

Nutrition Therapy in the Prevention and Treatment of Heart Failure

Executive Summary

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1. Introduction

Ideal cardiovascular (CV) health factors are increasingly linked to a lower prevalence and incidence of ASCVD events, such as heart failure, atrial fibrillation, cancer, depression and cognitive impairment. It is therefore, of the utmost importance to move individuals towards ideal CV health for the prevention of many adverse health conditions.² Successful prevention strategies must emphasize lifestyle optimization (healthy food choices, being physically active, avoiding the use of tobacco and the exposure to second-hand smoke) to minimize the risk of future ASCVD events, at primary, as well as secondary level.² *The following nutritional recommendations have been proven to reduce the risk for future atherosclerotic cardiovascular disease (ASCVD);*

1. Plant-based and Mediterranean diets, along with increased fruit, nut, vegetable, legume, and lean vegetable or animal protein (preferably fish) consumption, with the inherent soluble and insoluble vegetable fiber, have consistently been associated with lower risk of all-cause mortality than control or standard diets.

2. Trans and saturated fats. When it comes to fat, it is important to look at the types of fat consumed and rather than adopting a low-fat diet, it is more important to focus on eating beneficial “good” fats and avoiding the harmful or “bad” fats.⁶ The substitution of margarine, butter, mayonnaise, and dairy fat with olive oil could lead to lower risk of CHD and CVD.⁷ Therefore, rather choose foods with “good” unsaturated fats, limit foods high in saturated fat, and avoid “bad” trans-fat.⁶

3. Reduced intake of dietary sodium. The optimal goal for dietary sodium intake is 1500 – 2000 mg/day, but aim for at least a 1000 mg/d reduction in most adults.²

4. Food products that have been shown to be potentially harmful or might increase risk of ASCVD. The quality and type of carbohydrates are important, and focus should be placed on the intake of fiber-rich whole grains and avoidance of refined carbohydrates and sugar-sweetened beverages.

5. Adults diagnosed as overweight (BMI=25 to 29.9 kg/m²) and as being obese (BMI≥30 kg/m²) are at increased risk of ASCVD, heart failure and atrial fibrillation compared to those within normal weight ranges. It is therefore, strongly recommended that such adults should participate in comprehensive lifestyle programs for long-term weight-loss.

6. Waist circumference measurement is recommended in all patients with BMI<35 kg/m², as central adiposity, captured by using waist circumference, has been associated with ASCVD risk.²

The treatment of heart failure (HF) should first and foremost be a comprehensive patient-centered approach, and should involve both medical and nutrition management by a multidisciplinary team, determining a treatment plan, that will address all aspects of a patient’s lifestyle habits and goals, estimating future risk, and then deciding on the appropriate pharmacotherapy treatment regime.²

2. Nutrition Specific Practice Recommendations for the Management of Heart Failure in adults.

*Every patient should have a clear, *detailed and evidence-based plan of care*.

**Energy intake* should be monitored for *weight maintenance*, the prevention of further weight gain or loss, and the prevention of catabolism.

*Patients should be encouraged to have a daily intake of protein (either animal or plant-based) ranging from 1.1 – 1.4 g/kg actual body weight per day, as this will result in a *positive nitrogen balance*.^{5,8}

**Sodium and fluid* intake should be individualized and restricted, within the ranges of 2,000 – 3,000 mg sodium/day and 1 to 2 liters of fluid/day.

*It is still unclear whether certain supplements, such as coenzyme Q10, n-3 fatty acids, vitamin D, iron and thiamine are appropriate for patients with heart failure. ^{5,8}

**Consume a nutrient-dense, balanced diet, rich in fruits, vegetables, whole grains, and low-fat dairy products, with a focus on healthy fats and oils.*

3. Practical ways to plan a heart healthy diet:

- **Make most of your meal vegetables and fruits – ½ of your plate:** Aim for color and variety.
- **Go for whole grains – ¼ of your plate:** Whole and intact grains—whole wheat, barley, wheat berries, quinoa, oats, brown rice,
- **Protein power – ¼ of your plate:** Fish, poultry, beans, and nuts are all healthy, versatile protein sources Limit red meat and avoid processed meats such as bacon and sausage.¹⁰
- **Healthy plant oils – in moderation:** Choose healthy vegetable oils like olive, canola, soy, corn, sunflower, peanut, and others, and avoid partially hydrogenated oils, which contain unhealthy trans fats. Remember that low-fat does not mean “healthy.”¹⁰
- **Drink water, coffee, or tea:** Skip sugary drinks, limit milk and dairy products to one to two servings per day, and limit juice to a small glass per day.
- **Stay active:** Staying active is also important in weight control. Importantly – appropriate activity in consultation with the health profession team.¹⁰
- **Reduce intake of dietary sodium:** Limit to 2000 mg/day from food or drink. Select foods with no more than 140 mg of sodium per serving. Foods with more than 300 mg of sodium per serving may not fit into a reduced-sodium meal plan.

No nutrition intervention or recommendations, however, will succeed if it is not practical, culturally acceptable, or economical and if it undermines the flavor of foods and the role that food plays in our lives.¹⁰