

## Wonder Foods or Plain Hype?

Is it true that some foods can help you in your fight against cardiovascular diseases? Chong Hui Hsien, dietitian, Changi General Hospital, gets to the heart of the matter.

Cardiovascular disease (CVD) is a significant cause of disability and death among individuals with diabetes (DM). A person with diabetes has a higher risk for developing CVD such as stroke and heart attack. It is, therefore, important to achieve optimal blood cholesterol to help reduce its risk.

While a variety of foods has demonstrated beneficial effects on blood glucose and cholesterol levels, there is really is no such thing as a 'wonder' food. The cornerstone for the management of DM and CVD is built on a combination of a healthy diet and a wholesome lifestyle.

### Oats

Oats contain a high level of beta-glucan soluble fibre, which helps to lower the cholesterol level by binding and holding bile acids from re-entering the bloodstream. Soluble fibre can also be found in fruits, vegetables, barley and legumes. The National Cholesterol Education Program (NCEP) recommends a daily intake of 2 to 10g of soluble fibre to enhance the lowering of LDL-cholesterol<sup>1</sup>. This can be easily met with a daily intake of two servings of fruit and one-third cup of dry oats.

### Fruits and vegetables

Fruits and vegetables are good sources of soluble and insoluble fibre. The soluble fibre aids in delaying the digestion and absorption of nutrients, resulting in a slow and steady release of glucose from carbohydrates. Therefore, diabetes may be well managed on a high fibre diet.

High fibre foods also create a feeling of satiety, which aids in weight loss and optimising your DM control. Moreover, the antioxidant in fruits and vegetables offer protection against heart disease by preventing the oxidation of LDL-cholesterol, which can become fatty streaks in the walls of your arteries.

A word of caution: Fruits and starchy vegetables such as yam, potatoes and sweet potatoes are good sources of carbohydrate. An excessive intake of these foods can raise your blood glucose level. Check with your dietitian for a customised meal plan to include fruits and starchy vegetables within your daily carbohydrate allowance.

### Omega-3

Research has shown that omega-3 fatty acids can decrease triglyceride levels and slightly lower blood pressure. Increasing omega-3 fatty acid intake through foods is preferred. Good sources of omega-3 fatty acids include fatty fish such as mackerel, tuna and salmon, tofu, other forms of soybeans, canola, walnut and flaxseed. Two or more servings\* of fish per week are recommended for individuals without documented heart disease. However, to enjoy the real benefits of fish, do steam, bake or grill instead of frying.

For people with heart disease, a daily intake of 1g EPA + DHA\*\* from oily fish is recommended. Fish oil supplements can be considered in consultation with a physician. It is generally safe for consumption up to 4.8g EPA + DHA per day<sup>2</sup>.

\* 1 serve of fish = 150g fish

\*\* 1g EPA + DHA = 150-300g canned/fresh tuna or salmon

### Nuts

Nuts is recommended in a cholesterol-lowering diet as it appears to lower cholesterol level by substituting the saturated fatty acids in our diet. However, nuts are loaded with calories, providing approximately 150kcal in only a handful of nuts.

Use nuts as a substitute for your energy source and not as extras. Otherwise, the benefits might be negated by a weight increase, which can impair blood

glucose control and increase your risk of CVD. Nuts, preferably unsalted and roasted, should be limited to just a handful, three to four times a week.

### Bitter Melon

Also known as bitter melon, this food contains momordin, charantin, polypeptide P (insulin-like polypeptide) and vicine, which has hypoglycaemic action. This may promote glucose uptake and inhibit enzymes involved in glucose production. A reported side effect of bitter melon is hypoglycaemia (low sugar level) when used with sulphonylureas<sup>3</sup>. Caution should be exercised if bitter melon is taken in the form of tablets and capsules, as clinical tests have yet to determine the appropriate dosage.

### Garlic supplements

Garlic supplements have been reported to benefit the body by reducing blood cholesterol and hypertension. However, this remains controversial. Well designed studies are still required to confirm its effectiveness.

A word of caution: Current evidence does not support the use of garlic supplements. Garlic supplements have been associated with several cases of bleeding. Caution may be required especially for individuals who are taking anticoagulant drugs such as warfarin<sup>2</sup>.

### Plant Sterol

Also known as phytosterols, plant sterols are naturally found in vegetable oils, nuts, grain products, fruits and vegetables. In recent years, there has been increasing evidence that plant sterols have demonstrated cholesterol-lowering effects by blocking the absorption of cholesterol. NCEP recommends a daily consumption of 2g plant sterol to enhance the lowering of LDL-cholesterol<sup>1</sup>. Because of its cholesterol-lowering properties, plant sterols have been added to common foods such as margarine and milk powder which are readily available and can be incorporated into your diet.

### Alcohol

Red wine has been shown to have a cardio-protective effect. The polyphenol in red wine acts as an antioxidant to reduce the oxidation of LDL-cholesterol and increase HDL-cholesterol. However, drinking too much alcohol has negative effects too. It can increase triglyceride and blood pressure, thus increasing the risk of heart diseases.

Alcohol is, therefore, not recommended for individuals who do not drink. The antioxidant properties in red wine can also be obtained from fruits and vegetables. Moreover, regular activity can help to increase HDL-cholesterol level.

If you wish to drink, limit your alcohol intake to fewer than two drinks a day for females and fewer than three drinks a day for males<sup>4</sup>. Alcohol is calorie dense, providing 7kcal/ml. An overweight or obese individual should thus abstain from alcohol. Alcohol should also be avoided by people with uncontrolled diabetes.

\* One serving of alcohol containing beverage is defined as 2/3 small can (220ml) beer, 1 glass (100ml) wine or 1 nip (0ml) spirit.

### Reference:

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