Cardio Vascular Diseases: Facts of Delicious dietary choices for Healthy Arteries

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Cardio Vascular Diseases: Facts of Delicious dietary choices for Healthy Arteries

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Abstract: It outlines various nutrients and dietary patterns in managing cardiovascular disease (CVD). Initially, it focuses on dietary fats, emphasizing the importance of replacing saturated and trans fats with monounsaturated and polyunsaturated fats. Foods rich in beneficial fats include olive oil, avocados, and fatty fish. The document also highlights the significance of B vitamins, carotenoids, and vitamins E, C, and D in reducing CVD risk, with sources such as whole grains, fruits, vegetables, and fortified foods. Specific food recommendations include a variety of fruits and vegetables, fatty fish, whole grains, and moderate alcohol consumption, which have been associated with lower CVD mortality. It also explores different dietary patterns like the Mediterranean diet, DASH diet, and plant-based diets, which emphasize high intake of fruits, vegetables, whole grains, and healthy fats while limiting red meat and processed foods.

INTRODUCTION

Coronary artery disease (CAD), also known as coronary heart disease (CHD), is a condition characterized by the narrowing or blockage of the coronary arteries, the blood vessels that supply oxygen-rich blood to the heart muscle. This condition is primarily caused by the buildup of plaque combination of fat, cholesterol, and other substances on the inner walls of these arteries. A diet for the prevention of coronary artery disease (CAD) focuses on promoting heart health by reducing risk factors such as high cholesterol, high blood pressure, and obesity. In a world where health and wellness are becoming increasingly important, the concept of maintaining healthy arteries has gained significant attention. Healthy arteries are crucial for overall well-being, as they ensure efficient blood flow, which is essential for the proper functioning of all bodily systems.

DIET

Diet is a significant contributing factor to reduce the risk of coronary artery disease. According to ACC/AHA 2019, the plant-based Mediterranean diet (high in vegetables, fruits, legumes, nuts, whole grains, and fish) is highly recommended. Replacing saturated fats with dietary monosaturated and polyunsaturated fats are found to be beneficial to reduce cardiovascular risks. Besides, dietary sodium reduction is found to have reduced BP and decreased risk for cardiovascular events. On the other side, sugar-sweetened and artificial sweeteners have shown to increase the risk of diabetes, leading to an increased coronary artery disease.

1.Nutrients

1.1 Dietary fats

Dietary fat is the fat that comes from food. The body breaks down dietary fats into parts called fatty acids that can enter the bloodstream. The main dietary fats are:

1.1.1Total fat

Until the 1990s, public health recommendations emphasized reducing total and saturated fat intake to reduceCVD risk. This approach often led to replacing fats with carbohydrates, which, although lowering total cholesterol, could increase triglyceride levels.

1.1.2 Saturated fat

Saturated fat has always been considered the most important fat to avoid in dietary interventions. Meats and dairy products are the main sources of saturated fats.

Foods high in saturated fats include:

- Foods baked or fried using saturated fats.
- Meats, including beef, lamb, pork as well as poultry, especially with skin.
- Lard.
- Dairy products like butter and cream.
- Whole or 2% milk.
- Whole-milk cheese or yogurt.
- Coconut oil

1.1.3 Monounsaturated fatty acids

Olive oil is a type of oil that contains monosaturated fats. Monounsaturated fats can help reduce bad cholesterol levels in your blood, which can lower your risk of heart disease and stroke.

Foods high in monounsaturated fats include:

- Olive.
- Canola.
- Peanut.
- Safflower.
- Sesame.
- Avocados.
- Peanut butter.
- Nuts and seeds like almonds, hazelnuts, pecans, pumpkin seeds and sesame seeds.

1.1.4. Trans fatty acids (naturally-occurring and artificial trans fats)

Trans fat in your food:

- Commercial baked goods, such as cakes, cookies, and pies
- Frozen pizza
- Fried foods (French fries, doughnuts and fried chicken)
- Non-dairy coffee creamer
- Stick margarine
- Shortening
- Cheese burger

1.1.5. N-3 fatty acids

It's also known as omega-3 fatty acids, are a type of polyunsaturated fat that is essential for human heart health.

- Flaxseeds and Flaxseed Oil
- Chia Seeds
- Walnuts
- Canola Oil
- Fatty Fish
- Fish Oil

1.1.6 Proteins: Animal vs. Plant-Based Proteins

Animal-based proteins are complete proteins, meaning they contain all nine essential amino acids necessary for human health.

Animal-Based Proteins sources

- Meat (beef, pork, lamb)

- Poultry (chicken, turkey)
- Fish and seafood
- Dairy products (milk, cheese, yogurt)
- Eggs

Plant-Based Proteins Sources:

- Legumes (beans, lentils, chickpeas)
- Nuts and seeds
- Whole grains (quinoa, farro)
- Soy products (tofu, tempeh, edamame)
- Vegetables (broccoli, spinach)

1.2B vitamins

B vitamins and CHD comes from the homocysteine lowering effects of these vitamins.

B vitamin sources

- Whole grains
- Legumes
- Nuts and seeds
- Eggs
- Bananas
- Citrus fruit
- Avocados

1.3 carotenoids

Studies show that higher intakes of fruits and vegetables, rich in carotenoids, are associated with a lower risk of cardiovascular disease (CVD).

Sources:

- Carrots
- Papaya
- Egg yolks
- Corn
- Orange

1.4 Vitamin E

Sources:

- Nuts and seeds (almonds and sunflower seeds)
- Vegetable oils (wheat germ oil and sunflower oil)
- Green leafy vegetables (spinach, broccoli)

1.5 Vitamin C

It reduces atherosclerosis and CAD

Sources:

- Citrus fruits (oranges, lemons)
- Berries (strawberries, blueberries)
- Vegetables (bell peppers, broccoli, Brussels sprout

1.6 Vitamin D

It inhibits the vascular smooth muscle proliferation, the suppression of vascular calcification.

Sources:

- Fatty Fish
- Fortified Foods
- Egg Yolks
- Cheese

2 Foods

2.1 Fruits and vegetables

The protective effect of fruits and vegetables also leads to a reduced risk of death from cardiovascular disease (CVD).

2.2 Fish

A study showed that who consumed fish 2–4 times/week (vs. never or <once/month) had 23% lower risk of CHD mortality. Moderate consumption of fatty fish and marine omega-3 fatty acids was lower incident heart failure.

2.3 Whole grains

` Fruits, vegetables, legumes, and *whole grain* cereals – are associated with lower occurrence of CHD.

2.4 Alcohol

Studies showed that risk of CVD is lowest in individuals who drink moderately is strong.

3.Dietary Patterns.

3.1 Mediterranean Diet

- High Intake of Fruits and Vegetables: Emphasizes a variety of fresh produce.
- Whole Grains: Includes whole grains like barley, oats, and whole wheat.
- Healthy Fats: Primarily uses olive oil, rich in monounsaturated fats.
- Moderate Consumption of Fish and Poultry: Includes fatty fish like salmon and mackerel.
- Limited Red Meat: Reduces red meat consumption, favouring leaner protein sources.
- Dairy in Moderation: Prefers low-fat or fat-free options.
- Nuts and Seeds: Regularly includes nuts and seeds as snacks or meal components.
- Herbs and Spices: Uses herbs and spices for flavour instead of salt.
- Wine in Moderation: Allows moderate wine consumption, typically with meals.

3.2 DASH Diet

- Rich in Fruits, Vegetables, and Whole Grains: Prioritizes high consumption of these food groups.
- Low-Fat Dairy Products: Emphasizes low-fat or non-fat dairy.
- Lean Proteins: Includes lean meats, poultry, and fish.
- Limited Red Meat and Sweets: Restricts consumption of red meats, sweets, and sugary beverages.
- Nuts, Seeds, and Legumes: Encourages their regular inclusion.
- Low in Sodium: Focuses on reducing sodium intake to manage blood pressure.

3.3 Plant-Based Diets

- Vegan and Vegetarian Diets:
- Vegan Diet: Plant-based foods.
- Vegetarian Diet: Includes plant-based foods and may include dairy products and eggs, but excludes meat, poultry, and fish.

3.4 Low-Carbohydrate Diets

Types and Examples:

- Ketogenic Diet: High-fat, moderate-protein, and very low-carbohydrate diet that induces a state of ketosis.
- Atkins Diet: Starts with very low carbohydrates, gradually increasing intake in later phases.
- Paleo Diet: Focuses on consuming foods presumed to be available to Palaeolithic humans, emphasizing meats, fish, vegetables, fruits, nuts, and seeds while avoiding processed foods and grains.

Nursing interventions

1. **Nutritional Assessment**: Conduct comprehensive dietary assessments to understand patients' eating habits and identify areas for improvement.
2. **Patient Education**: Educate patients about the benefits of a heart-healthy diet rich in fruits, vegetables, whole grains, lean proteins, and healthy fats while reducing intake of saturated fats, trans fats, and sodium.
3. **Personalized Dietary Planning**: Develop personalized dietary plans tailored to individual health needs and preferences, ensuring sustainability and adherence.
4. **Behavioral Counselling**: Provide ongoing motivational support and counselling to help patients make and maintain healthy dietary changes.
5. **Monitoring and Follow-Up**: Regularly monitor patients' dietary habits and cardiovascular health, offering feedback and adjustments to the dietary plan as necessary.

CONCLUSION

In conclusion, maintaining a heart-healthy diet rich in fruits, vegetables, whole grains, and lean proteins can significantly reduce the risk of coronary artery disease. Limiting the intake of saturated fats, sugars, and processed foods is also crucial for preventing this condition.

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