

DASH Diet in Preventing Hypertension

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Abstract: DASH stands for Dietary Approaches to Stop Hypertension. It is a dietary pattern promoted by National Heart, Lung and Blood Institute, United States to control and prevent hypertension. It is a healthy way in which hypertension can be prevented. It encourages you to take a diet rich in potassium, calcium and magnesium and reduce intake of sodium in your diet. DASH diet is rich in vegetables, whole grains, fruits, fish, meat, poultry, nuts, beans and low fat dairy products. DASH diet helps you to reduce your systolic blood pressure by 8 mmHg and diastolic blood pressure by 3 mmHg, which could make a lot of difference in reducing morbidity and mortality in hypertensive patients. DASH diet also prevents osteoporosis, cancer, heart disease, stroke and diabetes as it has a high quotient of antioxidant rich food. DASH diet pattern is adjusted to have a daily caloric intake from 1699 to 3100 calories.

Key words: DASH diet • Hypertension • Blood Pressure

INTRODUCTION

Hypertension is thought to affect around 1 billion population world wide [1]. The relationship between blood pressure and risk of cardiovascular disease events is continuous, consistent and independent of other risk factors [2].

DASH diet also prevents osteoporosis, cancer [3][4], heart disease, stroke and diabetes[5] as it has a high quotient of antioxidant rich food.

DASH diet [6] emphasises intake of diet rich in fruits and vegetables and low fat dairy products, moderate intake of poultry, fish, wholegrains and nuts.

Standard DASH Diet: DASH diet with intake of 2300 milligrams(mg) of sodium per day.

Lower Sodium DASH Diet: DASH diet with around 1500 milligram of sodium per day.

Normal diet has more than 3500 mg of sodium per day. Both the DASH diets have lower sodium in their regimen. The low sodium regimen is mainly used for patients who are more than 51 years, blacks, patients with hypertension, diabetes and chronic kidney disease. To reduce weight the total calories should be less than 1600 per day. DASH diet has a calorie of 2000 per day.

Table 1:

Modification	Approximate SBP Reduction (range)
Weight reduction	5-20mmHg/ 10kg weight loss
Adopt DASH eating plan	8-14 mmHg
Dietary sodium reduction	2-8 mmHg
Physical activity	2-9 mmHg
Moderation of alcohol consumption	2-4 mmHg

DASH diet [9],[10]:

One teaspoon of salt has 2300 mg sodium. For a low sodium DASH diet 2/3 teaspoon of table salt would give 1500 mg of sodium.

The table below shows the changes that occurs in bloodpressure on adopting one of the lifestyle modification programmes for control of hypertension [7],[8].

Recommended serving from each food group for a DASH diet of 2000 calories:

- Grains:6-8 servings per day:

One serving of grains include one ounce of dry cereal,1/2 cup of cooked cereal, one slice whole wheat bread,1/2 cup cooked rice and ½ cup pasta. Focus should be on whole wheat pasta, brown rice, whole grain bread.Avoid using cheese, cream or butter.

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- Fruits:4-5 servings per day.

Except avocado and coconut all fruits are rich in fibre,potassium,magnesium and low in fat.One serving includes one medium fruit,4 ounces of juice and ½ cup of frozen or canned fruits. Do not leave edible peel of fruits like apple, pears etc. which are rich in nutrients and fibre. If you choose canned fruits and juice see to it that no sugar is added.

- Dairy:2-3 servings per day

Dairy products like milk, yogurt and cheese are rich in calcium,protein and vitamin D.One serving includes one cup yogurt,one cup skimmed or one percent milk or half ounce of cheese. Fat free cheeses are high in sodium, so be careful. Patients having lactose intolerance lactose free dairy products are recommended.

- Leanmeat,fish and poultry:6 or fewer servings per day

Meat is a rich source of iron, proteins, B vitamins and zinc. One serving includes one egg, one ounce of skinless poultry and one ounce of seafood. Eat more of fishes high in omega 3 fatty acids like salmon, herring and tuna. Instead of frying in fat, trim away skin and fat from poultry and meat and bake, broil, grill or roast poultry and meat. Soyabean products like tofu have all aminoacids and can be an alternative to meat.

- Nuts,seeds and legumes:4 to 5 servings per week

Seeds like almonds, kidney beans, peas, lentils, sunflower seeds and other foods are a good source of magnesium, protein and potassium. These seeds have phytochemicals and fibre which protect against cardiovascular diseases and some cancers. One serving includes 2 tablespoon seeds,1/2 cup cooked beans and peas,1/3 cup nuts.

- Fats and oils:2 to 3 servings per day

27% of total calorie intake is by fat according to DASH regime.One serving includes 1 tablespoon mayonnaise,2 table spoon of salad dressing and 1 teaspoon of soft margarine. DASH diet limits the daily saturated fat intake to less than 6% of total calories by limiting use of whole milk, cream, eggs, butter, cheese, meat, coconut and palm oils.Avoid foods like fried items, baked items and crackers which have a lot of transfat in them.

- Sweets:5 or fewer per week.

One serving is one tablespoon of sugar,one cup lemonade,one tablespoon jelly or jam and ½ cup sorbet.

Choose sweets with low fat like hard candy, sorbet, jelly bean etc.

Reduce intake of cola or other soft drinks and replace them with butter milk, coconut water, low fat milk and plain water.

Avoid intake of added sugars which only adds calories but is of no nutritive value.

- Alcohol and caffeine:

Recommended allowance is one drink per day for women and two or fewer drinks per day for men.

Caffeine can cause an increase in blood pressure temporarily hence hypertensive patients should take caffeine with caution.

CONCLUSION

DASH diet[11] is not only for control of blood pressure but it also helps in reduction of weight and also for good health.DASH eating plan lowers blood pressure in 14 days.It has been proven that this change occurs even without reducing salt intake. DASH diet with low sodium helps you to reduce your systolic blood pressure by 8.9 mm Hg and diastolic blood pressure by 4.5 mmHg, which could make a lot of difference in reducing morbidity and mortality in hypertensive patients Hypertensive subjects experience an average reduction of 11.5/5.7 mmHg. DASH diet also prevents osteoporosis, cancer, heart disease, stroke, kidney stones [12] and diabetes as it has a high quotient of antioxidant rich food.

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