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Clinical Research and Studies

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Review Article

Lifestyle Modification and Hypertension

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Received date: December 30, 2024; Accepted date: January 06, 2025; Published date: January 13, 2025

Citation: Salsabil A. Altumi, Najwa S. Eldawi, Emad M. Khalefa, and Ebtesam A. Beshna., (2025), Lifestyle Modification and Hypertension, *Clinical Research and Studies*, 4(1); **DOI:10.31579/2835-2882/073**

Abstract

The development and progression of chronic heart failure and chronic kidney failure are significantly influenced by hypertension, which is also a significant risk factor for stroke and coronary heart disease. The aim of the study is to assess the lifestyle modification to hypertension disease. Summary: guidelines for the management of hypertension, changing one's lifestyle is a crucial and successful first line of treatment. Aside from the notable reduction in blood pressure brought about by dietary modifications, moderate alcohol use, weight loss, and consistent exercise, lifestyle modifications (such as quitting smoking) also have important positive effects on cardiovascular health.

Keywords: advice and confirmed lifestyle modification; hypertension

Introduction

In terms of morbidity and death, cardiovascular diseases (CVDs) are a major burden on industrialized nations. A growing burden of CVD has been observed in many emerging nations over the last 20 years. Thus, CVD is regarded as a major global source of illness, mortality, and disability [1,2]. A good non-pharmacologic way to reduce blood pressure is to follow the Dietary Approaches to Stop Hypertension (DASH) eating pattern [4]. For the treatment of patients with blood pressure that is higher than normal, the DASH eating pattern is advised, as it is supported by many national guidelines [3]. Pre-hypertensive (120–139 mmHg systolic; 80–89 mmHg diastolic) and stage-1 hypertensive (140–159 mmHg systolic; 90–99 mmHg diastolic) account for the majority of the rising prevalence of hypertension-related events. Uncontrolled blood pressure is thought to be the cause of 62,000 unnecessary deaths in the UK each year, with Asian immigrant populations being particularly affected by the illness [4]. The objective of study is to assess the lifestyle modification to hypertension disease.

Advice for lifestyle modification in the guidelines:

The National Institute for Health and Clinical Excellence's (NICE) clinical guideline on hypertension helpfully suggests regular aerobic exercise, cutting back on alcohol, salt, and tobacco, and promoting "healthy, low-calorie diets" for "overweight individuals with raised blood pressure." However, it makes a rather unfavorable remark about its "modest effect" and the unexplained variability of effect in trials [5]. To maintain energy and body weight homeostasis, a highly integrated gut-to-brain neuroendocrine system regulates appetite and body weight by monitoring both short-term and long-term changes in energy intake and expenditure. The main reason this technique developed was to protect against food shortages. Survival depends on the ability to store extra energy as body fat. So is the body's ability to lower its resting metabolic rate the energy needed to sustain fundamental biological processes like body temperature and its energy expenditure during physical activity the energy needed to get food by 20% or more during times of food scarcity [6].

Confirmed lifestyle modifications:

The DASH diet emphasizes fruits, vegetables, whole grains, fish, poultry, and low-fat dairy products while limiting total and saturated fat, red meat, sweets, sugary drinks, and refined carbohydrates. The DASH diet is linked to a decreased incidence of heart failure, all-cause mortality, and stroke and has been shown to reduce weight, heart rate, risk of type 2 diabetes, C-reactive protein, Apo lipoprotein B, and homocysteine [7]. Blood pressure, cardiovascular events, and mortality would all drop if dietary sodium intake were reduced by reducing the amount of sodium in processed foods and by not salting food. One of the easiest and most economical methods to enhance public health is to implement a nationwide salt reduction program [8].

Aerobic exercise lowered blood pressure by 3.84/2.58 mm Hg, according to a meta-analysis of 54 randomised controlled studies involving 2419 participants. Blood pressure was lowered by aerobic activity in both those with and without hypertension, as well as in those who were overweight and those who were normal weight [9]. Reducing alcohol consumption decreased blood pressure by 3.31/2.04 mm Hg, according to a meta-analysis of 15 randomized controlled studies involving 2234 participants. Reducing alcohol intake is advised for the prevention and management of high blood pressure [10].

Increasing the possibility of being successful:

Clear written and verbal explanations, an opportunity for the patient or their carer to ask questions and discuss potential issues, frequent monitoring and follow-up, and a support group to promote compliance are all widely acknowledged to have the highest percentage of success when it comes to diet and behavioral modification. Clearly, a referral to a nutritionist, dietician, or skilled nurse would be helpful [11]. All of the medical community's efforts, especially the introduction of precise guidelines, are justified by the need to lessen the severe detrimental effects of hypertension. The latter provide doctors with information about blood pressure, suggest

ideal blood pressure values that are also linked to comorbidities, and suggest how to properly treat hypertension and associated cardiovascular risk. The 2017 American College of Cardiology (ACC)/American Heart Association (AHA) guidelines are quite strict and suggest that the ideal blood pressure is less than 120–80 mmHg. These recommendations define stage 1 hypertension as having a systolic blood pressure of 130–139 or a diastolic blood pressure of 80–89 mm Hg [12].

The protection of changing the lifestyle:

The implementation of quality improvement programs has been validated as a viable strategy to address the issue of improper blood pressure management in the hypertensive population, as well as to lessen the burden of cardiovascular illnesses and associated medical expenses. Additional actions must be required in order to get over the present obstacles and accomplish the ultimate objective.

According to guidelines for the management of hypertension, changing one's lifestyle is a crucial and successful first line of treatment. Aside from the notable reduction in blood pressure brought about by dietary modifications, moderate alcohol use, weight loss, and consistent exercise, lifestyle modifications (such as quitting smoking) also have important positive effects on cardiovascular health. All patients who need to lower their blood pressure should receive guidance and assistance to establish and maintain healthy habits, regardless of additional therapies that may be recommended.

References:

1. WORLD HEALTH ORGANIZATION. The world health report 2002: reducing risks, promoting healthy life. World Health Organization, 2002.
2. STAMLER, Jeremiah; STAMLER, Rose; NEATON, James D. (1993). Blood pressure, systolic and diastolic, and cardiovascular risks: US population data. Archives of internal medicine, 153.5: 598-615.
3. CHOBANIAN, Aram V., et al. (2003).The seventh report of the joint national committee on prevention, detection, evaluation, and treatment of high blood pressure: the JNC 7 report. Jama, 289.19: 2560-2571.
4. NICOLL, Rachel; HENEIN, Michael Y. (2020). Hypertension and lifestyle modification: how useful are the guidelines? British journal of general practice, 60.581: 879-880.
5. NATIONAL COLLABORATING CENTRE FOR CHRONIC CONDITIONS (GREAT BRITAIN). Hypertension: management in adults in primary care: pharmacological update.
6. NICOLL, Rachel; HENEIN, Michael Y. (2010). Hypertension and lifestyle modification: how useful are the guidelines?. *British journal of general practice*, 60.581: 879-880.
7. CHEN, Steven T.; MARUTHUR, Nisa M.; APPEL, Lawrence J. (2010). The effect of dietary patterns on estimated coronary heart disease risk: results from the Dietary Approaches to Stop Hypertension (DASH) trial. Circulation: Cardiovascular Quality and Outcomes, 3.5: 484-489.
8. ARONOW, Wilbert. (2017). Lifestyle measures for treating hypertension. Archives of Medical Science, 13.5: 1241-1243.
9. WHELTON, Seamus P., et al. (2002). Effect of aerobic exercise on blood pressure: a meta-analysis of randomized, controlled trials. Annals of internal medicine, 136.7: 493-503.
10. XIN, Xue, et al. (2001). Effects of alcohol reduction on blood pressure: a meta-analysis of randomized controlled trials. Hypertension, 38.5: 1112-1117.
11. GRIFFITHS, Peter, et al. (2010). Nurse staffing and quality of care in UK general practice: cross-sectional study using routinely collected data. British Journal of General Practice, 60.570: e36-e48.
12. WHELTON, Paul K., et al. (2018). ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA guideline for the prevention, detection, evaluation, and management of high blood pressure in adults: a report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Journal of the American College of Cardiology*, 71.19: e127-e248.