

A systematic study of alternative remedies for Hypertension

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ABSTRACT: Objectives: The goal of this systematic review is to evaluate the evidence supporting non-pharmacological tactics for improving the management of blood pressure (BP) in Asian people with hypertension.

Design and Methods: We conducted a literature review and searched Medline, Central, CINAHL, and research registrations until June 2020 for randomized studies on therapies to lower blood pressure of patients with hypertension in Asian nations. We evaluated the study quality using the Cochrane risk of bias method (Rob2) and narratively synthesized papers on non-pharmacological hypertension treatments. First, we identify the records using Embase and PubMed, then in the second stage, (figure- 1 PRISMA Flow Chart) we clean and avoid the duplicate data from the list, finally, we check the eligibility of the data records, the total eligible review was sixty (60) with ten (10) data excluded from the list, resulting in a selective review of fifty (50) for this study.

Setting: We included studies done in Asian countries.

Participants: Participants were adult Asian individuals with hypertension.

Interventions: Research on non-pharmacological therapies that attempt to enhance blood pressure regulation and treatment adherence.

Outcomes: Main outcomes of this review were Blood pressure and treatment adherence.

KEYWORDS: Blood pressure; Hypertension; Lifestyle factor; non-pharmacological interventions.

Conflict of interest: The authors declared no conflicts of interest.

Results: Hypertension is a significant risk factor for a variety of cardiovascular diseases. Pharmacological and non-pharmacological therapy may be required

to effectively manage hypertension. Non-pharmacological approaches help to reduce the dosage of antihypertensive drugs, thereby preventing hypertension from developing from a prehypertensive state. Non-pharmacological therapies include lifestyle changes such as dietary changes, increased physical activity, managing stress, and decreased drinking. People with high blood pressure can achieve their nutritional needs by following either the DASH diet or the traditional Mediterranean diet. These dietary guidelines encourage the consumption of fruits, vegetables, grains, dairy products, and foods high in phosphorus, magnesium, calcium, and potassium. Reduce sodium intake is the most important element in lowering blood pressure.

The effect of the DASH diet alone is comparable to that of a single drug regimen. Following dietary changes, the second most effective technique for controlling hypertension is exercise and weight loss. Reducing worry, despair, and stressful lifestyle choices all help to control high blood pressure. Reducing alcohol consumption also lowers blood pressure. However, modifying one's lifestyle is a dynamic process that requires consistent adherence. It is a multifaceted strategy that tries to address numerous interventions. However, those with stage 1 hypertension who do not receive non-pharmacological treatment. People may be able to naturally lower their blood pressure by making dietary and lifestyle changes that eliminate the need for antihypertensive medications or allow them to be taken at lower doses. Making dietary modifications can have a significant impact on hypertension management, potentially eliminating the need for antihypertensive medicines. Dietary changes can help in the following ways:

I. INTRODUCTION

hypertension (HTN) is expected to afflict one-third of the global population by the year 2025 (Kodela et al., 2023). The global goal for noncommunicable diseases includes a 33% reduction in the prevalence of hypertension by 2030 and of individuals with hypertension, 46% are said to be ignorant that they have the illness.(WHO). According to the American College of Cardiology and the American Heart Association, HTN is an elevated blood pressure (BP) reading of 130/80 mm Hg or higher.(Kodela et al., 2023) Hypertension, a key risk factor for cardiovascular diseases, necessitates both drug and non-drug interventions. Non-drug methods, including dietary changes and exercise, can lower antihypertensive medication doses and delay hypertension onset. These interventions advocate DASH or Mediterranean diets, emphasizing potassium, magnesium, calcium, and phosphorus-rich foods. Sodium restriction is pivotal in blood pressure reduction, with DASH diet efficacy comparable to single-drug therapy. Lifestyle changes, including stress reduction and alcohol moderation, complement medication. A 6-12 month trial of lifestyle modifications alone may suffice for stage-1 hypertensive patients without cardiovascular complications, aiming to obviate medication (Mahmood et al., 2018)

Minimizing Sodium Intake: There is a clear correlation among high blood pressure and high sodium intake. decreased sodium intake from processed foods and salt can help decrease blood pressure. For the majority of adults, a daily salt intake of less than 2,300 mg is advised, ideally closer to 1,500 mg.

Increasing Potassium Intake: Potassium counteracts the negative effects of sodium to assist manage blood pressure. Avocados, potatoes, bananas, oranges, spinach, and potatoes are foods high in potassium.

Adherence to a Balanced diet: The DASH diet, which places a restriction on sodium, sugars, and red meats, places an emphasis on fruits, vegetables, whole grains, lean proteins, and low-fat dairy. Research has indicated that adhering to the diet known as DASH can result in notable decreases in blood pressure in hypertension patients.

Avoiding Alcohol: Consuming too much alcohol can cause blood pressure to rise. It's important to practice moderation; for most adults, this entails no more than one drink for women and two for men per day.

Maintaining a Healthy Weight: Being obese or overweight increases cardiac strain and raises blood pressure. It is frequently possible to lose weight and improve blood pressure by following a balanced diet and regular exercise.

Cutting Back on Caffeine: Although there is conflicting research, some individuals are more susceptible to the negative effects of caffeine than others. Blood pressure control may be aided by monitoring the intake of caffeine, particularly from sources like coffee and energy drinks.

Increasing Physical Activity: Exercise on a regular basis can help lower blood pressure and is essential for cardiovascular health in general. People can try to get in at least 150 minutes a week of moderate-to-intense aerobic exercise, like brisk walking.

Managing Stress: prolonged tension raises blood pressure. Reduced stress methods include deep breathing techniques, yoga, meditation, and spending time exploring interests or hobbies and avoiding Smoking.

According to the American College of Cardiology and the American Heart Association, BP is divided into four general categories: Normal BP 120/80 mm Hg or lower Elevated BP Systolic from 120 to 129 mm Hg and diastolic below, not above, 80 mm Hg Stage 1 HTN Systolic from 130 to 139 mm Hg or diastolic between 80- and 89-mm Hg Stage 2 HTN Systolic 140 mm Hg or higher or diastolic 90 mm Hg or higher.(Kodela et al., 2023)

[4].**Search Strategy:** Potassium and Magnesium Supplementation, Alcohol Intake, Low Salt Diet, and Exercise were the search terms used for the literature. We carefully examined the study titles, abstracts, protocols, and contents using our inclusion and exclusion criteria. Any disagreement about the choice of study was settled by consensus. Microsoft Exce2 was used to generate the data extraction sheet and extract the data. All studies that did not provide consistent data were excluded. Additionally excluded were research that were published in languages other than English. As this is a narrative review, no ethical approval was necessary.

A first line of treatment in the prehypertensive stage and in conjunction with pharmaceutical treatments in all other stages of hypertension. Even with all the encouraging research on the advantages of dietary changes, medical professionals are still unsure on the best dietary strategy to suggest. People who follow a vegetarian diet have been shown to have a lower risk of developing hypertension and other cardiovascular problems.

[5]. **Diet:** on summarize, dietary modifications play a significant role in managing blood pressure (BP). Recommendations include increasing consumption of whole grains, vegetables, fruits, low-fat dairy, poultry, fish, legumes, vegetable oils, and nuts while reducing intake of sweets, sugar-sweetened beverages, and red meat. The Dietary Approaches to Stop Hypertension (DASH) diet, emphasizing fruits and vegetables while limiting dairy, saturated fats, and sweets, has shown BP-lowering effects. Studies like EPIC and SUN suggest associations between certain dietary patterns (such as Mediterranean diet) and lower BP. Long-term adherence to DASH and Mediterranean diets has shown beneficial impacts on BP control and cardiovascular health, although permanent lifestyle modifications are necessary for sustained effects. (Mahmood et al., 2018)

Self-measure BP monitoring: A review of 52 trials by the Agency for Healthcare Research and Quality found that home blood pressure (BP) monitoring, with or without additional support (such as education, counseling, telemedicine, home visits, or web-based logging), lowers BP compared to usual care. Home monitoring resulted in a mean systolic BP (SBP) reduction of 3.9 mm Hg at six months. When combined with additional support, the reduction in SBP ranged from 2.1 to 8.3 mm Hg and remained significant at 12 months. However, the long-term benefits beyond 12 months are still uncertain, and better-structured studies are needed. Most guidelines recommend home BP monitoring for better control and improved adherence to drug treatment, especially in cases of white coat and masked hypertension (Mahmood et al., 2018)

Figure-1

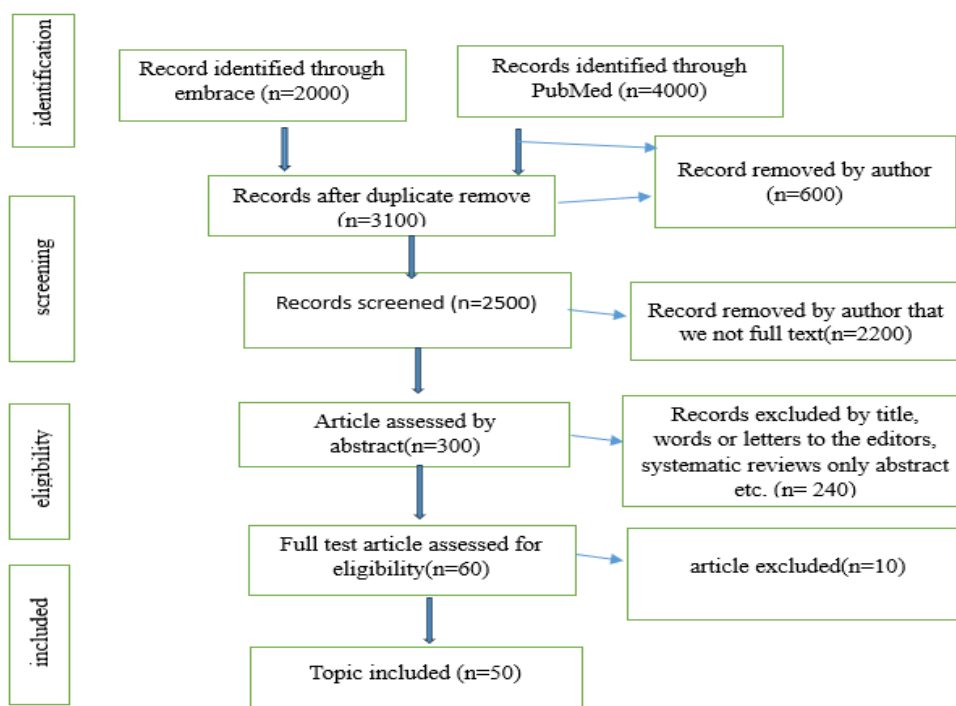


Diagram: Preferred reporting item for Systematic Review and Meta Analysis (PRISMA), such as a flowchart for non-pharmacological therapy of Hypertension.

Strengths and limitations:

We included global guidelines, guidelines from Asian and Middle Eastern countries, and guidelines from Western and developed continents, accounting for the diversity of lifestyles, habits, and ethnicity-related variances in cardiovascular risk.

The clinical validity of the recommendations was not evaluated since it was outside the purview of this evaluation and was not currently covered by the AGREE II instrument, even though we evaluated the process of developing guidelines. To prevent duplication with existing publications in this field, we concentrated on lifestyle modifications and recommendations rather than medication. (Cernota et al., 2022)

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CONCLUSIONS:

The relevance of non-pharmacological elements, such as lifestyle counselling and interventions, in the management of hypertension is acknowledged by current guidelines. The general view was that a number of parameters, including dietary patterns, physical activity levels, smoking cessation, and salt restriction, should be included in public health assessments and managed as essential. There are currently few recommendations on psychological aspects, the effect of dietary supplements, sleep, sex differences, and environmental factors. More research may be necessary to enable the guidelines to make recommendations that are clearer.

Supplementary materials: Supplementary material is available at European Journal of Preventive Cardiology online.

Data Availability: The data behind the study may be accessed both in the paper and in the online

supplemental information. Any further information will be provided to the author in question upon proper request.

Review: having elevated blood pressure can cause consequences including coronary artery diseases, congestive heart failure, end stage of renal diseases, and stroke. The risk of cardiovascular events doubles when systolic blood pressure is above normal. Hypertension (HTN) is a prevalent Condition with over 86 million adults in the United States. Lifestyle interventions such as weight loss, exercise, diet, reducing alcohol and smoking, and managing stress, have gained importance in treating and preventing HTN, taking into account cost, effectiveness, and potential side effects of antihypertensive medications.

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