

# We need to focus on cholesterol levels even in childhood

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Professor Kirsten Holven in her lab at the Department of Nutrition at the University of Oslo, Norway. Credit: Cecilie Bakken Hoestmark, UiO

Today, the main focus is on lowering high cholesterol levels in adults in order to prevent atherosclerosis. Professor Kirsten Holven at the Department of Nutrition at the University of Oslo issues a clear warning: we start the process of prevention too late, when the narrowing of arteries is already too far advanced. She advocates that parents should know the level of their children's cholesterol.

"If we turn our attention to this problem when people are young, we would be able to slow down atherosclerosis significantly and achieve greater positive effects. In recent years, more and more research has shown that it is the life-long burden of cholesterol that affects the development of atherosclerosis. In other words, a large amount of this cholesterol builds up during childhood and adolescence. Cholesterol levels are currently only monitored from adulthood, perhaps first in your forties. By this time, atherosclerosis is already advanced and it is difficult to reverse it completely," explains the professor.

## **Parents can make healthier food choices**

What you eat as a child can therefore have a large effect on whether you will need to take medication in your fifties in order to combat high cholesterol.

"Parents can make healthier choices when it comes to the diet they give to their children while growing up. Only relatively small changes in the level of cholesterol are needed if started early," says Holven.

## **Children with more signs of atherosclerosis**

The development of atherosclerosis is driven by the interaction between cholesterol and inflammatory substances. If the level of cholesterol in your blood is too high, this is usually the result of your lifestyle.

However, some people may have hereditary high cholesterol, called hypercholesterolemia.

Atherosclerosis starts during the childhood years and continues throughout life. Studies have shown that mothers with high levels of cholesterol during pregnancy have children who show more signs of atherosclerosis than children born of mothers with a normal level of cholesterol.

"Even in infancy, there are large differences in levels of cholesterol. A Finnish study demonstrated that the cholesterol level you have at the age of three years is closely related to the cholesterol level you will have as an adult. This means that if you had elevated cholesterol in your blood as a child, you are more likely to have elevated cholesterol as an adult," says the professor.

## **Urges parents to feed their children in line with national dietary guidelines**

Holven points out that we now have good, well-documented, national dietary recommendations on how to eat in order to prevent disease.

"If you follow these guidelines, it will put your cholesterol on the right track. You can easily improve your level of [cholesterol](#) by changing your diet. For example, you can reduce the amount of saturated fat in your food and replace it with unsaturated fat."

## **Large repercussions for the economy**

Holven emphasizes that [cardiovascular disease](#) caused by atherosclerosis is the leading cause of death in both women and men in Norway and Europe. Cardiovascular disease also puts a major financial burden on

healthcare budgets worldwide.

"Preventive measures that can reduce these costs will therefore bring major benefits to national economies," she says.

Professor Holven has received funding in the order of several million Norwegian kroner for her research project entitled "[Dietary prevention of cholesterol induced trained immunity in early atherosclerosis.](#)"

Provided by University of Oslo

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