Cholesterol: the good, the bad and the average

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Cholesterol often gets a bad press and, in a way, that is right because a high level of bad cholesterol in your blood is a major risk factor for heart disease. A healthy balanced lifestyle and diet can help reduce the risk of heart disease, but cholesterol also plays a vital role in keeping the body healthy.

What is cholesterol?

Cholesterol is a wax-like substance, which together with fats and oils belongs to the family of lipids. It is essential to all our body cells and has a special role in the formation of brain cells, nerve cells and certain hormones. Although some foods contribute ready-made cholesterol, the majority of cholesterol in the body is manufactured by the liver.

The World Health Organisation (WHO) has estimated that amongst Europeans the average total cholesterol levels in men vary from 4.5 mmol/l (millimoles per litre) in Turkey to 6.2 mmol/l in Serbia and Montenegro, and in women, average total cholesterol levels range from 4.6 mmol/l in Turkey to 6.1 mmol/l in Norway.¹
For most people, the recommended total cholesterol level is <5.0 mmol/l, but for people who already have some degree of cardiovascular disease, this recommended level is <4.5 mmol/l.²

Cholesterol and Health

Too much cholesterol in the blood (hypercholesterolaemia) is a major risk factor for coronary heart disease (CHD), which can lead to a heart attack or stroke. Together, these are the main cause of death in Europe.³

There are two main types of cholesterol: low density lipoprotein (LDL) cholesterol and high density lipoprotein (HDL) cholesterol.

LDL cholesterol, often referred to as ‘bad’ cholesterol, carries fat around the body and is big, fluffy and sticky. If circumstances are favourable, LDL cholesterol gets stuck in the walls of the arteries making them narrower (a process called atherosclerosis). Such changes, in turn, lead to a higher tendency of the blood to clot. If a clot (thrombus) forms and blocks the narrowed artery (thrombosis), this can result in a heart attack or stroke. Although LDL is made naturally by the body, some people make too much. The diet can also affect the amount of LDL cholesterol.

HDL cholesterol, or ‘good’ cholesterol, scavenges for fat and returns it to the liver. Having plenty of HDL cholesterol means that fatty deposits are less likely to build up in the arteries. A high HDL:LDL ratio, i.e. high levels of HDL cholesterol relative to LDL cholesterol, protects against heart disease. Being physically active and eating healthier fats can help to raise HDL cholesterol levels.

Diet, lifestyle and cholesterol
There are several factors that influence blood cholesterol levels. Eating a balanced diet, being of healthy weight and keeping physically active, in particular, can help to keep cholesterol levels normal.

Dietary cholesterol

Some foods (eggs, liver, kidney and prawns) naturally contain cholesterol (dietary cholesterol). The cholesterol found in foods in most cases does not influence blood cholesterol levels as much as the amount and type of fat eaten, but some people might be sensitive to high cholesterol intakes.

Dietary fats

Dietary fat is often divided into saturated and unsaturated fat. In general, most types of saturated fat raise total and LDL cholesterol levels. Saturated fats are found in butter, lard (and foods made from these including pastries, cakes and biscuits), meat products (e.g., salami, pies and sausages), cream, cheese and foods containing coconut or palm oils. Some unsaturated fats can help reduce LDL cholesterol levels, and generally it is a good idea to replace saturated fats with unsaturated fats. Foods containing unsaturated fats include vegetable and seed oils and spreads (e.g., rapeseed oil, olive oil, soya spread), oily fish (e.g., mackerel, salmon and herring), nuts and avocado.

Another type of fat, trans fat, is sometimes found in foods that contain partially hydrogenated fats (e.g., some pastry and biscuits), although many companies in Europe have reduced levels of trans fats in their products to a minimum. Trans fats can raise LDL (bad) cholesterol levels. Unlike saturated fats, trans fats also lead to a fall in HDL (or good) cholesterol and raise blood triglyceride levels, both of which are associated with an increased risk of CHD. These negative effects may occur with long-term intakes of trans fats of 5-10 g per day.\textsuperscript{4,5}

Apart from consuming the right fats, it is sensible to try to reduce the amount of fat overall as well, by baking, grilling, boiling, poaching or steaming foods instead of frying them, and cutting down on foods that are high in fat. Look at the nutrition information on food labels to compare the fat types and levels, especially saturated fats, in products.

A ‘portfolio’ of foods

In addition to the type of fat we eat, other foods can also help to keep cholesterol levels healthy. Eating plenty of fruits and vegetables, foods containing soluble fibre (e.g., oats, lentils, beans and peas), tree nuts (e.g., almonds) and soya can be useful. Note that products on the market containing added plant stanols or plant sterols are designed for people who have excessive cholesterol levels and are not necessary for people with healthy cholesterol levels. Scientists have found that eating a healthy low-fat diet, including a ‘portfolio’ of the foods mentioned above, can reduce cholesterol levels by up to 20%.\textsuperscript{6}

References