STRADA Jurnal Ilmiah Kesehatan
DOI: 10.30994/sjik.v10i2.855
ISSN: 2252-3847 (print); 2614-350X (online) Vol.10 No.2 November 2021 Page. 1499-1508

Effect Of Complementary Therapy On Hypertension Patients: Systematic Review

Al. Ihksan Agus, Wa Ode Sri Asnaniar, Rizqy Iftitah Alam*, Haeril Amir
Ilmu Keperawatan, Universitas Muslim Indonesia
** Correspondent Author: rizqyiftitah.alam@umi.ac.id*

ABSTRACT
The research was conducted using the method literature review. The literature review examines various research reports published in journals with the same focus. jurnal studies related to complementary therapies in patients with hypertension, international journal using Pubmed database, derect Science, Wiley, and DOAJ. The keywords used are "Hypertension AND Complementary Therapy". After filtering according to the research criteria, 8 journals that are relevant and worthy of review are obtained.
The most effective use of therapy among the elderly is therapy using herbal medicine because herbal therapy is easy to reach and cheap and can even be obtained free of charge around the neighborhood. However, as it is known that hypertension is one of the diseases related to the circulatory system so that the elderly still need conventional therapy to assist in controlling blood pressure and exercise therapy or holistic therapy.

Keywords: Complementary Therapy, Hypertension, Systematic Review

Received September 15, 2021; Revised October 19, 2021; Accepted October 25, 2021

STRADA Jurnal Ilmiah Kesehatan, its website, and the articles published there in are licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

DOI: 10.30994/sjik.v10i2.855
ISSN: 2252-3847 (print); 2614-350X (online) Vol.10 No.2 November 2021 Page. 1499-1508

BACKGROUND

Hypertension or high blood pressure is a serious medical condition that significantly increases the risk of heart, brain, kidney, and other diseases. It is estimated that 1.28 billion adults aged 30-79 years worldwide suffer from hypertension. An estimated 46% of adults with hypertension are unaware that they have the condition. Less than half of adults (42%) with hypertension are diagnosed and treated. About 1 in 5 adults (21%) with hypertension can control it. Hypertension is the leading cause of premature death worldwide (WHO, 2021).

The high incidence of hypertension is followed by an increase in treatment seeking behavior in the community. However, in reality, not all people use modern health facilities, they prefer complementary therapies (Ervina & Ayubi, 2018). Complementary medicine refers to any medicine used in addition to conventional medical practice. Although conventional antihypertensive drugs are effective in treating hypertension, the side effects associated with these drugs often result in problems with adherence to medication prescribed. In comparison, some CM therapy is a milder form of treatment that can benefit patients without causing the severe side effects that come with conventional hypertension drugs (Trisnawati & Jenie, 2019).

Some complementary treatments that have been found to help lower blood pressure include traditional plants, acupuncture, acupressure, cupping, and others. Complementary therapies that exist are one of the treatment options in the community. People use complementary therapies for reasons of belief, finance, chemical drug reactions and cure rates. Complementary therapies will also be felt to be cheaper if clients with chronic diseases have to routinely pay for treatment (Aljawadi et al., 2020). The main focus in this literature review is to determine the effectiveness of several complementary therapies on blood pressure in patients with hypertension.

METHODS

The research was conducted using the method literature review. The literature review examines various reports research published in journals with the same focus.

Stages of Systematic Literature Review The following are some of the steps carried out in the Literature Review:

1. Problem identification. Problem identification is the process of identifying or inventorying problems. The research problem is something that is important among other processes, because it determines the quality of a research. During the problem formulation process, it helps identify the search terms or keywords used in the literature review

2. Searching the Literature (Searching Literature)

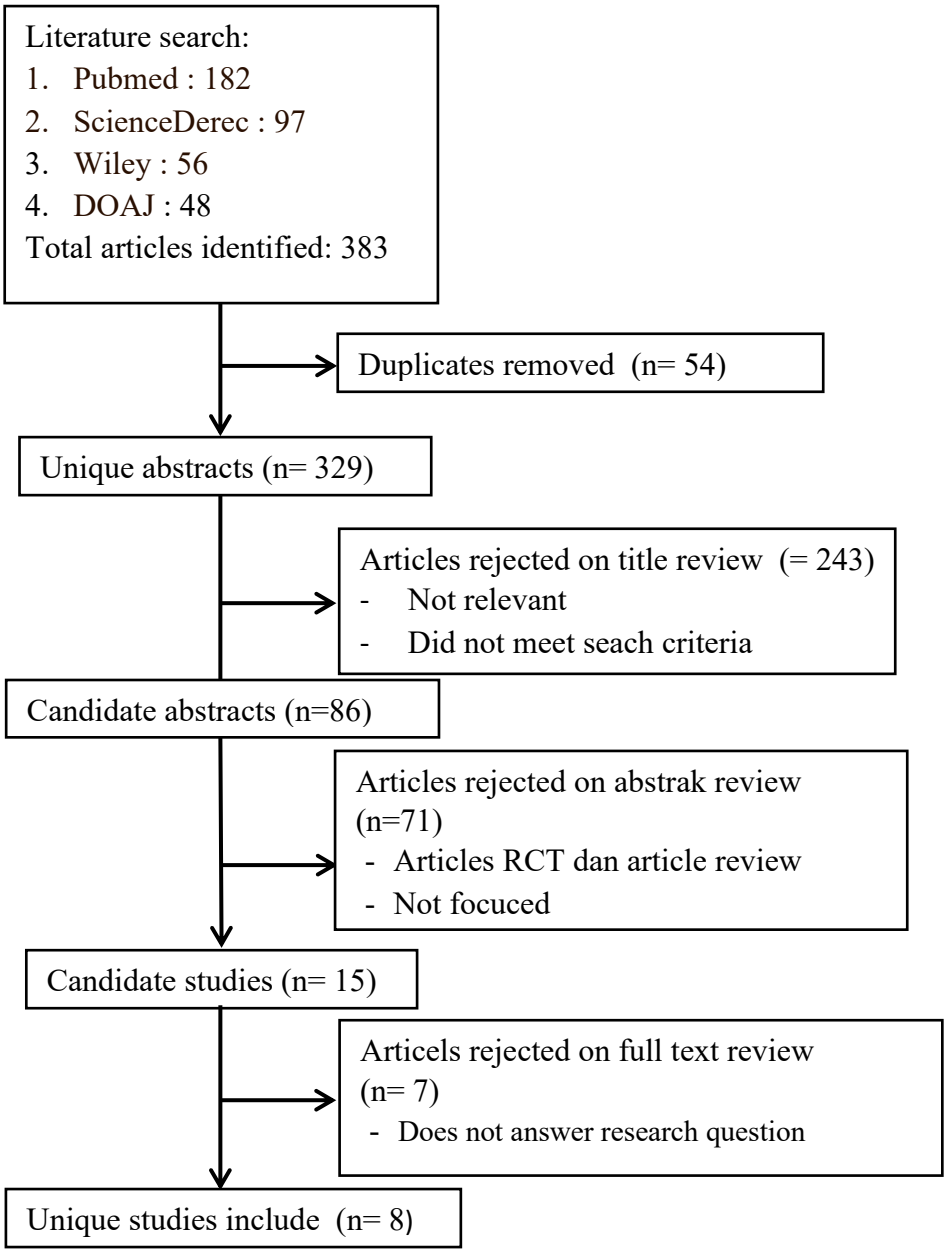
Searching literature, this step involves the formulation of search strategies, which includes inclusion, exclusion, keywords and report selection study. The inclusion criteria used in this study are the time span of the year the journal was published 2016- 2021, related research journal with complementary therapy in hypertension sufferers, international journal using the Pubmed database, Science Derek, Wiley, and DOAJ. Say The key used is “Hypertension AND Therapy Complementary".

3. Critical Appraisal (Critical Assessment)

The next step is assessment depth of study are chosen so that jurnal that do not meet the criteria inclusion or journals that entered the exclusion criteria were research journals with problem topics not related to complementary therapy in hypertension and reviews of review articles and RCTs.

DOI: 10.30994/sjik.v10i2.855
ISSN: 2252-3847 (print); 2614-350X (online) Vol.10 No.2 November 2021 Page. 1499-1508

4. Data Extraction (Extraction Data) Data extraction is the step where all relevant findings that meet the selection criteria collected to establish a body of evidence regarding research questions posed.
5. Data Synthesis (Synthesis of data)
Data synthesis is a step in the process review when studies that meet summarize inclusion criteria for form the results of a systematic review. The purpose of data synthesis is to collect study findings for all studies that meet the inclusion criteria; assess the strength of research findings by using the assessment criteria agreed; and to summarize the results in the literature review document systematic and evidence-based.



Data Processing and Analysis
The literature review contains the results Search articles sourced from Pubmed, Sciencedirec, Wiley and DOAJ. In the data base, Pubmed 182 articles were found, Science direct 97 articles, Wiley 56 articles and DOAJ 48. After a search, researchers found 621

DOI: 10.30994/sjik.v10i2.855
ISSN: 2252-3847 (print); 2614-350X (online) Vol.10 No.2 November 2021 Page. 1499-1508

articles identified. After that, the researcher removed from the literature that had similarities. This is because there are several researchers who publish journals in different places, but the research published is the same as many as 247 articles.
After the deletion of the same article, 329 collected that did not have anything in common with each other articles were. Then discard articles that are irrelevant and do not match the title criteria desired by researchers in conducting a review of 243 articles.
Then created the abstract candidate wanted by the researcher as many as 49 articles. Furthermore, the collected articles were re-deleted because the articles were included in the RCT method and review articles and did not focus on complementary diabetes therapy as many as 71 articles.
After that, there were researches that became candidates in the review which the researchers wanted as many as 15 articles. Then delete the article again which contains a full text review of 7 articles. After filtering according to the research criteria, 8 journals that are relevant and worthy of review are obtained.

RESULTS

NO.	Researcher, Year/Country	Research Design	Outcomes
1.	Mooventhan A, MD (Naturopathy)[1], Sneha Bharti, BNYS[2], Nivethitha L, PhD (Yoga)[3], Manjunath NK, PhD (Yoga)[4,]/ 2021/ India	Fifteen subjects hypertension with a mean ± standard deviation (SD) age 48.87 ± 11.17 years were recruited and underwent only one session of ice massage to the head and spine for 20 minutes. Blood pressure and heart rate variability were assessed before and immediately after the intervention.	The results of this study showed a significant decrease in systolic blood pressure (p = < .001) and heart rate (p = .012), and a significant increase in the RR interval (the interval between adjacent R waves in the electrocardiogram) (p = . 001) in the posttest assessment compared with the respective pre-test assessment. Ice massage for 20 minutes on the head and spine can reduce blood pressure and heart rate in hypertensive patients. However, there is no evidence that this has a clinically significant impact on patients.
2.	Paulo G. Anunciaçãoa, Paulo T. V. Farinattib, Karla F. Goesslerc , Juliano Casonattod , and Marcos D. Politoa/ 2016/ Brazil	Twenty-one older women (63±1.9 years; 69.9±2.7 kg; 158.8±2, 1 cm) with controlled hypertension (resting BP = 132.2 ± 3.1/74.1 ± 4.0 mmHg) did four sessions Aerobik olahraga (AE: jalan/lari treadmill; 40 menit; cadangan HR 50–60%) random on different days:	AE and A+R sessions showed significant reductions in SBP and DBP (30, 60, 120, and 180 min; P < 0.05) and increased HR (30 and 60 min; P < 0.05) compared to CON. RE session showed reductions significant compared with CON only for DBP (120 and 180 min; P < 0.05). No significant difference was observed in HRV between rest and all sessions.

DOI: 10.30994/sjik.v10i2.855
ISSN: 2252-3847 (print); 2614-350X (online) Vol.10 No.2 November 2021 Page. 1499-1508

		• Aerobic exercise (AE: street / ran treadmill; 40 min; 50-60% HR reserve) resistance exercise (RE: 8 exercises; 3 set; 15 reps; 40% 1RM)) • aerobic exercise followed by resistance training (A + R); • Control (KON). BP, HR and HRV were measured at rest and for 180 minutes after the session.	
3.	Raja Ram Dhungana, Zeljko Pedisic, Suira Joshi, Mahesh Kumar Khanal, Om Prakash Kalauni, Anu Shakya , Dinesh Neupane, Maximilian de Courten 2021 / Australia	study was conducted among hypertensive patients at seven Ayurvedic Health Centers in Nepal between March 2017 and June 2018. One hundred and twenty-one participants taking or without medication were randomized to intervention (n = 61) and a waiting list control group (n = 60) using nested block randomization. Participants in the intervention group received an intervention consisting of an initial five-day structured yoga training at the center and then further home-based yoga practice during the five days a week for the next 90 days. Both the intervention and control groups also participated in a 2-hour health education session.	primary outcome of the trial was systolic blood pressure at 90 days of follow-up. Data were analyzed based on intention to treat using a linear mixed effects regression model. Results: We included all 121 study participants (intervention/control = 61/60) in the primary analysis (52.1% male; mean ± SD age = 47.8 ± 10.8 years). The difference in systolic blood pressure between the intervention group and the control group was 7.66 mmHg (95% CI: 10.4, 4.93). For pressure diastolic blood, the difference was 3.86 mmHg (95% CI: 6.65, 1.06). No side effects were reported by the participants.
4.	Bok-Nam Seo, Ojin Kwon, Siwoo Lee, Ho-Seok Kim, Kyung-Won Kang, In Chan Seol , Chol Shin and	Participants were 122 postmenopausal women aged less than 65 years, diagnosed with prehypertension or stage	Acupuncture significantly reduced participants' diastolic blood pressure (−9.92 mmHg; $p < 0.001$) and systolic blood pressure (−10.34 mmHg; $p < 0.001$) from baseline to

DOI: 10.30994/sjik.v10i2.855
ISSN: 2252-3847 (print); 2614-350X (online) Vol.10 No.2 November 2021 Page. 1499-1508

	Sun-Mi Choi 2021/ Korea	1 hypertension (systolic blood pressure 120-159 mmHg or diastolic blood pressure 80-99 mmHg). We used a trend score matching design. The experimental group (n = 61) received acupuncture for four weeks every six months over a two-year period. The control group (n = 61) did not receive the intervention.	follow-up. The results show that acupuncture relieves hypertension in postmenopausal women, reduces the risk of developing cardiovascular disease and improves their health and quality of life.
5.	Fifit Eka Furi Astutika, Diah Fauzia Zuhroha, Moh. Rizqi Lazuardi Ramadhan/2020/Indonesia	Analytical, quasi-experimental, time series design. Calculation of sample size using the proportion of hypertension parameters of 22 people aged 60---70 years, with simple random sampling technique. The data were analyzed by using T-pair analysis. There is a decrease in systolic and diastolic blood in most respondents before and after consuming gotu kola tea.	blood pressure paired T test before and after consuming gotu kola tea showing a significant value of p = 0.000 in systolic and p = 0.002 in diastolic (, = 0.05), which means that in this study the results of H1 were accepted and H0 was rejected.
6	Mohamed Ibrahim Shaban, Nahid Fouad Ahmed EL-Gahsh, Abeer El-said Hassane El-sol/2017/Egypt	Experimental design with a sample of 120 people adults who visited the outpatient clinic were conducted. They were alternately divided into three equal groups of 40 patients in each group (two studies were divided into a group taking only ginger, a group taking ginger with prescription drugs and a control group). Tools: two tools used; Tool 1 is divided into: -Part one: to assess socio-demographic data;	Results: There was a significant difference statistically between the two study groups and the control group regarding systolic and diastolic blood pressure during one week and month post-intervention. There was a statistically significant difference in the clinical manifestations of blood pressure between the two study and control groups, after consuming ginger for one month; good prognosis occurred for both study groups; while the control group had signs and symptoms at pre-post. Conclusion: Based on previous studies and the results of the current study, researchers support ginger in the

DOI: 10.30994/sjik.v10i2.855
ISSN: 2252-3847 (print); 2614-350X (online) Vol.10 No.2 November 2021 Page. 1499-1508

		Part two: (A) Medical history and symptoms. (B) current symptoms of hypertension; and the third part: Knowledge of the patient about his illness; Tool two: Physiological measurement of blood pressure.	treatment of hypertension with antihypertensive drugs
7	Fatemeh Shirzad, Negar Morovatdar, Ramin Rezaee, Konstantinos Tsarouhas, Alireza Abdollahi Moghadam 2020 / Iran	double-blind randomized placebo-controlled trial was conducted between June and October 2019, in Mashhad, Iran. The study inclusion criteria consisted of diagnosing the metabolic profile of patients with stage 1 hypertension, based on 24-hour outpatient blood pressure monitoring. Subjects were randomly assigned to two groups: wood group The sweet (capsules, 1500 mg/day, 90 days) and the placebo group. On days 0 and 90, outpatient monitoring of blood pressure lowered systolic and diastolic blood pressure (SBP and DBP, respectively), blood lipid profile, and fasting blood sugar (GDP) were recorded.	two groups were not significantly different regarding vascular risk factors, educational status, lipid profile and blood pressure at baseline, except for lower HDL-c in the cinnamon group (p=0.03). At day 90, there was no significant difference between the two study groups for the lipid profile and blood pressure. Statistically significant reductions in mean 24-hour SBP and mean daytime SBP were observed in the cinnamon group, while mean evening SBP and mean evening DBP decreased significantly in the placebo group after 90 days. A statistically significant reduction in the mean change in day value of SBP was found in the cinnamon group, compared with placebo. On day 90, GDP was practically unchanged but a significant increase in HDL-c (5.8 units; p=0.01) and a significant decrease in LDL-c levels (17.7 units; p=0.009) were observed in the wood group. sweeter than the placebo
8	Mohamed Ibrahim Shaban, Nahid Fouad Ahmed EL-Gahsh, Abeer El-said Hassane El-so 2017/Egypt	A quasi-experimental design was used to achieve the research objectives. Location: The study was conducted in the outpatient medical polyclinic at Menoufia University Hospital. Subjects: A convenience sample of 120 adults visiting an outpatient	There was a statistically significant difference between the two study groups and the control group regarding systolic and diastolic blood pressure during one week and month post-intervention. There was a statistically significant difference in the clinical manifestations of blood pressure between the two study and control, after consuming ginger for one

DOI: 10.30994/sjik.v10i2.855
ISSN: 2252-3847 (print); 2614-350X (online) Vol.10 No.2 November 2021 Page. 1499-1508

		clinic was conducted. They were divided alternately into three. Groups the same group of 40 patients in each group (two studies were divided into the ginger-only group, the ginger-only group and the control group).	month; good prognosis occurred for both study groups; while the control group had signs and symptoms at pre-post.

DISCUSSION

Discussion of research results

This literature review was carried out through searching the results of research journal publications using the Pubmed, Sciencedirec,and Wiley DOAJ databases. Search results are limited to the 2016 to 2021 range and manually select relevant articles. The articles obtained that match the desired criteria are 8 articles. The eight articles are divided into 2 categories, namely 4 articles researching complementary therapy using holistic therapy and herbal therapy.

The effectiveness of complementary therapy in hypertension by using holistic therapy.

Based on the results of the expansion, 4 articles were obtained that discussed holistic therapy including ice massage therapy, aerobic exercise, yoga and acupuncture.

Ice massage for 20 minutes on the head and spine can reduce blood pressure and heart rate in hypertensive patients. However, there is no evidence that this has a clinically significant impact on patients. Participants were asked to lie on a massage table in the prone position. Ice (1°C–2°C) is put in an ice bag. Then, an ice pack was applied to head each participant's (3–5 seconds each on the crown, back, right and left sides) followed by the spine (3–5 seconds on the cervix, 6-10 seconds on the chest, and 3–5 seconds on the chest). Each 5 seconds in the lumbar and sacral) with constant displacement. The same procedure was repeated for a period of 20 min (Mooventhan et al., 2021).

The next therapy is aerobic exercise. The results showed that post-exercise hypotension (PEH) in hypertensive people depended on aerobic exercise, alone, or in combination with resistance exercise. From the study only investigated PEH from one exercise. Based on our results, we cannot predict chronic cardiovascular effects at rest. On the other hand, long-term exercise is recommended to lower resting blood pressure in hypertensive subjects (Anunciação et al., 2016).

A yoga program for hypertension patients which consists of five days of training at the public health center and 90 days of exercise at home is effective for lowering blood pressure. Significant benefits for hypertensive patients can be expected if the program will become part of standard medical practice. If yoga is to be used as an adjunct or primary initial lifestyle therapy to control hypertension in a clinical setting, primary care facility-based yoga training led by clinical staff could be a viable approach (Dhunana et al., 2018).

The next therapy is acupuncture therapy, acupuncture treatment has a beneficial effect in reducing the risk of hypertension in postmenopausal women and, by lowering BP, reducing the risk of developing cardiovascular disease. Hypertension is a major risk factor

DOI: 10.30994/sjik.v10i2.855
ISSN: 2252-3847 (print); 2614-350X (online) Vol.10 No.2 November 2021 Page. 1499-1508

for cardiovascular disease and is more common in postmenopausal women than in premenopausal women. In postmenopausal women, long-term acupuncture treatment is a useful treatment for high blood pressure and is effective in reducing the prevalence of high blood pressure (Seo et al., 2021).

The effectiveness of complementary therapy in hypertension by using herbal therapy.
Based on the results of the expansion, we got 4 articles discussing herbal therapy including soursop leaves, gotu kola therapy, cinnamon therapy and ginger therapy. Research shows that the aqueous extract of Annona muricata and its combination products have hypotensive and antihypertensive properties, with the product combination causing synergism in administration. The combination is safe for use in hypertension, so it has promising therapeutic advantages for the prevention and treatment of hypertension (Sokpe et al., 2020).
The next therapy is the gotu kola therapy which can reduce hypertension blood pressure. The gotu kola contains ACE (Angiotensin Converting Enzyme) and a diuretic so that this plant can lower blood pressure. Dried gotu kola made into a tea can generally be used in a dose of 1 to 2 teaspoons (5-10 g) with about 2/3 cup (250 ml) of boiling. water and let it boil for 10-15 minutes is usually recommended 3 times a day (Astutik et al., 2021).
Cinnamon caused a statistically significant reduction in mean outpatient SBP but was clinically moderate, and lipid profile significantly improved. Therefore, cinnamon can be considered as a complementary treatment of hypertension. In addition, sweet potatoes are able to regulate glucose levels (Shirzad et al., 2021).
The next therapy is the effectiveness of ginger to reduce blood pressure. The study showed that pre-intervention was higher than normal but measurements after one week after consuming ginger showed that ginger had a strong positive effect in lowering blood pressure. Researchers explain that ginger has biological medicinal properties associated with lowering blood pressure. Ginger has a strong effect in reducing smooth muscle contraction causing extra relaxation of arterial walls allowing blood to flow more freely, lowering pressure and improving patient complaints (Shaban et al., 2017).

CONCLUSION

The most effective use of therapy among the elderly is therapy using herbal medicine because herbal therapy is easy to reach and cheap and can even be obtained free of charge around the neighborhood. However, as it is known that hypertension is one of the diseases related to the circulatory system so that the elderly still need conventional therapy to assist in controlling blood pressure and exercise therapy or holistic therapy.

REFERENCES

Aljawadi, M. H., Khoja, A. T., Alotaibi, A. D., Alharbi, K. T., Alodayni, M. A., Almetwazi, M. S., Arafah, A., Al-Shammari, S. A., & Khoja, T. A. (2020). The Utilization of Complementary and Alternative Medicine among Saudi Older Adults: A Population-Based Study. *Evidence-Based Complementary and Alternative Medicine*, *2020*. https://doi.org/10.1155/2020/4357194

Anunciação, P. G., Farinatti, P. T. V., Goessler, K. F., Casonatto, J., & Polito, M. D. (2016). Blood pressure and autonomic responses following isolated and combined aerobic and resistance exercise in hypertensive older women. *Clinical and Experimental Hypertension*, *38*(8), 710–714. https://doi.org/10.1080/10641963.2016.1200601

DOI: 10.30994/sjik.v10i2.855
ISSN: 2252-3847 (print); 2614-350X (online) Vol.10 No.2 November 2021 Page. 1499-1508

Astutik, F. E. F., Fauzia Zuhroh, D., & Rizqi Lazuardi Ramadhan, M. (2021). The effect of gotu kola (Centella asiatica L.) tea on blood pressure of hypertension. *Enfermeria Clinica*, *31*, S195–S198. https://doi.org/10.1016/j.enfcli.2020.12.021

Dhungana, R. R., Khanal, M. K., Joshi, S., Kalauni, O. P., Shakya, A., Bhrutel, V., Panthi, S., Ramesh Kumar, K. C., Ghimire, B., Pandey, A. R., Bista, B., Sapkota, B., Khatiwoda, S. R., McLachlan, C. S., & Neupane, D. (2018). Impact of a structured yoga program on blood pressure reduction among hypertensive patients: Study protocol for a pragmatic randomized multicenter trial in primary health care settings in Nepal. *BMC Complementary and Alternative Medicine*, *18*(1), 1–8. https://doi.org/10.1186/s12906-018-2275-9

Ervina, L., & Ayubi, D. (2018). Peran Kepercayaan Terhadap Penggunaan Pengobatan Tradisional Pada Penderita Hipertensi Di Kota Bengkulu. *Perilaku Dan Promosi Kesehatan: Indonesian Journal of Health Promotion and Behavior*, *1*(1), 1. https://doi.org/10.47034/ppk.v1i1.2101

Mooventhan, A., Bharati, S., Nivethitha, L., & Manjunath, N. K. (2021). Effect of ice massage to head and spine on blood pressure and heart rate variability in patients with hypertension: A pilot study. *International Journal of Therapeutic Massage and Bodywork: Research, Education, and Practice*, *14*(3), 22–26. https://doi.org/10.3822/IJTMB.V14I3.573

Seo, B. N., Kwon, O., Lee, S., Kim, H. S., Kang, K. W., Seol, I. C., Shin, C., & Choi, S. M. (2021). Effects of acupuncture on lowering blood pressure in postmenopausal women with prehypertension or stage 1 hypertension: A propensity score-matched analysis. *Journal of Clinical Medicine*, *10*(7), 1–11. https://doi.org/10.3390/jcm10071426

Shaban, M. I., EL-Gahsh, N. F. A., & El-sol, A. E. H. (2017). Ginger: It's Effect on Blood Pressure among Hypertensive Patients. *Journal of Nursing and Health Science*, *6*(5), 79–86. https://doi.org/10.9790/1959-0605037986

Shirzad, F., Morovatdar, N., Rezaee, R., Tsarouhas, K., & Moghadam, A. A. (2021). Cinnamon effects on blood pressure and metabolic profile: A double-blind, randomized, placebo-controlled trial in patients with stage 1 hypertension. *Avicenna Journal of Phytomedicine*, *11*(1), 91–100. https://doi.org/10.22038/AJP.2020.16138

Sokpe, A., Mensah, M. L. K., Koffuor, G. A., Thomford, K. P., Arthur, R., Jibira, Y., Baah, M. K., Adedi, B., & Agbemenyah, H. Y. (2020). Hypotensive and Antihypertensive Properties and Safety for Use of Annona muricata and Persea americana and Their Combination Products. *Evidence-Based Complementary and Alternative Medicine*, *2020*. https://doi.org/10.1155/2020/8833828

Trisnawati, E., & Jenie, I. M. (2019). Terapi Komplementer Terhadap Tekanan Darah Pada Penderita Hipertensi: A Literatur Review. *Jurnal Keperawatan Respati Yogyakarta*, *6*(3), 641. https://doi.org/10.35842/jkry.v6i3.370

WHO. (2021). *Hypertension*. World Health Organization. https://www.who.int/news-room/fact-sheets/detail/hypertension