



Gerakan Keluarga Sadar Hipertensi (GAKSI): A Family-Based Education and Support Program for Hypertension Management and Complication Prevention

Hijrah^a  | La Masahuddin^a  | Ramluddin^b  | Sahal Sadila Jumiati^a  | Yusuf^a 

^aDiploma III Nursing Program, Pelamonia Institute of Health Sciences, Kesdam XIV/Hasanuddin, Makassar, Indonesia

^bBatua Public Health Center, Makassar, Indonesia



Abstract: Hypertension management depends partly on family support for treatment adherence, healthy lifestyle practices, blood pressure monitoring, and recognition of warning signs. This community service program described the immediate outcomes of Gerakan Keluarga Sadar Hipertensi (GAKSI), translated as the Family Hypertension Awareness Movement, in RW 5, Batua Subdistrict, Manggala District, Makassar City. A one-group pre-test-post-test descriptive evaluation was conducted from July 15 to 20, 2026, with 20 participants who had hypertension risk factors and/or relatives with hypertension. Activities comprised interactive education, discussion, digital blood pressure measurement demonstration and return demonstration, family assistance, and educational media. Knowledge was assessed with a 10-item questionnaire; three retained skills indicators were assessed through observation. The aggregate mean knowledge score increased from 52.5% before education to 88.5% immediately afterward. Eighteen participants (90%) operated the digital monitor correctly, 17 (85%) read the result correctly, and 18 (90%) recorded the measurement. Preventive-health and family-readiness responses ranged from 80% to 100%. These findings describe favorable immediate outcomes but do not establish sustained behavior change, blood pressure control, or prevention of complications.

Keywords: Blood Pressure Monitoring; Community Service; Family Empowerment; Health Education; Hypertension.

1. Introduction

Hypertension is a major public health challenge because of its high prevalence and contribution to cardiovascular disease, stroke, kidney disease, and premature mortality. Global analyses show that hypertension remains widespread and control rates remain inadequate in many countries (Mills et al., 2020; NCD Risk Factor Collaboration [NCD-RisC], 2021). Because hypertension is frequently asymptomatic, accurate measurement, early detection, lifestyle modification, adherence to prescribed treatment, and continuing follow-up are central to management (McEvoy et al., 2024; Unger et al., 2020).

Many hypertension-management activities occur at home. Individuals may need to modify dietary sodium intake, remain physically active, take prescribed medicines, attend healthcare visits, and monitor blood pressure when appropriate. Supported self-management can improve blood pressure, medication adherence, and self-efficacy (Shahaj et al., 2019; Van Truong et al., 2021). Home monitoring is most useful when measurement technique is correct and results are linked to guidance or clinical support (Shimbo et al., 2020; Tucker et al., 2017). Family assistance may help translate recommendations into routine practice, although its contribution differs across households and settings (Burnier & Egan, 2019; Shatin et al., 2021).

Hypertension also remains a substantial concern in Indonesia. The 2023 Indonesian Health Survey reported a measured hypertension prevalence of approximately 30.8% among adults aged 18 years or older (Kementerian



Kesehatan Republik Indonesia, 2024). Indonesian evidence indicates that self-management is influenced by knowledge, beliefs, behavioral adaptation, medication adherence, access to healthcare, and disease-management support. A qualitative study involving older adults, family members, health professionals, community volunteers, and administrators identified education and family assistance as continuing needs in community-based hypertension management (Khasanah et al., 2024).

Family members can remind relatives to take prescribed medication, encourage health examinations, support healthier food choices and physical activity, assist with home blood pressure monitoring, and recognize warning signs requiring professional care. Contemporary guidelines place these activities within a broader package of cardiovascular-risk reduction and sustained hypertension management (Carey et al., 2018; McEvoy et al., 2024; Whelton et al., 2018). A family-centered community program may therefore address the household context in which many health decisions and daily behaviors occur.

Preliminary identification of community needs in RW 5, Batua Subdistrict, Manggala District, Makassar City indicated several challenges relevant to such an approach. Families still required improved understanding of hypertension risk factors, complications, routine blood pressure monitoring, healthy lifestyle practices, medication-related support, and the family's role in assisting members with hypertension. The program documents also identified limited experience with independent blood pressure monitoring and inconsistent preventive practices, particularly regarding salt restriction, physical activity, and routine blood pressure examination. These conditions suggested that a conventional one-way health education session would be insufficient and that education should be combined with practical skills training and structured family assistance. The proposed intervention therefore incorporated interactive health education, demonstration and return demonstration of digital blood pressure measurement, family-based behavioral guidance, and educational materials that could continue to be used at home.

In response to these needs, Gerakan Keluarga Sadar Hipertensi (GAKSI), translated as the Family Hypertension Awareness Movement, was implemented in RW 5, Batua Subdistrict, Manggala District, Makassar City. The program combined interactive education, digital blood pressure measurement training, guidance on lifestyle practices, family support, and educational materials for home use. Its purpose was to strengthen family knowledge, practical monitoring skills, and readiness to support hypertension management and appropriate complication-prevention practices.

This community service program aimed to describe the implementation and immediate outcomes of GAKSI in family knowledge, digital blood pressure monitoring skills, preventive-health commitments, and readiness to support relatives with hypertension. It was not designed to establish sustained behavior change, improved blood pressure control, or prevention of clinical complications.

2. Materials and Methods

GAKSI was conducted in RW 5, Batua Subdistrict, Manggala District, Makassar City, Indonesia, from July 15 to 20, 2026. The program used a one-group pre-test-post-test descriptive evaluation without a comparison group. Twenty participants were enrolled, consisting of adults with hypertension risk factors and/or family members of people with hypertension. The evaluation documented outcomes immediately before and after education; it was not designed to estimate causal effectiveness.

The program was implemented through sequential stages consisting of preparation and coordination, hypertension health education, practical blood pressure monitoring training, family assistance, and program evaluation. During the preparation stage, the team coordinated with community representatives and health-related stakeholders, identified community needs, prepared educational materials, and arranged the instruments and equipment required for the activity. Educational and evaluation materials included presentation slides, leaflets, the GAKSI pocket book, pre-test and post-test questionnaires, skill-observation sheets, family behavior monitoring forms, and digital blood pressure monitors.

Before the educational session, participants completed a pre-test to assess their initial knowledge of hypertension. Health education was then delivered using interactive lectures, discussion, question-and-answer sessions, and visual educational media. The educational content covered the definition and classification of hypertension, modifiable and non-modifiable risk factors, hypertension-related complications, healthy lifestyle practices, regular blood pressure monitoring, warning signs requiring medical attention, medication adherence, and the role of family members in hypertension management. The educational approach emphasized practical

information that could be applied within the household, particularly salt reduction, healthy food choices, routine physical activity, stress management, regular health examinations, and family support for members with hypertension.

Practical training focused on home blood pressure monitoring using a digital blood pressure monitor. The training applied demonstration and return demonstration, in which the facilitators first demonstrated the correct procedure and participants subsequently repeated the procedure under supervision. Participants were trained to prepare the device, maintain the appropriate body position before measurement, correctly place the cuff, operate the monitor, interpret the measurement results, and record blood pressure readings. Participants also received guidance on recognizing warning signs of hypertension complications and identifying conditions requiring immediate medical attention.

The family-assistance component was designed to reinforce the application of knowledge and skills in everyday life. Participants were encouraged to develop a simple family commitment to hypertension prevention, including reducing excessive salt intake, maintaining physical activity, conducting periodic blood pressure checks, supporting treatment adherence, and accompanying family members during health examinations. Educational materials, including leaflets and the GAKSI pocket book, were provided as home-based reference materials to reinforce the information delivered during the program.

Knowledge was assessed immediately before and after education using a 10-item program-specific questionnaire. Each correct response was scored 1 and each incorrect response 0, producing a total score of 0-10 that was converted to a percentage. Items covered hypertension concepts, risk factors, routine blood pressure checks, complications, salt consumption, physical activity, family support, and medication adherence. Because individual scores were unavailable, the analysis used only the aggregate mean percentage and did not apply knowledge categories.

Practical performance was assessed after the return demonstration using an observation sheet. Although training covered device preparation, body positioning, cuff placement, operation, interpretation, and documentation, the retained evaluation record contained complete participant-level summaries for only three indicators: operating the digital monitor, reading the displayed result, and recording the measurement. Each reported indicator was classified as performed correctly or not performed correctly. No total checklist score or competency category was calculated because complete results for all procedural components were unavailable.

Family preventive behavior was additionally monitored using a structured form addressing routine blood pressure checks, salt restriction, healthy eating practices, physical activity, support for medication adherence, recognition of hypertension warning signs, and family responsibility for preventing complications. However, because the available program report primarily documented immediate knowledge scores, observed practical skills, and participants' stated behavioral commitments, behavioral outcomes were interpreted descriptively rather than as evidence of sustained long-term behavior change.

The program used descriptive analysis. Knowledge was summarized using aggregate mean percentages before and immediately after education. The three retained skill indicators were reported as frequencies and percentages. Preventive-health and family-readiness responses were summarized as proportions. No inferential statistical analysis or control-group comparison was performed; consequently, findings are presented as immediate program-evaluation outcomes rather than causal or long-term clinical effects.

3. Results

3.1. Changes in Hypertension Knowledge

The pre-test results indicated that participants' mean knowledge score before the educational intervention was 52.5%. Following the interactive education sessions, the mean post-test score increased to 88.5%. Thus, an increase of 36 percentage points was observed between the pre-test and post-test assessments. The educational content addressed the definition and classification of hypertension, risk factors, complications, healthy lifestyle practices, routine blood pressure monitoring, and the role of the family in hypertension management.

Table 1. Hypertension Knowledge Scores Before and After the GAKSI Education Program

Assessment	Mean Knowledge Score (%)	Change
Pre-test	52.5	–
Post-test	88.5	+36.0 percentage points

Table 1 shows a descriptive increase in hypertension-related knowledge immediately after the educational intervention. In addition to the higher post-test score, participants were reported to be able to explain hypertension risk factors, warning signs of complications, and preventive measures that could be applied in daily life. Because the available program data did not include individual participant scores, measures of dispersion, or inferential statistical testing, the observed difference should be interpreted as an immediate descriptive improvement rather than evidence of statistical significance or long-term knowledge retention.

3.2. Blood Pressure Monitoring Skills

Practical skill evaluation was conducted after participants received demonstration and return-demonstration training on the use of a digital blood pressure monitor. Participants were assessed on their ability to operate the device, read the blood pressure result, and record the measurement. The results showed that 18 of 20 participants (90%) were able to use the digital blood pressure monitor correctly, 17 participants (85%) were able to read the blood pressure measurement correctly, and 18 participants (90%) were able to record the measurement results. Participants who had not yet performed the procedure optimally received additional assistance from the facilitators.

Table 2. Participants' Blood Pressure Monitoring Skills After Training

Skill Component	Participants Successfully Performing the Skill	Percentage (%)
Using a digital blood pressure monitor	18/20	90
Reading blood pressure results	17/20	85
Recording blood pressure results	18/20	90

These findings indicate that most participants were able to perform the core components of home blood pressure monitoring following practical training. The highest achievement was observed for digital blood pressure monitor use and documentation of measurements, while interpretation of the measurement results showed a slightly lower proportion of successful performance. The results represent skills observed during the program and do not establish whether these skills were maintained or routinely applied after completion of the activity.

3.3. Preventive Health Commitments

The family-assistance component of GAKSI addressed modifiable hypertension risk factors through guidance on salt reduction, healthier food choices, physical activity, stress management, and adherence to routine health examinations. Evaluation of participants' responses showed that 85% expressed a commitment to reduce consumption of high-salt foods, 80% stated that they intended to perform blood pressure examinations regularly, and 90% demonstrated an understanding of the importance of physical activity in hypertension control.

Table 3. Preventive Health Responses Following the GAKSI Program

Preventive Health Indicator	Participants (%)
Committed to reducing high-salt food consumption	85
Intended to perform regular blood pressure examinations	80
Understood the importance of physical activity for hypertension control	90

The results in Table 3 reflect participants' immediate commitments and understanding after the intervention. These measures should not be interpreted as confirmed long-term behavioral changes because sustained salt reduction, routine blood pressure monitoring, and physical activity were not objectively assessed over an extended follow-up period. The program report itself identified continued monitoring and family assistance as necessary to determine whether these behaviors become established in daily life.

3.4. Strengthening the Family Role in Hypertension Management

The program also evaluated participants' understanding of the family's role in supporting members with hypertension. After the activity, all 20 participants were reported to understand the importance of family involvement in hypertension management. Eighteen participants expressed readiness to accompany and support family members with hypertension, and participants were able to develop simple steps for family-based health monitoring.

Family roles emphasized during the program included reminding family members to take prescribed medication, supporting healthier dietary practices, accompanying them during health examinations, encouraging healthy lifestyle practices, and assisting with regular blood pressure monitoring. These outcomes suggest that the

GAKSI program extended beyond individual health education by introducing the family as an active partner in hypertension prevention and management.

Table 4. Family Readiness for Hypertension Management

Family-Role Indicator	Participants (%)
Family-Role Indicator	Result
Participants who understood the family's role in hypertension management	20/20 (100%)
Participants who expressed readiness to assist a family member with hypertension	18/20 (90%)

3.5. Educational Outputs and Program Achievement

In addition to changes in knowledge and practical skills, the program produced educational materials intended to support continued learning at the household level. Twenty GAKSI pocket books and leaflets were distributed to participants as independent educational resources. The materials included information on hypertension, risk factors, low-salt dietary practices, physical activity, blood pressure monitoring, warning signs of complications, and the role of family members in supporting hypertension management.

The immediate program evaluation showed higher hypertension knowledge scores after education, successful performance of basic blood pressure monitoring skills by most participants, increased awareness of preventive lifestyle practices, and strengthened readiness of families to participate in hypertension management. Nevertheless, the available results primarily represent immediate program outcomes. Continued monitoring is required to determine whether the observed knowledge, skills, and stated commitments are maintained and translated into sustained family health behavior and improved blood pressure control.



Figure 1. Documentation of the implementation of the Family Hypertension Awareness Movement (GAKSI) in RW 5, Batua Urban Village, Manggala District, Makassar City, 2026, including community education sessions, distribution of educational materials, and participant discussions.

4. Discussion

The immediate evaluation showed a higher mean knowledge score after education, from 52.5% to 88.5%, while 85-90% of participants correctly performed the three documented blood pressure monitoring indicators. Preventive-health responses ranged from 80% to 90%, all participants understood the family role in hypertension management, and 90% expressed readiness to assist a relative with hypertension. These results describe short-term outcomes in one group and cannot establish that GAKSI caused the changes or prevented complications.

The knowledge pattern is compatible with evidence that structured hypertension education and supported self-management can improve disease-related understanding and selected self-care outcomes (Kurnia et al., 2022; Soltani et al., 2023; Van Truong et al., 2021). GAKSI combined explanation, discussion, printed materials, and household-oriented guidance. This combination may have helped participants connect hypertension information with daily decisions, but the evaluation could not separate the contribution of each component. The educational

content was consistent with guideline recommendations concerning lifestyle modification, treatment adherence, blood pressure monitoring, and cardiovascular-risk reduction (Carey et al., 2018; McEvoy et al., 2024; Unger et al., 2020; Whelton et al., 2018).

The return-demonstration component addressed practical performance rather than knowledge alone. Most participants operated the monitor and recorded measurements correctly, whereas correct reading of results was slightly lower. Home blood pressure monitoring depends on standardized technique, valid equipment, repeated measurements, and appropriate interpretation; device operation alone is insufficient (Shimbo et al., 2020; Stergiou et al., 2021). Trials and meta-analyses suggest that self-monitoring produces greater benefit when linked to co-interventions such as professional support or medication adjustment (McManus et al., 2018; Tucker et al., 2017). The present results cover only three documented indicators and do not demonstrate full procedural competence or retained performance after the activity.

GAKSI also addressed sodium reduction and physical activity. Dietary patterns such as DASH, higher potassium intake where clinically appropriate, and modest sodium reduction have documented blood pressure benefits (Aburto et al., 2013; Appel et al., 1997; Filippini et al., 2021; He et al., 2013). Exercise training likewise reduces resting blood pressure across several modalities (Edwards et al., 2023). Blood pressure lowering is associated with reduced cardiovascular morbidity and mortality across risk groups (Ettehad et al., 2016). The reported GAKSI percentages, however, represent immediate understanding or intention, not verified dietary change, activity, or blood pressure reduction.

Family involvement may reinforce medication-taking, appointments, dietary practices, physical activity, and home monitoring. Social support has been associated with medication adherence, although the relationship varies across populations (Burnier & Egan, 2019; Shahin et al., 2021). Indonesian findings similarly identify family and community support as part of hypertension self-management needs (Khasanah et al., 2024). Integration with health cadres, Posbindu PTM, and primary care could provide repeated contact beyond a single session, consistent with the continuity emphasized in hypertension-control strategies (World Health Organization, 2023).

Interpretation is limited by the small single-community sample, absence of a comparison group, immediate post-test, unavailable individual knowledge scores, lack of documented questionnaire validation, incomplete checklist reporting, and reliance on stated commitments rather than objective follow-up. Future implementation should retain item-level knowledge data and complete results for every skills component, validate the instruments, repeat assessment after several weeks, and measure home monitoring frequency, sodium-related behavior, physical activity, medication adherence, and serial blood pressure. These additions would distinguish immediate educational gains from sustained behavioral and clinical outcomes

5. Conclusions

GAKSI was followed by an immediate increase in the aggregate mean knowledge score and successful performance of three documented blood pressure monitoring indicators by most participants. Families also reported readiness to support hypertension management. These findings support the feasibility of combining family education and skills practice in this community, but they do not demonstrate sustained behavior change, improved blood pressure control, or prevention of complications. Future programs require complete instrument reporting and delayed objective follow-up.

Conflict of Interest

No conflicts of interest

Acknowledgments

The authors express their sincere appreciation to the community leaders, health cadres, and healthcare personnel in RW 5, Batua Subdistrict, Manggala District, Makassar City, for their support and coordination during the implementation of the GAKSI program. Appreciation is also extended to all participating families for their active involvement in the education, practical training, and family-assistance activities. The authors also acknowledge the community service team and all parties who contributed to the preparation, implementation, evaluation, and documentation of this program.

References

<https://jebch.paperhome.id/>



- Aburto, N. J., Hanson, S., Gutierrez, H., Hooper, L., Elliott, P., & Cappuccio, F. P. (2013). Effect of increased potassium intake on cardiovascular risk factors and disease: Systematic review and meta-analyses. *BMJ*, 346, f1378. <https://doi.org/10.1136/bmj.f1378>
- Appel, L. J., Moore, T. J., Obarzanek, E., Vollmer, W. M., Svetkey, L. P., Sacks, F. M., Bray, G. A., Vogt, T. M., Cutler, J. A., Windhauser, M. M., Lin, P. H., & Karanja, N. (1997). A clinical trial of the effects of dietary patterns on blood pressure. *New England Journal of Medicine*, 336(16), 1117-1124. <https://doi.org/10.1056/NEJM199704173361601>
- Burnier, M., & Egan, B. M. (2019). Adherence in hypertension. *Circulation Research*, 124(7), 1124-1140. <https://doi.org/10.1161/CIRCRESAHA.118.313220>
- Carey, R. M., Muntner, P., Bosworth, H. B., & Whelton, P. K. (2018). Prevention and control of hypertension: JACC Health Promotion Series. *Journal of the American College of Cardiology*, 72(11), 1278-1293. <https://doi.org/10.1016/j.jacc.2018.07.008>
- Edwards, J. J., Deenmamode, A. H. P., Griffiths, M., Arnold, O., Cooper, N. J., Wiles, J. D., & O'Driscoll, J. M. (2023). Exercise training and resting blood pressure: A large-scale pairwise and network meta-analysis of randomised controlled trials. *British Journal of Sports Medicine*, 57(20), 1317-1326. <https://doi.org/10.1136/bjsports-2022-106503>
- Ettehad, D., Emdin, C. A., Kiran, A., Anderson, S. G., Callender, T., Emberson, J., Chalmers, J., Rodgers, A., & Rahimi, K. (2016). Blood pressure lowering for prevention of cardiovascular disease and death: A systematic review and meta-analysis. *The Lancet*, 387(10022), 957-967. [https://doi.org/10.1016/S0140-6736\(15\)01225-8](https://doi.org/10.1016/S0140-6736(15)01225-8)
- Filippini, T., Malavolti, M., Whelton, P. K., Naska, A., Orsini, N., & Vinceti, M. (2021). Blood pressure effects of sodium reduction: Dose-response meta-analysis of experimental studies. *Circulation*, 143(16), 1542-1567. <https://doi.org/10.1161/CIRCULATIONAHA.120.050371>
- He, F. J., Li, J., & MacGregor, G. A. (2013). Effect of longer term modest salt reduction on blood pressure: Cochrane systematic review and meta-analysis of randomised trials. *BMJ*, 346, f1325. <https://doi.org/10.1136/bmj.f1325>
- Kementerian Kesehatan Republik Indonesia. (2024). Prevalensi, dampak, serta upaya pengendalian hipertensi & diabetes di Indonesia: Visualisasi data SKI 2023. Badan Kebijakan Pembangunan Kesehatan.
- Khasanah, U., Keliat, B. A., Afiyanti, Y., Besral, B., & Sari, D. W. (2024). The problems and needs of self-management among Indonesian older adults with hypertension: A qualitative study. *SAGE Open Nursing*, 10, 23779608241282915. <https://doi.org/10.1177/23779608241282915>
- Kurnia, A. D., Melizza, N., Ruhyanudin, F., Masrurroh, N. L., Prasetyo, Y. B., Setyowati, C. I., & Khoirunnisa, O. (2022). The effect of educational program on hypertension management toward knowledge and attitude among uncontrolled hypertension patients in rural Indonesia. *Community Health Equity Research & Policy*, 42(2), 181-188. <https://doi.org/10.1177/0272684X20972846>
- McEvoy, J. W., McCarthy, C. P., Bruno, R. M., et al. (2024). 2024 ESC guidelines for the management of elevated blood pressure and hypertension. *European Heart Journal*, 45(38), 3912-4018. <https://doi.org/10.1093/eurheartj/ehae178>
- McManus, R. J., Mant, J., Franssen, M., et al. (2018). Efficacy of self-monitored blood pressure, with or without telemonitoring, for titration of antihypertensive medication (TASMINH4): An unmasked randomised controlled trial. *The Lancet*, 391(10124), 949-959. [https://doi.org/10.1016/S0140-6736\(18\)30309-X](https://doi.org/10.1016/S0140-6736(18)30309-X)
- Mills, K. T., Stefanescu, A., & He, J. (2020). The global epidemiology of hypertension. *Nature Reviews Nephrology*, 16(4), 223-237. <https://doi.org/10.1038/s41581-019-0244-2>
- NCD Risk Factor Collaboration (NCD-RisC). (2021). Worldwide trends in hypertension prevalence and progress in treatment and control from 1990 to 2019. *The Lancet*, 398(10304), 957-980. [https://doi.org/10.1016/S0140-6736\(21\)01330-1](https://doi.org/10.1016/S0140-6736(21)01330-1)

- Shahaj, O., Denny, D., Schwappach, A., Pearce, G., Epiphanou, E., Parke, H. L., Taylor, S. J. C., & Pinnock, H. (2019). Supporting self-management for people with hypertension: A meta-review of quantitative and qualitative systematic reviews. *Journal of Hypertension*, 37(2), 264-279. <https://doi.org/10.1097/HJH.0000000000001867>
- Shahin, W., Kennedy, G. A., & Stupans, I. (2021). The association between social support and medication adherence in patients with hypertension: A systematic review. *Pharmacy Practice*, 19(2), 2300. <https://doi.org/10.18549/PharmPract.2021.2.2300>
- Shimbo, D., Artinian, N. T., Basile, J. N., Krakoff, L. R., Margolis, K. L., Rakotz, M. K., & Wozniak, G. (2020). Self-measured blood pressure monitoring at home: A joint policy statement from the American Heart Association and American Medical Association. *Circulation*, 142(4), e42-e63. <https://doi.org/10.1161/CIR.0000000000000803>
- Soltani, D., Azizi, B., Behnoud, A. H., Meysamie, A., Aein, A., Nayeberad, S., Vashghani-Farahani, A., & Akbari Sari, A. (2023). Is lifestyle modification with individual face-to-face education and counseling more effective than usual care for controlling hypertension? *Health Education Research*, 38(5), 490-512. <https://doi.org/10.1093/her/cyad028>
- Stergiou, G. S., Palatini, P., Parati, G., O'Brien, E., Januszewicz, A., Lurbe, E., Persu, A., Mancia, G., & Kreutz, R. (2021). 2021 European Society of Hypertension practice guidelines for office and out-of-office blood pressure measurement. *Journal of Hypertension*, 39(7), 1293-1302. <https://doi.org/10.1097/HJH.0000000000002843>
- Tucker, K. L., Sheppard, J. P., Stevens, R., et al. (2017). Self-monitoring of blood pressure in hypertension: A systematic review and individual patient data meta-analysis. *PLOS Medicine*, 14(9), e1002389. <https://doi.org/10.1371/journal.pmed.1002389>
- Unger, T., Borghi, C., Charchar, F., et al. (2020). 2020 International Society of Hypertension global hypertension practice guidelines. *Hypertension*, 75(6), 1334-1357. <https://doi.org/10.1161/HYPERTENSIONAHA.120.15026>
- Van Truong, P., Wulan Apriliyasari, R., Lin, M.-Y., Chiu, H.-Y., & Tsai, P.-S. (2021). Effects of self-management programs on blood pressure, self-efficacy, medication adherence and body mass index in older adults with hypertension. *International Journal of Nursing Practice*, 27(2), e12920. <https://doi.org/10.1111/ijn.12920>
- Whelton, P. K., Carey, R. M., Aronow, W. S., et al. (2018). 2017 ACC/AHA guideline for the prevention, detection, evaluation, and management of high blood pressure in adults. *Hypertension*, 71(6), e13-e115. <https://doi.org/10.1161/HYP.0000000000000065>
- World Health Organization. (2023). Global report on hypertension: The race against a silent killer. World Health Organization. <https://www.who.int/publications/i/item/9789240081062>