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Review Article

Management of Hypertension with Lifestyle

Zainab B. Abdulazez, Ibrahim B. Karim, Najia AL. Mahdawi*

Department of Medicine. Faculty of Medicine. University of Gharyan, Libya

***Corresponding Author:** Najia AL. Mahdawi, Department of Medicine. Faculty of Medicine. University of Gharyan, Libya.

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Abstract

The most important modifiable risk factor for global all-cause morbidity and mortality is hypertension. One significant independent risk factor for cardiovascular disease is smoking. Since high blood pressure in all its range is a major contributor to cardiovascular disease, cutting back on salt would reduce cardiovascular risk if it also dropped blood pressure. The International Society of Hypertension advises changing lifestyle factors like smoking, eating habits, body weight, exercise, and alcohol intake in order to manage hypertension. Numerous factors affect blood pressure, including age, sex, physical activity, race, food, smoking, alcohol consumption, and many more. Each of these factors has a specific function in regulating blood pressure. On a public health level, even a slight drop in blood pressure can have significant advantages. The use of lifestyle changes to lower blood pressure is supported by current research

Keywords: hypertension; risk factors; and recommendation

Introduction

Despite having a strong correlation with severe morbidities and high mortality, primarily from cardiovascular illnesses, hypertension is typically not taken seriously by patients due to its chronic and silent character, which results in inadequate control. Patients may not always be aware that they have the illness because of its silent nature [1]. Cardiovascular diseases (CVDs) represent a significant burden on developed countries in terms of morbidity and mortality. Over the past 20 years, there has been an increase in the prevalence of CVD in several developing countries. As a result, CVD is recognised as a leading cause of disease, death, and disability worldwide [2]. When three distinct visits' worth of readings are averaged and the systolic blood pressure (SBP) is equal to or greater than 160 mm Hg, or the diastolic blood pressure (DBP) is equal to or larger than 100 mm Hg, manual office blood pressure (BP) measurement can be used to diagnose hypertension. When the average of five visits' readings shows that the SBP is 140 mm Hg or higher, or the DBP is 90 mm Hg or higher, hypertension can also be diagnosed [3].

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 smoking, and advocating "healthy, low-calorie diets" for "overweight individuals with raised blood pressure." However, it makes a rather unfavourable remark regarding its "modest effect" and the unexplained variability of effect in trials [4]. Researchers found that the lifetime risk of hypertension for male and female patients in the Framingham Heart Study who were normotensive at age 55 or 65 and who lived to be 80 or 85 years old, respectively, was almost 90% [5]. Therefore, everyone is at danger, and it is impossible to forecast who won't get hypertension as they get older. Nonetheless, there are some significant contributing causes to critical hypertension. These include a lack of physical activity, obesity, and higher daily intakes of alcohol, fat, and sodium. There have also been suggestions of eating insufficient amounts of full grain foods like fruits and vegetables. Getting people to change their lifestyles is arguably one of the most challenging parts of controlling hypertension [5].

Strategies that work well for encouraging lifestyle modifications in people with hypertension receiving primary care:

1.Smoking:

One significant independent risk factor for cardiovascular disease is smoking. One of the best lifestyle changes for reducing the risk of cardiovascular disease and early mortality is quitting. After smoking one cigarette, there is an instantaneous rise in heart rate and blood pressure that lasts for almost fifteen minutes. Compared to non-smokers, smokers have higher ambulatory blood pressure values [6]. Chronic smoking raises oxidative stress, damages nitric oxide bioavailability, damages endothelium, and promotes cardiac remodelling in addition to hypertension [7].

Recommendation:

Advise all patients to quit smoking in a straightforward manner.

Examine for nicotine dependence (e.g., last cigarette time, withdrawal symptoms), and when necessary, provide medication, counselling, and support services.

2.Nutrition:

Sodium makes up around 12% of total intake and is found naturally in a wide range of foods. Approximately 11% comes from salt added during food manufacturing, whereas over 75% comes from salt used at the table or during cooking [5]. Most countries' current public health recommendations call for lowering salt intake from roughly 9 to 12 grammes per day to 5 to 6 grammes per day. Reducing salt consumption would lessen cardiovascular risk if it decreased blood pressure, since elevated blood pressure across its range is a key cause of cardiovascular disease [5].

High potassium levels are associated with reduced blood pressure, in contrast to sodium. Strong correlations were found in data from observational epidemiology investigations. Clinical trials, however, were unable to produce definitive findings. In hypertensive patients, a potassium supplement of 60–120 mmol/d was linked to a 4.4 and 2.5 mmHg drop in systolic and diastolic blood pressure, respectively. People with normotension reported advantages that reduced their systolic and diastolic blood pressure by roughly 1.8 and 1.00 mmHg, respectively. Since potassium is abundant in the typical diet, eating foods high in potassium is preferable to taking pharmaceutical supplements [1].

Diet with Lower Fat and Cholesterol:

A number of dietary changes, other than consumption of sodium, potassium, and caffeine, have been linked to lowering blood pressure. For instance, a number of clinical and observational research have shown that vegetarian diets lower blood pressure. Still unknown, though, is how vegetarian diets accomplish this. Magnesium and calcium were also investigated. Nonetheless, a sizable study including almost 2,000 people discovered no connection between blood pressure levels and calcium and magnesium supplements [8].

Recommendation:

1.Advise patients to choose meals that are typically processed without salt, items branded "no added salt," or "low salt" (or "reduced salt" products when alternative options are not available) in order to keep their salt intake to 4 g/day (65 mmol/day sodium) or less. Avoid high-salt processed meals (such as gammon, bacon, sausages, canned or packet soups and stock cubes), salty snacks, high-salt takeaway and salt added at the table or when cooking.

2.However, it was discovered that the DASH diet, which includes fewer sweets, fats, red meat, and sugary drinks and more fruits, vegetables, dairy products, fish, poultry, whole grains, and nuts, was the most successful in lowering blood pressure. High concentrations of calcium, potassium, and magnesium were also discovered. It was discovered that among healthy people, this diet reduced systolic and diastolic blood pressure by 3.5 and 2.1, respectively [1].

3.If someone wants to prevent or cure high blood pressure, they should think about taking magnesium. A balanced diet, regular exercise, stress management, and adequate intake of potassium and magnesium are the cornerstones of a healthy blood pressure level. However, well-controlled, long-term clinical trials in carefully characterised hypertensive patients are required before definitive therapeutic recommendations on the use of magnesium in the management of hypertension can be made.

3.Body weight:

Globally, the prevalence of obesity in adults about tripled, while in children and adolescents, it more than quadrupled, rising from 4% to 18%. At the same time, the number of deaths and disabilities caused by obesity has nearly doubled worldwide. A comprehensive and all-encompassing approach should be used to address obesity, including self-directed, clinical, and public health measures [9]. Obesity has an additive influence on blood pressure when combined with other lifestyle factors like food, smoking, alcohol use, and physical inactivity [10].

Recommendation:

1.Weight loss should be integrated into daily activities, such as walking, cycling, playing sports on a regular basis, cutting back on sitting time, and boosting incidental activity.

2.Cognitive-behavioral techniques should be the foundation of weight loss programs (such as appetite awareness training, a self-monitoring technique that teaches people to recognise their own internal signals of moderate hunger and fullness and to utilise these signals to direct their eating habits) [11].

3.It is important to control abdominal obesity. Waist circumference and body mass index cut-offs should be based on ethnicity. Alternatively, it is advised that all populations have a waist-to-height ratio of less than 0.5 [12].

4.Physical activity:

High levels of physical activity have been linked to significantly lower blood pressure, regardless of changes in weight. Aerobic exercise can lower systolic blood pressure by up to 4 mmHg, according to a systematic review and meta-analysis that incorporated over 25 RCTs. Nevertheless, it was discovered that there was no relationship between the degree of blood pressure fluctuations and exercise intensity. By causing weight loss, which is regarded as a crucial lifestyle-related component, high levels of physical exercise also help lower blood pressure. Every day, the US surgeon general advises engaging in a 30-minute workout [13]. The amount of blood pressure decrease that occurs when exercise and medicine are combined is larger than when medication is used alone [60]. Indeed, aerobic and dynamic resistance training interventions of various designs lower office and daytime ambulatory blood pressure, according to metaanalyses of randomised studies. Those with

established hypertension experience the largest reductions in office blood pressure, up to 8.3/5.2 mmHg [14].

Recommendation:

1.Physical activity should be promoted for everyone in order to prevent or treat hypertension and cardiovascular disease [15].

2.Cardiovascular disease (CVD) and hypertension can be prevented and managed with aerobic and dynamic resistance training, or with both [16].

3.Frequent exercise is linked to decreased body weight, waist circumference, body fat percentage, insulin resistance, systemic vascular resistance, plasma noradrenaline, and plasma renin activity, as well as an increase in high-density lipoprotein cholesterol [17].

5.Alcohol consumption:

One of the most significant modifiable risk factors for hypertension among people from a range of geographical areas, such as North America, Europe, and Asia, is alcohol use [5].

High blood pressure has been linked to excessive alcohol consumption, defined as consuming more than two drinks per day, according to numerous extensive epidemiological research. Additionally, a number of RCTs demonstrated how lowering alcohol consumption can lower blood pressure in both hypertension patients and even normotensive drinkers. But according to the Prevention and Treatment of Hypertension Study, which looked at both moderate and heavy drinkers, lowering alcohol intake resulted in a non-significant drop in blood pressure. In conclusion, it is advised to limit alcohol intake to fewer than three drinks per day [1].

Conclusion:

Numerous factors affect blood pressure, including age, sex, physical activity, race, food, smoking, alcohol consumption, and many more. Each of these factors has a specific function in regulating blood pressure. On a public health level, even a slight drop in blood pressure can have significant advantages. The use of lifestyle changes to lower blood pressure is supported by current research. To attain ideal blood pressure, these adjustments involve managing every potential associated cause. Family doctors have a crucial role to play in informing, advising, and motivating patients regarding the advantages of these changes and how they affect their general health.

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