Dairy and CVD risk reduction, new insights based on the food matrix concept

ESC Preventive Cardiology 2021
EMF (European Milk Forum Satellite symposium)
15th April – 4.30 pm
Topic: 33.2. Cardiovascular Risk Assessment
Session Number: 2030

Dairy and CVD risk reduction, new insights based on the food matrix concept
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Chaired by
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The US Dietary Guidelines recommend the restriction of saturated fatty acid (SFA) intake to <10% of calories to reduce CVD, similarly the European Food Safety Authority recommend that SFA intake is as low as possible. However, novel scientific evidence does not support this recommendation. First, the evidence that supports that reducing saturated fat consumption will prevent CVD or reduce mortality is not robust, and several meta-analyses of observational studies and randomized controlled trials does not support this recommendation. Second, SFAs have very different biological effects, and their association to CVD are not equivocal. Third, the effects are further modified by the food matrix and the carbohydrate content of the diet. The food matrix concept is that nutritional and health effects of a food are a result of both a food's structure and its nutrient composition, and how these interact with each other. Several foods relatively rich in SFAs, such as whole-fat dairy, dark chocolate, and unprocessed meat, are not associated with increased CVD or diabetes risk. Moreover, fermented dairy, such as cheese and yoghurts seem to have protective effects against CVD.
Clinically, consumption of diets high in saturated fat may increase LDL-cholesterol, but this increase is due to the large more inert LDL-particles, whereas the more atherogenic small dense particles are reduced.

Consequently, cardioprotective diets can easily include cheese, yoghurts, whole eggs, dark chocolate and unprocessed meat – emphasis should be on lowering intakes of sugars and refined starchy foods and increased whole foods high in fiber and wholegrain.

Professor Arne Astrup, MD, DMSc. Is program Director at The Novo Nordisk Foundation in Denmark responsible for the establishment of a "National Center For a Healthy Weight" 2021.

He was Head of Department of Nutrition, Exercise and Sports, University of Copenhagen, from 2012-20 with 300 staff and 1,200 students, and Chief Consultant at the Unit for Clinical Nutrition Research, Bispebjerg Frederiksberg University Hospital. Under Arne Astrup's leadership the Department of Nutrition, Exercise and Sports ranked as the world's number one sports and nutrition research environment 2018 in the Global Ranking of Sport Science Schools and Departments of the internationally recognised Shanghai Ranking. Arne Astrup has previously been Chairman of the State Council for Nutrition, and for international research organisations. Major scientific areas are appetite regulation, treatment of obesity, type 2 diabetes, and cardiovascular disease, and diseases where nutrition and physical activity play a role. He is also interested in bridging nutrition, gastronomy and health, and has written a large number of popular diet books, which have been published in many countries, including the United States, Australia and Germany.

Discovered in 1996, together with Professor Jens Holst, that GLP-1 is a satiety hormone in humans, and was a driving force behind the prohibition of industrially produced trans fats in foods in Denmark in 2004.

Arne Astrup publishes frequently in journals such as British Medical Journal, Lancet, Nature and New England Journal of Medicine. He has supervised 38 PhD students to date. Among University of Copenhagen scientists Arne Astrup is ranked number 5. His H-index is 98 (Google Scholar H-index 129 with 88000 citations).

Astrup was created Knight of the Order of Dannebrog in 1999 By the The Queen Margrethe II, and Knight of the First Order of Dannebrog in November 2012.

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Michelle McKinley is Professor of Nutrition at the Centre for Public Health, School of Medicine, Dentistry and Biomedical Sciences, Queen's University Belfast and a registered Public Health Nutritionist in the UK. Professor McKinley's research investigates the ability of dietary interventions to modify nutritional status and risk of chronic disease, particularly diabetes and cardiovascular disease, as well as exploring novel approaches to encouraging and supporting diet and lifestyle behaviour change and weight management throughout the life course. Her expertise in dietary interventions includes examining the effect of individual nutrients through to studies exploring interventions with whole foods, food groups and whole dietary patterns. Examples of her behaviour change research include developing and evaluating complex interventions to support dietary and lifestyle change: in the school-setting; before, during and after pregnancy; and for people with type 2 diabetes. This work encompasses the use of mHealth and eHealth technology to support behaviour change.

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