EFAD The European Federation of the Associations of Dietitians

THE VOICE OF EUROPEAN DIETETICS

THE FOOD MATRIX

Health effects of dairy foods: new insights based on the food matrix concept

June 3rd 2021

19:00 - 20:00 CEST

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EMF European Milk Forum

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WELCOME MESSAGE

Dear Webinar Attendees,

We are delighted to welcome you to the webinar "The Food Matrix - Health effects of dairy foods: new insights based on the food matrix concept" which is organized by the European Federation of the Associations of Dietitians (EFAD) and made possible through the support of the European Milk Forum (EMF).

During this webinar, we will hear from our expert speakers, Professor Arne Astrup and Dr Sandra Iuliano, on the effects of the dairy matrix on cardiometabolic health and on bone health based on insights from the food matrix concept.

The food matrix concept is a new direction in nutrition science that has shifted focus from individual nutrients to examine the relationship of whole foods with health, including dairy foods. This is based on the premise that we do not eat nutrients in isolation but as foods, and in meals, and part of dietary patterns.

It's increasingly understood that the nutritional and health effects of a food are a result of a food's structure and its nutrient composition, and how these interact with each other in the food matrix. As we'll hear, a different picture has sometimes emerged than might be predicted from the nutrient content of the food alone.

This is causing the nutrition community to rethink how we evaluate the health effects of food and is important for public health policy and the dietary guidance and advice we, as dietitians, give.

We hope you enjoy it!

Pauline Douglas, NICHE, Ulster University

PROGRAMME

June 3rd 2021
19:00 - 20:00 CEST

19:00
Opening Remarks
Pauline Douglas, NICHE, Ulster University,
EFAD Honorary Treasurer

19:10
Beyond nutrients: impact of the dairy matrix on cardiometabolic health
Prof Arne Astrup, Novo Nordisk Foundation

19:30
Musculoskeletal health: the importance of the dairy matrix effect
Dr Sandra Iuliano, University of Melbourne

19:50
Q&A Session
Moderator: Pauline Douglas
Panellists: Prof Arne Astrup, Dr Sandra Iuliano

Pauline Douglas

Pauline has over 25 years of clinical and academic experience in dietetics. Her main teaching disciplines in the Nutrition Innovation Centre for Food and Health at Ulster University are in Professional Practice for dietetic students and dietetic practice educators and Nutrition Education of healthcare professionals. She has been the Key Contact for Ulster University in the European funded “Dietitians Improving the Education and Training Standards (DIETS) project” and was a member of the Exploitation work package.

Pauline is a previous Honorary Chairman of the British Dietetic Association (BDA). She was elected to Fellowship of the BDA for her professional achievements in 2010. She is her Professional Body’s European and International representative. She is a partner with the Health and Care Professions Council, the statutory regulator for Allied Health Professions in the UK.

Pauline works closely with Ray et al across the domains of NNEdPro Global Centre for Nutrition and Health and she is an elected Visiting Scholar/College Research Associate at Wolfson College, University of Cambridge.

She is a member of the Executive Committee of the European Federation of the Associations of Dietitians (EFAD). She has led and been an integral part of the European Healthy Hydration Awareness Campaign on behalf of EFAD over the past 7 years.

Prof. Arne Astrup

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 the 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 the 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 Queen Margrethe II, and Knight of the First Order of Dannebrog in November 2012.

Dr. Sandra Iuliano

Dr Sandra Iuliano is a Senior Research Fellow in the Department of Medicine, University of Melbourne. Dr Iuliano researches in the area of nutrition and exercise across the lifespan; specifically, to improve musculoskeletal health. Her research includes the effects of exercise and calcium in bone growth in children, vitamin D supplementation to prevent bone loss in adults during prolonged sunlight deprivation, nutrition-based interventions for falls prevention in older adults and studying the cost of fractures and the benefits of fracture identification and secondary prevention through a hospital-based fracture liaison service.

Relative to ageing, her work has focussed on food-based approaches to prevent falls, fractures and malnutrition in older adults in aged-care, involving residential aged-care facilities from most of the key aged-care providers in Australia. Her recent work involved 60 residential aged-care facilities followed for two years to determine the benefits of a food-based approach to enhance the intake of protein and other nutrients to prevent falls and fractures and to reduce the risk of malnutrition, sarcopenia and functional loss.

She provided input into the new single framework quality and safety standards for aged care and was summoned to present evidence at the Royal Commission into Quality and Safety in Aged-Care in Australia regarding nutritional care in residential aged care. She regularly presents her work nationally and internationally. She is a strong advocate for improving nutritional care and quality of life via improved food provision in aged care.

Abstracts

Beyond nutrients: impact of the dairy matrix on cardiometabolic health

Professor Arne Astrup MD, DMSc, Center for Healthy Weight, Novo Nordisk Foundation, Denmark

The US Dietary Guidelines recommend restricting saturated fatty acid (SFA) intake to <10% of calories to reduce CVD. Similarly, the European Food Safety Authority recommends 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 do not support this recommendation. Second, SFAs have very different biological effects, and their association to CVD are not equivocal. Third, the most important discovery is that the health effects of nutrients are modified by the food matrix and the carbohydrate content of the diet. The food matrix concept is that the 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.

Many clinicians are concerned about the potential LDL-cholesterol raising effect of saturated fat. However, consumption of diets high in saturated fat may indeed increase LDL-cholesterol, but this increase is due to the large more inert LDL-particles, whereas the more atherogenic small dense particles are reduced. Novel measures are needed clinically to monitor the CVD effects of dietary changes. Consequently, cardioprotective diets can easily include cheese, yoghurts, whole eggs, dark chocolate and unprocessed meat – the emphasis should be on lowering intakes of sugars and refined starchy foods and increased whole foods high in fibre and whole grain.

Indirect effects should also be considered e.g. on weight control and obesity. including dairy in the diet reduces the risk of weight gain and obesity among children and improves body composition among dieting adults. As overweight and obesity today are the driving conditions behind type 2 diabetes, CVD and certain cancers, the positive effects of dairy, independent of saturated fat content, should be observed in efforts to prevent and manage obesity.

Musculoskeletal health: the importance of the dairy matrix effect

Dr Sandra Iuliano, University of Melbourne / Austin Health / Australian Institute of Musculoskeletal Science

Adequate intakes of quality protein and calcium are essential for musculoskeletal health. Dairy foods, such as milk, yoghurt and cheese are the principal dietary source of calcium and a major source of protein that can benefit musculoskeletal health throughout the lifespan. To optimize musculoskeletal health the required number of servings of dairy foods vary throughout the lifecycle to accommodate the needs during gradual growth in childhood, accelerated growth during adolescence, maintenance of muscle and bone during adulthood, and attenuation of loss of both muscle and bone during old age. Most dairy-based research during growth has focused on the benefits to the bone. For example avoidance of dairy foods in children is associated with increased fracture risk, while dairy supplementation is associated with greater bone mineral accrual during growth.

Skeletal benefits of dairy supplementation have been observed during adulthood by maintaining bone mineral density and increasing old age by attenuating bone loss.

As the population ages, increased interest is focused on muscle and bone, particularly the loss of these tissues in older adults due to the high morbidity associated with sarcopenia (loss of muscle mass and function) and bone fragility.

Some evidence exists demonstrating the musculoskeletal benefits of components of dairy foods such as whey protein and its constituents. More recently attention has shifted to the musculoskeletal benefits of dairy foods as a whole and the dairy matrix, especially in high-risk populations such as older adults in aged-care. Collectively well-executed research evidence from dairy-based research can inform dietary guidelines, guide policies and shape practice to improve musculoskeletal outcomes across the lifespan.

Learning Points

1. The nutritional and health effects of a food are a result of a food's structure and its nutrient composition, and how these interact with each other – this is the Food Matrix Effect.

2. Research on the dairy matrix has established beneficial matrix effects for bone health, body composition and cardiometabolic health.

3. The interaction of the unique combination of nutrients and structure in the dairy matrix influences factors such as the digestion and absorption of nutrients and so the metabolic response.

4. Positive impacts of dairy foods on bone health go beyond calcium to involve other nutrients and bioactive components in the dairy matrix, including protein, phosphorus, bioactive peptides and vitamin K2, working in concert.

5. Although whole-fat dairy foods such as cheese are relatively rich in saturated fatty acids, they are not associated with increased CVD risk due to the interactions of the components and structure of the matrix which can modify blood lipids.

6. Nutrition research has shifted focus to examine the relationship of whole foods with health and this translates to a growing recognition that dietary guidelines should also be based on foods rather than on single nutrients.

About EFAD

EFAD The European Federation of the Associations of Dietitians
THE VOICE OF EUROPEAN DIETETICS

The European Federation of the Associations of Dietitians (EFAD) is the voice of 35,000 European dietitians in 30 European countries representing more than half the profession in Europe. Through its membership of 33 National Dietetic Associations and 40 Higher Education Institutes, EFAD aims to improve European nutritional health and reduce health inequalities among the populations its members represent.

Our Mission

To support member Associations in developing the role that dietitians have in the improvement of nutritional health in Europe.

Our Vision

EFAD, National Dietetic Association members (NDAs), Education Associate Members and dietitians are the recognised leaders in the field of dietetics and nutrition. To achieve our vision, EFAD:

- supports the highest quality of dietetic education, professional practice, research activity and partnership.
- pro-actively initiates and grows collaborations in order to improve nutritional health, reduce socioeconomic health inequalities and contribute to economic prosperity.

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About EMF

The European Milk Forum (EMF) is a collection of national and regional dairy organisations from eight European countries - Austria, Belgium, Denmark, France, Ireland, Netherlands, Northern Ireland and Norway.

'Milk, Nutritious by Nature' is a science-based information initiative from EMF addressing issues on dairy and health, and engaging in a dialogue with health and nutrition professionals.

The aim is to build a clearer understanding of the role of milk and dairy products in a healthy, sustainable diet across Europe.

Find more about EMF here

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