

Role of nutrition in preventing and managing metabolic diseases.

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Metabolic diseases are a group of conditions that affect the metabolism of the body, leading to a disruption in the way the body processes nutrients. These diseases can include diabetes, obesity, and metabolic syndrome, among others. The good news is that there are dietary interventions that can help prevent and manage these conditions. In this article, we will discuss the role of nutrition in preventing and managing metabolic diseases. One of the most important aspects of nutrition in preventing and managing metabolic diseases is maintaining a balanced intake of macronutrients, which include carbohydrates, proteins, and fats [1].

Carbohydrates are a major source of energy and should make up the majority of one's calorie intake. However, it is important to choose complex carbohydrates such as whole grains, vegetables, and fruits that provide fiber, vitamins, and minerals. Proteins are essential for maintaining muscle mass and should make up 10-35% of the calorie intake. Sources of protein should be lean meats, poultry, fish, legumes, and low-fat dairy. Lastly, fats should make up 20-35% of the calorie intake, with emphasis on unsaturated fats such as those found in nuts, seeds, and vegetable oils. Fiber is important in the prevention and management of metabolic diseases as it helps to regulate blood sugar levels, reduce cholesterol levels, and promote satiety. The recommended intake of fiber is 25-38 grams per day for adults. High fiber foods include fruits, vegetables, whole grains, and legumes [2].

The glycemic index is a measure of how quickly carbohydrates are absorbed and raise blood sugar levels. Foods with a high glycemic index should be avoided or consumed in moderation as they can cause rapid spikes in blood sugar levels. Foods with a low glycemic index, such as whole grains, vegetables, and legumes, should be prioritized as they provide sustained energy and do not cause rapid spikes in blood sugar levels. Omega-3 fatty acids are essential fatty acids that are important in preventing and managing metabolic diseases. They can help to reduce inflammation and improve cholesterol levels. The best sources of omega-3 fatty acids are fatty fish such as salmon, mackerel, and sardines. Other sources include flaxseeds, chia seeds, and walnuts [3].

Processed foods are often high in calories, sodium, and unhealthy fats and should be avoided as much as possible. These foods are typically low in nutrients and can contribute to weight gain and the development of metabolic diseases. Instead, focus on whole, nutrient-dense foods such as fruits, vegetables, whole grains, lean protein, and healthy fats. In

addition to consuming a balanced intake of macronutrients, portion control is also important in preventing and managing metabolic diseases. Consuming large portions of food can contribute to weight gain and the development of conditions such as obesity and diabetes. To control portion sizes, it can be helpful to use smaller plates, measure portions with measuring cups, and practice mindful eating by paying attention to hunger and fullness cues [4].

Staying hydrated is also important in preventing and managing metabolic diseases. Drinking enough water can help to regulate blood sugar levels, improve digestion, and promote satiety. The recommended intake of water is 8-10 glasses per day. Other sources of hydration include unsweetened teas, low-fat milk, and 100% fruit juice in moderation. Meal planning can be a helpful tool in preventing and managing metabolic diseases. Planning meals ahead of time can help to ensure that balanced meals are consumed, portions are controlled, and unhealthy foods are avoided. It can also save time and money by reducing the need for eating out or convenience foods [5].

Consistency is key in maintaining healthy nutrition habits that prevent and manage metabolic diseases. Making small, sustainable changes over time is more effective than making drastic changes that are difficult to maintain. It is also important to avoid "yo-yo" dieting, which can contribute to weight gain and metabolic disturbances. Lastly, the mind-body connection plays an important role in nutrition and metabolic health. Stress, lack of sleep, and other psychological factors can impact eating habits and metabolism. Practicing stress-reducing activities such as meditation, yoga, or deep breathing exercises, and getting adequate sleep can support healthy nutrition habits and prevent the development of metabolic diseases.

In conclusion, nutrition plays a critical role in preventing and managing metabolic diseases. Consuming a balanced intake of macronutrients, high fiber intake, attention to glycemic index, consumption of omega-3 fatty acids, avoiding processed foods, controlling portion sizes, staying hydrated, meal planning, consistency, and paying attention to the mind-body connection can all contribute to maintaining healthy metabolism. By making small, sustainable changes over time and working with a healthcare provider or registered dietitian, metabolic diseases can be prevented and managed for optimal health and well-being.

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