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# THE EFFECTIVENESS OF HYPERTENSION EXERCISE, BRISK WALKING, AND HANDGRIP INTERVENTIONS ON BLOOD PRESSURE REDUCTION IN HYPERTENSIVE PATIENTS: A LITERATURE REVIEW

**Lisa Isdaryanti[1]* , Andri Setiya Wahyudi[2] , Ni Ketut Alit Armini[2]**
[1]Master of Nursing, Faculty of Nursing, Universitas Airlangga, Mulyorejo, Kota Surabaya, Jawa Timur 60115, Indonesia
[2]Faculty of Nursing, Universitas Airlangga, Mulyorejo, Kota Surabaya, Jawa Timur 60115, Indonesia
*lisaisdaryanti05@gmail.com

**ABSTRACT**
Hypertension is a major noncommunicable disease that requires effective nonpharmacological interventions, where its management depends not only on pharmacological therapy but also on regular physical exercise. The combination of hypertension exercises, brisk walking, and handgrip exercises has the potential to lower blood pressure through increased cardiorespiratory capacity and vascular vasodilation. This literature review aims to analyze the effectiveness of these interventions, both individually and in combination, and to develop evidence-based recommendations for the management of hypertension. This literature review was conducted to analyze the effectiveness of physical exercise interventions, namely hypertension exercises, brisk walking, and handgrip exercises, on blood pressure reduction and to develop evidence-based recommendations for hypertension management. The study was conducted systematically following the PRISMA guidelines, with articles searched in four electronic databases (PubMed, Scopus, ScienceDirect, Google Scholar) for the period 2020–2025 using keywords related to hypertension, hypertension exercises, brisk walking, handgrip exercises, and randomized controlled trials. Of the 520 articles found, 35 studies met the inclusion criteria (experimental, quasi-experimental, RCT) and were reviewed narratively by category based on exercise type, duration, intensity, and blood pressure outcome. The results of the study were reviewed using a narrative analysis method, which included a thematic synthesis of findings or main categorization based on study variables, referring to PICOS to ensure that the review was targeted at the research objectives. The results of the review show that hypertension exercise, brisk walking, and handgrip exercise interventions, either alone or in combination, are effective in lowering blood pressure with varying durations and intensities depending on the population. The main categories include: 1) Effectiveness of Combination vs. Single: Combined exercises (such as brisk walking and handgrip) are more effective at lowering blood pressure and improving fitness than single exercises. 2) Biological Mechanisms: Blood pressure reduction occurs through improved endothelial function, vasodilation, and sympathetic-parasympathetic nervous system regulation as a result of regular physical exercise. 3) Adherence & Structured Programs: Adherence increases with combination programs and education, resulting in more optimal BP reduction in patients who are consistent and educated. 4) Psychosocial Impact: Combination physical exercise improves quality of life, reduces depression and anxiety, and brings psychosocial benefits to hypertensive patients. Hypertension exercises, brisk walking, and handgrip exercises are effective nonpharmacological interventions for lowering blood pressure in patients with hypertension, with the combination providing more optimal synergistic benefits for long-term compliance.

Keywords: brisk walking; handgrip exercise; high blood pressure; hypertension; hypertension exercises; randomized controlled trial

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## INTRODUCTION

Hypertension is one of the major health problems in the world and is known as The Silent Killer because it often shows no symptoms, but can cause serious complications such as stroke, coronary heart disease, and kidney failure (ISH, 2024). Data from the World Health Organization (2023) shows that more than 1.28 billion people worldwide suffer from hypertension, causing approximately 9.4 million deaths each year. In Indonesia, the prevalence of hypertension reaches

34.1% among people aged ≥18 years (Riskesdas, 2018). This condition highlights the urgency of community-based hypertension management focused on lifestyle changes.

Many patients choose non-pharmacological approaches due to concerns about the side effects of medication (Aliyah et al., 2022). Non-pharmacological therapies, particularly physical exercise, are a key pillar of self-care (WHO, 2019). Physical exercise plays a role in reducing sympathetic tone, improving endothelial function, and improving insulin sensitivity, thereby helping to lower blood pressure naturally (Sarastuti and Widyantoro, 2018). However, the level of community participation in regular physical exercise is still low due to a lack of education and motivation (Priscyllia Sa, Restika and Nani, 2024).

Hypertension exercise is a mild to moderate aerobic physical activity that is safe for people with hypertension because it is designed to improve heart fitness and blood pressure stability (Indonesian Ministry of Health, 2021; Indrayani et al., 2022). This exercise effectively lowers systolic and diastolic blood pressure gradually through vascular adaptation and increased body relaxation (Wahyudi et al., 2022). Its effectiveness can be enhanced by combining it with other physical exercises to lower blood pressure, such as brisk walking with moderate-intensity aerobic exercise, which improves endothelial function and blood circulation (Yingxiang et al., 2021). Handgrip Exercise, an isometric exercise that reduces sympathetic activity and increases peripheral vasodilation, is a non-pharmacological therapy for lowering blood pressure (Lee and Gong, 2022). Several of these physical exercises support blood pressure control through physiological mechanisms (Pagonas et al., 2017).

The Hypertension Exercise Intervention Approach, Brisk Walking, and Handgrip Exercise are non-pharmacological interventions with the advantages of being practical, inexpensive, and self-administered (Ratna Sari and Palupi, 2024). This integrative approach is a strategic step toward a sustainable and effective hypertension management model in the context of community nursing services (WHO, 2023; ISH, 2024). This literature review was conducted to analyze the effectiveness of physical exercise interventions—hypertension exercise, brisk walking, and handgrip exercise on blood pressure reduction and to develop evidence-based recommendations for hypertension management.

## METHOD

### Study Design

This study used a *literature review* method with a systematic approach based on the PRISMA guidelines. Articles were searched through four electronic databases, namely PubMed, Scopus, ScienceDirect, and Google Scholar, using the keywords hypertension, high blood pressure, exercise, hypertension exercise, physical activity, brisk walking exercise, handgrip exercise, compliance, gymnastics, randomized controlled trial, using keywords and Boolean operators (AND, OR). The inclusion criteria included experimental, quasi-experimental, and *randomized controlled trial* (RCT) research articles published between 2020 and 2025. Of the total 520 articles found, 35 studies met the inclusion criteria and were analyzed narratively. The data were categorized based on the type of exercise, duration, intensity, and blood pressure measurement results and compliance levels.

### Population, Sample, and Sampling

The population in this study consisted of individuals with hypertension, including patients with primary hypertension, patients with hypertension and comorbidities, and certain high-risk groups. Samples were selected from studies evaluating the impact of Hypertension Exercise, *Brisk Walking*, and *Handgrip Exercise* interventions on blood pressure reduction in patients with hypertension. Sampling was conducted systematically with clear inclusion and exclusion criteria, involving only

quantitative studies with randomized controlled trial (RCT) designs published between 2020 and 2025 in English.

**Instruments**

This study used the PICOS (Population, Intervention, Comparison, Outcomes, Study Design) framework to identify eligible studies. This study applied the PICOS approach as follows:

Table 1.
PICO

| Component | Explanation |
|---|---|
| Population (P) | Adult patients with hypertension |
| Intervention (I) | Hypertension exercises, *brisk walking*, and *handgrip exercises* |
| Comparison Group (C) | Hypertension exercise, *brisk walking, handgrip exercise,* either in combination or single exercise |
| Results (O) | Blood pressure reduction |
| Study Design (S) | Randomized Controlled Trial (RCT), Quasi-experimental, Experimental. |

Table 1. PICOS elements for systematic review

The inclusion criteria in this literature review include respondents who are hypertensive patients, interventions that focus on physical exercise, study designs in the form of quasi-experiments, experiments, or randomized controlled trials, and journal publications in the 2020-2025 period, to ensure the relevance and novelty of scientific evidence. Meanwhile, exclusion criteria include respondents who are not hypertensive patients, studies with interventions not directly related to physical exercise, studies that do not measure blood pressure as an outcome variable, study designs such as meta-analyses, literature reviews, or case studies, and journal publications before 2020, thereby avoiding outdated data or data that is not in line with the objective of analyzing the effectiveness of combined hypertension exercise interventions.

**Data search process**

The search for related studies used four databases, namely PubMed, Scopus, ScienceDirect, and Google Scholar, from 2019 to 2025. The search for articles or journals used keywords and Boolean operators (AND, OR) to expand or specify the search, thereby facilitating the selection of articles or journals to be used. The keywords used in this article search were adapted from *Medical Subject Headings* (MeSH), where the keywords used were "hypertension" OR "high blood pressure" AND "exercise" OR "hypertension exercise" OR "physical activity" OR " " "brisk walking exercise", OR "handgrip exercise" OR "handgrip exercise" OR "compliance" OR "gymnastics" OR "gymnastic" AND "randomized controlled trial".

The search process yielded a total of 520 articles, with 180 articles from PubMed, 150 from Scopus, 120 from ScienceDirect, and 70 from Google Scholar. After removing 60 duplicate articles, 460 articles remained for further selection. Initial selection was based on the title and abstract, which eliminated 300 articles because they were considered irrelevant to the topic or study population. Of the remaining 160 articles, a full-text review was conducted. A total of 125 articles were eliminated because they were not original studies (40 articles), the population was not suitable (35 articles), and the intervention did not discuss hypertension exercises, *brisk walking*, and *handgrip exercises* (50 articles). After eligibility screening, 35 articles were assessed. However, of these, 25 articles were rejected because the research methods did not meet the criteria (15 articles) and the research results were incomplete or not available in full text (10 articles).

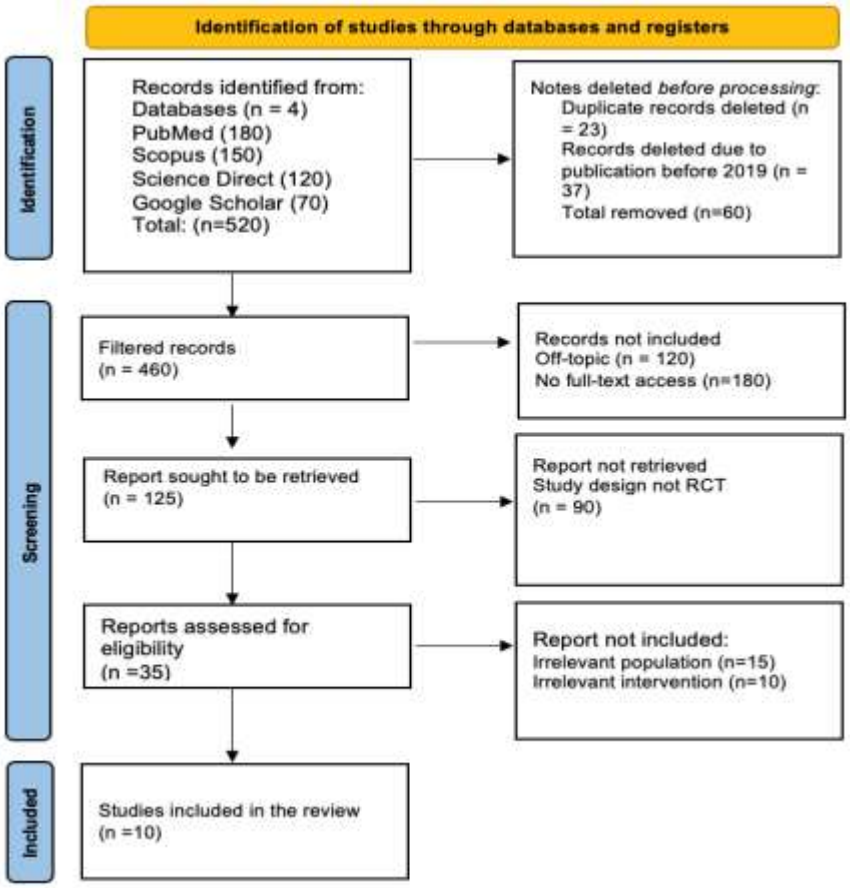


Figure 1. PRISMA Flow Diagram

Table 2.
Originality of the research

| No | Research Title & Researcher | Research Method (Design, Sample, Variables, Instruments) | Research Results |
|---|---|---|---|
| 1 | Comparative effectiveness of aerobic, resistance, and combined training on cardiovascular disease- -risk factors: A randomized controlled trial, United States, (Schroeder *et al.*, 2019) | Method: RCT<br>Sample: 69 adults (58±7 years old, 61% women), overweight/obese and hypertension/high blood pressure, sedentary;<br>4 groups: control, aerobic, resistance, combination; each for 8 weeks, 3x/week, 60 minutes/session with equivalent training time<br>Variables: type of exercise, peripheral/central blood pressure, CRF, muscle strength, body composition, glucose/lipids;<br>Instruments: treadmill, sphygmomanometer, bioimpedance, strength test, pedometer | Only combination training (aerobic + resistance) resulted in a significant decrease in peripheral/central diastolic blood pressure (- 4 mmHg; $p<0.05$); Aerobic exercise improves cardiorespiratory fitness and reduces body weight/fat; resistance exercise increases muscle strength and reduces waist circumference; combination exercise improves CRF (+4.9 ml/kg/min), muscle strength (+4–11 kg), muscle mass (+0.8 kg), and reduces total CVD risk score; no significant changes in SBP and lipid/glucose |
| 2 | Effect of 10-week Isometric Handgrip Exercise at Home on Hemodynamic and Psychological Factors of Sedentary Hypertensive Women during COVID-19 | Design: RCT<br>Sample: 30 hypertensive women, aged 30–45 years, sedentary; 2 groups: intervention (10 weeks of isometric handgrip, 3x/week, 4x2 minutes @30%MVC, via video call) and control (no intervention) | Ten weeks of handgrip exercise reduced SBP by 6 mmHg, DBP by 2 mmHg, MAP by 2 mmHg, improved quality of life scores (PF, BP, RP, RE, GM, SF, VT, GH, PH, MH), and significantly reduced depression, anxiety, and stress scores on the |

| No | Research Title & Researcher | Research Method (Design, Sample, Variables, Instruments) | Research Results |
|---|---|---|---|
| | Iran-France,<br>(Shakoor *et al.*, 2025) | Variables: isometric exercise, blood pressure, quality of life, mental health<br>Instruments: digital handgrip, Omron sphygmomanometer, quality of life (SF-36), mental health (DASS-21) | DASS-21 compared to the control group ($p < 0.05$); recommended as a home-based intervention for hypertension and mental health during the pandemic |
| 3 | Promotion of Aerobic Exercise-Induced Angiogenesis Is Associated With a Decline in Blood Pressure in Hypertension: Results of the EXCAVATION-CHNI Study.<br>China,<br>(Liang *et al.*, 2021) | Design: Randomized Controlled Trial (RCT)<br>Sample: Male patients with mild essential hypertension<br>141 patients (initially 180, 164 randomized, 23 discontinued/lost during *follow-up*). AE (Aerobic Exercise) group: 75 patients. Control group: 66 patients.<br>Variables: Aerobic exercise (AE). Skin capillary density (SCD). Retinal capillary density (RCD). Retinal non-perfusion area (NPA). Blood pressure (SBP and DBP). Angiogenic capacity of endothelial progenitor cells (EPCs). Expression of NOTCH 1/Akt/eNOS signaling pathway.<br>Instruments: Clinical BP measurement and *Ambulatory Blood Pressure Monitoring* (ABPM).<br>Intravital Capillaroscopy, Optical Coherence Tomography Angiography (OCTA), Culture,<br>Real-Time PCR.<br>Analysis: Descriptive statistics (mean ± SD). *Student's t-test*, 2x2 ANOVA with *repeated* measures. | Retinal microcirculation and blood pressure control were maintained in subjects who continued AE after the protocol, but not in those who stopped. Aerobic exercise (AE) can lower blood pressure and reduce *microvascul cular rarefaction* (MVR) in hypertension. This effect is partly due to the restoration of the angiogenic capacity of endothelial progenitor cells (EPCs) through the NOTCH 1/Akt/eNOS signaling pathway.<br>This study provides new insights into the potential of AE as an effective non-pharmacological strategy for treating hypertension-related microvascular loss. |
| 4 | Effectiveness of Aerobic, Resistance, and Combined Training for Hypertensive Patients: A Randomized Controlled Trial,<br><br>Ethiopia,<br>(Alemayehu and Teferi, 2023) | Design: Randomized controlled trial (RCT)<br>Sample: 48 adult male patients (age 45.28 ± 7.44 years) with a *sedentary* lifestyle<br>Variables: Type of exercise intervention (aerobic, resistance, combined, or control), Blood Pressure, Body Weight (BW), Body Mass Index (BMI), Body Fat Percentage (% BF), Cardiorespiratory Fitness (CRF), Resting Heart Rate (RHR).<br>Instruments: BP and RHR measurement: Sphygmacor XCEL automatic (AtCor Medical, Itasca, IL, USA). CRF (VO2max) measurement: Queens College Step Test. BMI measurement: Standard scale (Height & Weight Scale ZT-160 – NSL). %BF measurement: Skinfold caliper. Food Frequency Questionnaire and 3-day diet record. Analysis: Shapiro-Wilk test for data normality. | All three exercise groups (aerobic, resistance, combination) showed significant improvements in BP, CRF, and BC ($p < 0.05$).<br>The control group did not show significant improvement ($p > 0.05$).<br>Compared to aerobic or resistance training alone, a 12-week combined exercise program may offer more comprehensive benefits for hypertensive patients.<br>Combined exercise was most effective in reducing blood pressure , improving body composition, and enhancing cardiorespiratory fitness.<br>However, all types of exercise (aerobic, resistance, and combined) showed improvements in the measured parameters. |
| 5 | Hypertension-focused exercise on blood pressure management among Indonesian patients<br>Indonesia,<br>(Rahayu, 2025) | Design: Quasi-experimental, single-group pretest-posttest<br>Sample: 44 hypertensive patients at At-Turots Al Islamy Hospital<br>Variables: hypertension exercise (independent), blood pressure | Hypertension exercise for 15-20 minutes, 3 times per week, for 2 weeks resulted in an average decrease of 15.49 mmHg (systolic) and 8.19 mmHg (diastolic), significant (Wilcoxon $p < 0.05$) |

| No | Research Title & Researcher | Research Method (Design, Sample, Variables, Instruments) | Research Results |
|---|---|---|---|
| | | (dependent);<br>Instruments: leaflet, video, observation, sphygmomanometer | |
| 6 | The Effect of the Brisk Walking Activity Therapy Method on Blood Pressure Reduction in Hypertensive Patients<br><br>Indonesia,<br>(Afrianti et al., 2025) | Design: Experimental, pretest-posttest with control group<br>Sample: total of 64 hypertensive patients (32 intervention, 32 control) Aceh Besar;<br>Variables: BRAT (brisk walking activity therapy), blood pressure;<br>Instrument: digital sphygmomanometer | The average blood pressure after BRAT in the intervention group (12x, 4 weeks, 30–60 minutes/exercise) decreased by 17.06 mmHg (systolic) and 14.37 mmHg (diastolic). P-value <0.05 |
| 7 | Pengaruh Latihan Jalan Cepat terhadap Penurunan Tekanan Darah Tinggi pada Pasien Hipertensi,<br><br>Indonesia,<br><br>(Anggraeni et al. 2025) | Design: Quasi-experimental, pretest-posttest control group<br>Sample: 28 hypertensive patients at Posbindu Gemaharjo (14 control, 14 intervention)<br>Variables: brisk walking, blood pressure<br>Instruments: Sphygmomanometer | The average blood pressure of the intervention group decreased from 162.07/107.7 to 133.07/94.9 mmHg. The decrease was statistically significant (p<0.05) |
| 8 | Perbedaan Efek antara Latihan Jalan Cepat dan Latihan Qigong terhadap Tekanan Darah pada Lansia dengan Hipertensi di Pusat Kesehatan Gajahan<br>Indonesia<br>(Refi Nabira *et al.*, 2025) | Design: Quasi-experimental, two-group pretest-posttest without control<br>Sample: 50 elderly hypertensive individuals in Gajahan, divided into 2 groups: brisk walking (n=25), qigong exercise (n=25); intervention conducted 7 times/2 weeks, each session lasting 30 minutes;<br>Variables: type of exercise, pre-post blood pressure<br>Instruments: observation, digital sphygmomanometer, video documentation | Both exercises resulted in a significant decrease in blood pressure. Brisk walking: average decrease in SBP from 142.76 to 129.76 mmHg and DBP from 78.4 to 72.56 mmHg (p=0.001; p=0.020). Qigong: average decrease in SBP from 137.6 to 130.12 mmHg and DBP from 76 to 70.64 mmHg (p=0.003; p=0.002). There was no difference in effectiveness between the two exercises (p>0.05); both were equally effective in lowering blood pressure in elderly hypertensive patients. |
| 9 | Hypertension Gymnastics in Kukin Village<br>(Alfian, 2023) | Research Design: Pre-experimental with a pre-post test approach (One-Group Pre-Post Test Design).<br>Population: Hypertensive patients in Kukin Village.<br>Sample: 40 people, using purposive sampling technique.<br>Variables: Systolic and diastolic blood pressure.<br>Instruments: Sphygmomanometer to measure blood pressure.<br>Data Analysis: Wilcoxon Signed Rank Test. | Before hypertension exercise, the average systolic blood pressure was 162.22 mmHg and diastolic blood pressure was 96.34 mmHg.<br>After hypertension exercise, the average systolic blood pressure was 143.04 mmHg and diastolic blood pressure was 82.02 mmHg.<br>The p-value was 0.001, indicating a significant effect of hypertension exercise on lowering blood pressure in hypertensive patients.<br>Conclusion: Hypertension exercise is effective as an intervention to lower blood pressure in hypertensive patients in Kukin Village. |
| 10 | Pengaruh Latihan Senam Hipertensi terhadap Penurunan Tekanan Darah di Masyarakat Desa Mekar Laras, Kabupaten Batubara, Provinsi Sumatera Utara<br><br>(Hasibuan *et al.*, 2024) | Design: Quantitative with a quasi-experimental design (pre-test and post-test).<br>Sample: Number: 51 people.<br>Technique: *Accidental sampling* (*non-probability sampling*).<br>Variables: Independent variable: Hypertension exercise. Dependent variable: Decrease in blood pressure | There is a significant effect of hypertension exercise on the reduction of systolic blood pressure (p-value = 0.000).<br>There is a significant effect of hypertension exercise on the reduction of diastolic blood pressure (p-value = 0.000).<br>Hypertension exercise has a |

| No | Research Title & Researcher | Research Method (Design, Sample, Variables, Instruments) | Research Results |
|---|---|---|---|
| | | (systolic and diastolic).<br>Instruments: Sphygmomanometer (to measure blood pressure). Observation sheet (to record data before and after measurement).<br>Analysis: T-Dependent analysis with a confidence level of 5% (p-value < 0.05 is considered significant). | significant effect on lowering blood pressure. Respondents who regularly participated in the hypertension exercise program showed a greater reduction in blood pressure compared to those who did not participate. |

## RESULT

**This review includes 10 studies on the intervention of Combined Brisk Walking and Handgrip** Exercise Hypertension Exercise on Blood Pressure Reduction between 2020-2025, which identified 4 main themes, namely:

1. Effectiveness of Combined Exercise and Single Exercise
   Most journals (Schroeder *et al.*, 2019; Alemayehu and Teferi, 2023) conclude that combination exercises (aerobic + resistance, such as brisk walking and handgrip exercises) are more effective at lowering blood pressure than single exercises. Combined exercise not only consistently lowers diastolic and systolic blood pressure but also improves cardiorespiratory fitness, body composition, and muscle strength, thereby providing a more comprehensive effect for hypertensive patients than aerobic or resistance exercise alone.
2. Physiological Mechanisms of Blood Pressure Reduction
   Journals from (Liang *et al.*, 2021; Shakoor *et al.*, 2025) and studies in Indonesia (Afrianti et al, 2025; Anggraeni et al, 2025) highlight the biological mechanisms underlying blood pressure reduction through physical exercise. Brisk walking enhances the angiogenic capacity of endothelial cells and microcirculatory function, while handgrip exercise reduces sympathetic nerve activity and improves vascular tone, resulting in optimal blood pressure reduction. Activation of the NOTCH 1/Akt/eNOS pathway and vascular adaptation are key factors.
3. The effectiveness of the Hypertension Exercise Program combined with adherence can maximizeblood pressure reduction.
   Research in Indonesia (Hasibuan *et al.*, 2024; Rahayu, 2025) shows that a hypertension exercise program combined with other physical exercises done regularly can increase patient motivation and compliance. The results show a greater reduction in blood pressure in participants who consistently participated in the activities and received education through videos, leaflets, or group supervision.
4. Psychosocial Effects: Mental Health and Quality of Life
   Studies (Shakoor *et al.*, 2025) and multi-intervention research in Indonesia report improvements in quality of life and mental health through physical exercise, especially a combination of handgrip and brisk walking. Decreases in depression and anxiety scores, as well as increases in patients' quality of life scores, support the benefits of exercise interventions not only on physical aspects (blood pressure) but also on the psychosocial aspects of hypertensive patients.

## DISCUSSION

This literature review shows that an intervention Review of 10 related research journals shows that a hypertension exercise intervention combining brisk walking and handgrip exercise has a more significant effect on lowering blood pressure than a single physical exercise. Brisk walking as a moderate-intensity aerobic exercise is effective in lowering systolic blood pressure through the mechanisms of increased cardiorespiratory capacity, vasodilation, and decreased sympathetic nerve activity (Yingxiang et al., 2021). Meanwhile, handgrip exercise, which is an isometric exercise, plays a role in lowering diastolic blood pressure by increasing vascular tone and

peripheral vasodilation through the production of nitric oxide (Brunners & Suddart, 2021; Lee and Gong, 2022).

Several studies examining the combination of these two exercises simultaneously report synergistic effects that accelerate and strengthen blood pressure reduction. (Pagonas et al., 2017; Ratna et al., 2024) show that integrating brisk walking and handgrip exercise lowers average blood pressure by 10-12 mmHg, which is far more optimal than single exercises that result in a reduction of 5-8 mmHg. Additionally, this combined exercise also improves overall cardiovascular function by increasing muscle strength, improving microcirculation, and reducing peripheral vascular resistance.

The interrelationship between journals confirms that the success of this combination exercise program depends not only on the type of exercise, but also on the frequency, duration, and patient compliance in consistently following the program. A study by Cahya Ramadhan et al. (2023) confirms that patient autonomy in selecting and performing combined hypertension exercises contributes to the long-term success of blood pressure control. This is supported by Dorothea Orem's concept of self-care, which emphasizes the importance of empowering individuals to perform self-care independently.

In addition to physiological effectiveness, this combination exercise is also recommended for its safety and ease of implementation. Combining hypertension exercises with brisk walking and handgrip exercises carries a low risk of injury and can be done flexibly at home without expensive special equipment (Indrayani et al., 2022). The dynamic and enjoyable variety of movements also enhances motivation and long-term adherence, which are key factors in the success of non-pharmacological hypertension management programs (Priscyllia Sa et al., 2024).

## CONCLUSION

This literature review provides evidence that the combination of hypertension exercises integrating brisk walking and handgrip exercises is a highly effective intervention in lowering blood pressure in hypertensive patients. Findings from various journals support each other in showing that combining these two types of exercise provides a more optimal synergistic effect than single exercise, with an overall reduction in blood pressure of 10-12 mmHg. This combination also increases patient motivation and compliance with the exercise program because the variety of movements and ease of implementation that can be done independently at home provide important added value.

From a practical standpoint, this intervention is excellent because it is accessible, low-cost, and safe with minimal risk of injury. This approach not only lowers blood pressure but also supports patient empowerment through self-care, making it widely applicable in primary care facilities such as community health centers. Thus, the combination of brisk walking and handgrip exercises for hypertension serves as an effective, holistic, and sustainable non-pharmacological strategy in hypertension management, significantly contributing to the reduction of cardiovascular disease burden in the community.

## REFERENCES

Afrianti, N., Dewiyuliana, D. and Kamal, A. (2025) ‘The Effect Of The Brisk Walking Activity Therapy Method On Blood Pressure Reduction In Hypertensive Patients’, Jurnal Kesehatan Manarang, 11(2), pp. 184–191. doi: 10.33490/jkm.v11i2.1679.

Alemayehu, A. and Teferi, G. (2023) ‘Effectiveness of Aerobic, Resistance… Effectiveness of Aerobic, Resistance, and Combined Training for Hypertensive Patients: A Randomized Controlled Trial’, Ethiop J Health Sci, 33(6), p. 1063. doi: 10.4314/ejhs.

Aliyah, N. et al. (2022) ‘Faktor faktor yang berhubungan dengan kepatuhan minum obat pasien Hipertensi :Systematic Review’, 7(5).

Anggraeni, S. and Trisnawati, S. N. (2025) 'The Effect Of Brisk Walking Exercise On Reducing High Blood Pressure In Hypertension Patients', Journal Of Health Science Community, 5(4), pp. 311–317. doi: 10.30994/jhsc.v5i4.270.

BRUNNERS AND SUDDART (2021) 'Brunner Suddart 2021'.

Cahya Ramadhan, S. Et Al. (2023) Self Care Nursing Kepatuhan Olahraga Pada Lansia Penderita Hipertensi, Journal| Watson Journal Of Nursing.

Dokter, P. Et Al. (2024) Indonesian Society Of Hypertension.

Hasibuan, R. Et Al. (2024) 'Pengaruh Senam Hipertensi Terhadap Penurunan Tekanan Darah Pada Masyarakat Di Desa Mekar Laras, Kabupaten Batubara, Provinsi Sumatera Utara'.

Indrayani, T. Et Al. (2022a) Pengaruh Senam Terhadap Tekanan Darah Pada Lansia Dengan Hipertensi. Available At: Http://Journal.Stikeskendal.Ac.Id/Index.Php/Keperawatan.

Indrayani, T. Et Al. (2022b) Pengaruh Senam Terhadap Tekanan Darah Pada Lansia Dengan Hipertensi. Available At: Http://Journal.Stikeskendal.Ac.Id/Index.Php/Keperawatan.

Kemenkes Ri (2021) 'Tata Laksana Hipertensi Dewasa Kemenkes'.

Lee, S. H. and Gong, H. S. (2022) 'Grip Strength Measurement for Outcome Assessment in Common Hand Surgeries', CiOS Clinics in Orthopedic Surgery, 14(1), pp. 1–12. doi: 10.4055/cios21090.

Liang, J. et al. (2021) 'Promotion of Aerobic Exercise Induced Angiogenesis Is Associated with Decline in Blood Pressure in Hypertension: Result of EXCAVATION-CHN1', Hypertension, 77(4), pp. 1141–1153. doi: 10.1161/HYPERTENSIONAHA.120.16107.

Pagonas, N. et al. (2017) 'Aerobic versus isometric handgrip exercise in hypertension: A randomized controlled trial', Journal of Hypertension, 35(11), pp. 2199–2206. doi: 10.1097/HJH.0000000000001445.

Perhimpunan Dokter Indonesia et al. (2024) Indonesian Society of Hypertension.

Priscyllia Sa, A., Restika, I. and Nani (2024) 'PENGARUH SELF MANAGEMENT DAN SEDENTARY LIFE STYLE TERHADAP TEKANAN DARAH PASIEN HIPERTENSI DI WILAYAH KERJA PUSKESMAS ANTANG KOTA MAKASSAR', JIMPK : Jurnal Ilmiah Mahasiswa & Penelitian Keperawatan, 4, p. 2024.

Rahayu, N. (2025) 'Hypertension-focused exercise on blood pressure management among Indonesian patients', Innovation in Health for Society, 5(2). doi: 10.31603/ihs.13341.

Ratna Sari, D. and Palupi, R. (2024) Pengaruh Latihan Fisik Brisk Walking Terhadap Tekanan Darah pada Penderita Hipertensi di Wilayah Kerja Puskesmas Punggur, Health Research Journal of Indonesia (HRJI).

Refi Nabira, H. et al. (2025) The Different Effect between Brisk Walking Exercise and Qigong Exercise on Blood Pressure of the Elderly with Hypertension in Gajahan Health Center. Available at: http://jkt.poltekkes-mataram.ac.id/index.php/home/index.

Riskesdas (2018) 'Laporan Riskesdas 2018 Nasional'.

Sarastuti, A. W. and Widyantoro, B. (2018) Latihan Fisik bagi Penderita Hipertensi.

Schroeder, E. C. et al. (2019) 'Comparative effectiveness of aerobic, resistance, and combined training on cardiovascular disease risk factors: A randomized controlled trial', PLoS ONE, 14(1). doi: 10.1371/journal.pone.0210292.

Shakoor, E. et al. (2025) 'Effect of 10-week Isometric handgrip exercise at home on hemodynamic and psychological factors of sedentary hypertensive women during COVID-19: A randomized controlled trial', Journal of Human Sport and Exercise , 20(1), pp. 22–38. doi: 10.55860/m1tqbv39.

Wahyudi, C. T. et al. (2022) 'Implementasi Senam Hipertensi pada Kelompok Dewasa Penderita Hipertensi', Jurnal Abdidas, 3(5), pp. 853–859. doi: 10.31004/abdidas.v3i5.676.

WHO (2023) Global report on hypertension The race against a silent killer.

WHO global report on traditional and complementary medicine 2019 (2019). World Health Organization.

Widya Astuti, L. and Hustinafiah, I. (no date) 'Pengaruh Senam Hipertensi Terhadap Tekanan Darah Penderita Hipertensi di Desa Kukin'. Available at: http://e-journallppmunsa.ac.id/index.php/jrktl.

Yingxiang, Y. U. et al. (2021) 'Dose-effect relationship between brisk walking and blood pressure in Chinese occupational population with sedentary lifestyles: Exercise and blood pressure', Journal of Clinical Hypertension, 23(9), pp. 1734–1743. doi: 10.1111/jch.14340.