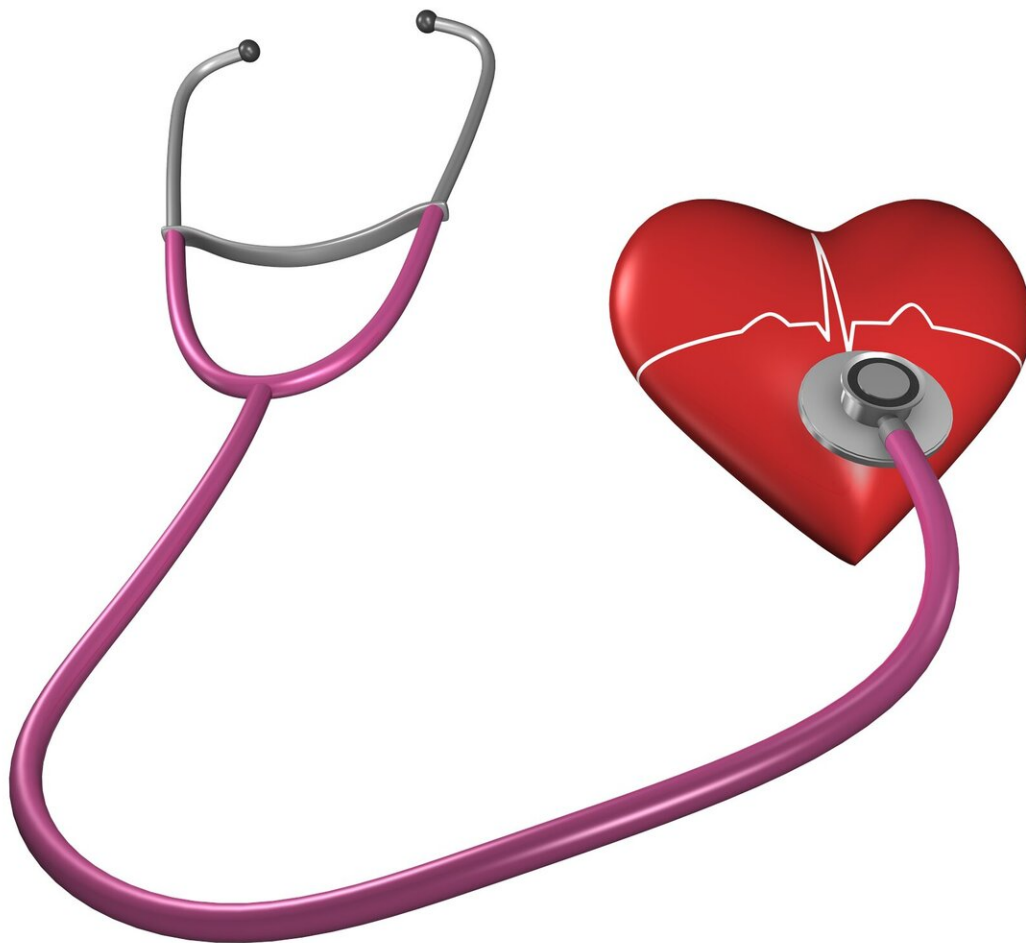


Dietary and physical activity intervention reduces LDL cholesterol level in children

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An individualised and family-based physical activity and dietary intervention reduced the plasma LDL cholesterol concentration of primary school children, a new study from the University of Eastern Finland shows. The findings of the Physical Activity and Nutrition in Children (PANIC) Study ongoing at the University of Eastern Finland were published in the *European Journal of Nutrition*.

The two-year follow-up study explored the effects of an individualised and [family](#)-based physical activity and [dietary intervention](#) on the [plasma lipids](#) of more than 500 Finnish children aged between six and eight years at baseline. The researchers were also interested in which components of the lifestyle intervention had the greatest impact of plasma lipids.

"The LDL cholesterol concentration of children from families who participated in the lifestyle intervention was slightly reduced during the two-year follow-up, whereas no similar change was observed in children in the control group. The lifestyle intervention did not have an impact on other plasma lipids," Adjunct Professor Aino-Maija Eloranta from the University of Eastern Finland says.

The study showed that increasing the consumption of high-fat vegetable oil-based spreads and decreasing the consumption of butter-based spreads played the most important role in decreasing the LDL cholesterol concentration. Replacing high-fat milk with low-fat milk, and doing more physical activity, also explained some of the decrease in the LDL cholesterol concentration.

Having an elevated LDL cholesterol concentration in childhood is may

predict artery wall thickening in adulthood. The results of this newly published study thus suggest that a family-based dietary and physical activity [intervention](#) may prevent the development of atherosclerosis in adulthood.

"Individualised and family-based dietary and physical activity counselling could be integrated into the services provided by maternity clinics and school health care. This would prevent the development lifestyle diseases in the long run and, consequently, mitigate [health care costs](#)," Professor Timo Lakka from the University of Eastern Finland, the Principal Investigator of the study, says.

During the two-year follow-up, families participated in six individualised dietary and physical activity counselling sessions. The sessions were individually tailored to each family and they focused on improving the quality of the family's diet, increasing [physical activity](#) and reducing screen time. In addition, children were encouraged to participate in weekly after-school exercise clubs. Children's plasma lipids were analysed at the beginning and at the end of the study.

The PANIC Study carried out at the Institute of Biomedicine, the University of Eastern Finland, generates new and scientifically valuable public health data on [children's](#) lifestyle habits, health and well-being.

More information: Aino-Maija Eloranta et al. The effects of a 2-year physical activity and dietary intervention on plasma lipid concentrations in children: the PANIC Study, *European Journal of Nutrition* (2020).

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