

Optimising plasma lipids: public intervention versus high risk management.

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Authors: CSIRO Division of Human Nutrition, Flinders University, Adelaide, Australia.

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A public health strategy carries more constraints than a high risk strategy because it targets both low risk and high risk individuals; this requires cautious intervention and hence achieves only a modest reduction in risk. Nevertheless, a modest population-wide fall in the concentrations of atherogenic lipoproteins leads to substantial numbers of preventable heart attacks and deaths. Other strategic considerations are to lower non-lipid cardiovascular risks (hypertension, clotting tendency) and to prevent other diet-related disease (such as cancer) through interventions which lower plasma lipids. The major nutritional changes which achieve this are optimising energy balance, reducing total fats and saturated fatty acids and increasing plant foods which are rich sources of unsaturated fatty acids, fibre and antioxidants. Each of these contributes to optimising the low density lipoprotein (LDL) concentration. Antioxidants (vitamins C and E mainly) may inhibit LDL oxidation. The strategy for lowering plasma triglyceride, especially in the context of atherogenic lipoprotein phenotypes, is mainly through energy balance, reduced saturated fat and alcohol. Correcting overweight especially in those with abdominal obesity, may normalise raised plasma triglyceride, low high density lipoprotein (HDL), abnormal LDL and even glucose intolerance and hypertension, which may be associated. The scientific basis for the lipid optimising effects of the different nutrients will be discussed.