. E., Smith, M. A., LaMantia, J. N., … Lauver, D. R. (2019). Rationale and study design of the MyHEART study: A young adult hypertension self-management randomized controlled trial. *Contemporary Clinical Trials*, Vol. 78, pp. 88–100. https://doi.org/10.1016/j.cct.2019.01.010
Ko, D., Bratzke, L. C., & Roberts, T. (2018). Self-management assessment in multiple chronic conditions: A narrative review of literature. *International Journal of Nursing Studies*, *83*, 83–90. https://doi.org/10.1016/j.ijnurstu.2018.04.009
Li, F., Wang, Y., Shi, B., Sun, S., Wang, S., Pang, S., & Wu, X. (2024). Association between the cumulative average triglyceride glucose-body mass index and cardiovascular disease incidence among the middle-aged and older population: a prospective nationwide cohort study in China. *Cardiovascular Diabetology*, Vol. 23. https://doi.org/10.1186/s12933-023-02114-w
Lusno, M. F. D., Haksama, S., Wulandari, A., & Sriram, S. (2020). Association between smoking and hypertension as a disease burden in Sidoarjo : a case-control study. *International Journal of Applied Biology*, *4*(2), 9–16. Retrieved from https://journal.unhas.ac.id/index.php/ijoab/article/view/10951
M. Yatim, H., Wong, Y. Y., Neoh, C. F., Lim, S. H., Hassali, M. A., & Hong, Y. H. (2019). Factors influencing patients' hypertension self-management and sustainable self-care practices: a qualitative study. *Public Health*, *173*, 5–8. https://doi.org/10.1016/j.puhe.2019.04.020
Nurarifah, N., & Damayanti, R. (2022). Self Management Pasien Hipertensi dalam Mengontrol Tekanan Darah. *Jurnal Keperawatan Silampari*, *5*(2), 641–649. https://doi.org/10.31539/jks.v5i2.3087
Nurarifah, N., & Sukmawati, S. (2024). Optimalisasi Edukasi Metode Brainstorming untuk Meningkatkan Self Care Management pada Pasien Hipertensi. *Jurnal Pengabdian Kepada Masyarakat Citra Delima*, *1*(2), 64–72. https://doi.org/10.33862/jp.v1i2.451
Parsons, C. E., Crane, C., Parsons, L. J., Fjorback, L. O., & Kuyken, W. (2017). Home

practice in Mindfulness-Based Cognitive Therapy and Mindfulness-Based Stress Reduction: A systematic review and meta-analysis of participants' mindfulness practice and its association with outcomes. *Behaviour Research and Therapy*, *95*, 29–41. https://doi.org/10.1016/j.brat.2017.05.004

Rahimlou, M., Grau, N., Banaie, N., & Taheri, M. (2022). Nutrition , Metabolism & Cardiovascular Diseases Association of adherence to the dietary approach to stop hypertension and Mediterranean diets with blood pressure in a non-hypertensive population : Results from Isfahan Salt Study ( ISS ). *Nutrition, Metabolism and Cardiovascular Diseases*, *32*(1), 109–116. https://doi.org/10.1016/j.numecd.2021.09.029

Utama, F., Sari, D. M., & Ningsih, W. I. F. (2025). Deteksi dan Analisis Faktor Risiko Hipertensi pada Karyawan di Lingkungan Universitas Sriwijaya. *Jurnal Kesehatan Andalas*, *10*(1), 29–38. https://doi.org/10.25077/jka.v10i1.1643

Wankhar, D., Prabu Kumar, A., Vijayakumar, V., A, V., Balakrishnan, A., Ravi, P., … K, M. (2024). Effect of Meditation, Mindfulness-Based Stress Reduction, and Relaxation Techniques as Mind-Body Medicine Practices to Reduce Blood Pressure in Cardiac Patients: A Systematic Review and Meta-Analysis. *Cureus*, *10*(4), e58434. https://doi.org/10.7759/cureus.58434

Zhang, D., Lee, E. K. P., Mak, E. C. W., Ho, C. Y., & Wong, S. Y. S. (2021). Mindfulness-based interventions: An overall review. *British Medical Bulletin*, *138*(1), 41–57. https://doi.org/10.1093/bmb/ldab005