



Abstract



Dairy matrix effects on type 2 diabetes and cardiometabolic health?

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Evidence from large observational studies and meta-analyses indicates an inverse association between dairy and body weight, body fat mass, type 2 diabetes and cardiovascular disease. The findings are supported by randomised controlled trials (RCT). However, though several of the reported RCT's show beneficial effects of dairy for cardio-metabolic effects the mechanisms by which dairy influences metabolic health are not entirely clear.

There are several reasons for that:

1. The re-assessment of role of saturated fat for cardio-metabolic diseases have clearly shown that overall total intake of saturated fat is not associated with type 2 diabetes or cardiovascular disease.
2. The saturated fatty acid effects is heavily depending on its chain length, and the saturated fatty acids in dairy seem to exert a neutral to slight positive effect on type 2 diabetes and cardiovascular disease.
3. Dairy cannot be viewed as one entity, and particular positive health effects are exerted by the fermented dairy e.g. yoghurts and cheese.
4. Most importantly, the dairy matrix i.e. the total interaction by different fatty acids, minerals like calcium, proteins and bioactive peptides produce unpredictable biological effects, which have turned out to generally to exert important health effects. Therefore, research needs to distinguish between different dairy products and health effect.
5. Recent evidence show that whether low-fat or high-fat dairy are preferred for health effects entirely depends on the glycemic status of the individual e.g. normoglycemic individuals may achieve best weight control by the normal to low fat dairy whereas type 2 diabetics may benefit more from the higher fat dairy.

In conclusion, a high intake dairy is a natural part of a nutrient dense diet that provides benefits for weight control, and the prevention of type 2 diabetes and cardiovascular disease. Future research and recommendations for the public needs to observe differential health impacts of different dairy products due to the matrix effect, and personalized nutrition will be key to selecting low or high fat dairy.