



WHAT'S NEW ?

A conference for health and education professionals

28th April 2016

W5, AT THE ODYSSEY, BELFAST

THE DAIRY COUNCIL FOR NORTHERN IRELAND



WHAT'S NEW?

CONFERENCE PROGRAMME

09:30 REGISTRATION AND COFFEE

10:00 Professor Barbara Livingstone
Ulster University
Chairperson's introduction

10:15 Professor Benoît Lamarche
Laval University, Canada
Novel perspectives on the association between dairy, dairy fat and cardiometabolic health

10:50 Dr Katie Adolphus
University of Leeds
Effect of breakfast consumption on cognitive and academic performance in children and adolescents

11:25 COFFEE

11:45 Dr Gerry McKenna
Queen's University Belfast
Oral health in older people - impact on diet and quality of life

12:20 Dr Kirsty Pourshahidi
Ulster University
An update on vitamin D - how can we best meet the new recommendations ?

12.55 LUNCH

2:00 Dr Michelle McKinley
Queen's University Belfast
Weight loss after pregnancy - a challenging but opportune time to intervene

2:35 Professor Joline Beulens
VU Medical Center, Amsterdam
Dairy foods and diabetes - a protective role?

3:10 CLOSE

Novel perspectives on the association between dairy, dairy fat and cardiometabolic health

Professor Benoît Lamarche

INSTITUTE OF NUTRITION AND FUNCTIONAL FOODS, LAVAL UNIVERSITY, QUÉBEC CITY, CANADA

Research over the last decades has provided insightful but sometimes discordant information as to the role of dairy foods in health. Because high-fat dairy products contribute significantly to dietary fat and SFA intake, and because SFA are so strongly believed to be involved in the etiology of CVD, many guidelines advocate consumption of low-fat dairy products as opposed to products with higher fat content. Yet, the association between SFA and the risk of CVD remains highly controversial. Several meta-analyses of population studies have in fact failed to find an association between dietary SFA intake and the risk of CVD.

Our recent systematic review of evidence from epidemiological studies indicate that intake of total dairy, low-fat dairy, cheese and fermented dairy is associated with a reduced risk of stroke. Consumption of total dairy, low-fat dairy and milk specifically may be associated with a lower risk of hypertension. A large clinical trial on dairy intake and clinical outcomes such as CVD is highly unlikely in the future. In that context, interpretation of the association between dietary SFA from various dairy foods and health will always rely on indirect evidence from epidemiological data as well as from a thorough understanding of their impact on many cardiometabolic risk factors, not just LDL-C and blood pressure. We argue that focus on low-fat dairy products in current guidelines to limit dietary SFA intake is not justified by current evidence

Effect of breakfast consumption on cognitive and academic performance in children and adolescents

Dr Katie Adolphus

HUMAN APPETITE RESEARCH UNIT, SCHOOL OF PSYCHOLOGY, UNIVERSITY OF LEEDS

Breakfast has been suggested to positively affect learning in children in terms of cognitive and academic performance. The presentation will report the results of two systematic research reviews. The aim of the first systematic review was to systematically review the evidence for the effects of breakfast on cognitive performance in children and adolescents. The effects of breakfast were evaluated by cognitive domain and breakfast manipulation. A total of 45 studies reported in 43 articles were included in the review. Most studies considered the acute effect of a single breakfast (n = 34). The acute studies were breakfast compared with no breakfast (n = 24) and/or comparisons of breakfast type (n = 15). The effects of chronic school breakfast program (SBP) interventions were evaluated in 11 studies. The findings suggest that breakfast consumption relative to fasting has a short-term (same morning) positive domain-specific effect on cognition. Tasks requiring attention, executive function, and memory were facilitated more reliably by breakfast consumption relative to fasting, with effects more apparent in undernourished children. Firm conclusions cannot be made about the acute effects of breakfast composition and the effects of chronic breakfast interventions because there are too few studies and these largely report inconsistent findings.

The aim of the second systematic review was to systematically review the evidence for the effects of breakfast on more ecologically relevant academic performance outcomes in children and adolescents. The literature search identified 25 articles. Fifteen studies employed cross-sectional designs to examine the association between habitual breakfast consumption and academic outcomes. Ten studies examined the impact of chronic interventions (SBPs) on academic outcomes. The findings demonstrated suggestive evidence that habitual breakfast consumption (frequency and quality) is associated with children's and adolescents' academic performance. Additionally, the provision of breakfast at school as part of chronic SBP interventions tended to have positive effects on academic performance. Although more research is needed, a key message from this research is that breakfast consumption relative to breakfast skipping, can have a small positive effect on cognitive function and actual academic outcomes in adolescents

Oral health in older people – impact on diet and quality of life

Dr Gerry McKenna

CENTRE FOR PUBLIC HEALTH, QUEEN'S UNIVERSITY BELFAST

Over the past 20 years, there have been major changes in oral health profiles in Europe, which reflects changing attitudes to the importance of oral health in older age. Throughout a life course, damage to teeth accumulates and consequently there is a high burden of functional impairment and dental disease in old age with high risk of further toothloss.

Dental caries (tooth decay) is the most prevalent, non-communicable infectious disease in the world. Caries continues to be a major public health problem and affects most adults to varying degrees, resulting in pain, loss of chewing function, poor aesthetics and consequently Oral Health-related Quality of Life. Severe periodontitis (gum disease) disproportionately affects older adults, and left untreated, causes pain, toothloss and represents a chronic source of infection which can also negatively impact general health. Restorations placed to fill cavities in teeth have a limited lifespan, and those placed earlier in the life cycle need to be replaced periodically. The burden of replacement accumulates over the life course, ensuring that the risk of toothloss also accumulates as patient age. These adverse effects are complicated by the medical, economic and social circumstances of older patients, particularly the onset of dry mouth, which is physiological, yet common in old age as a secondary effect of multiple medications. Oral dryness reduces the host response to bacteria that cause oral diseases, and thus increases the risk of oral disease and toothloss.

Interventions for oral disease have a high public health relevance. Oral disease affects an estimated 3.9 billion people worldwide. Daily adjusted life years (DALYs), a marker of the burden of oral disease, are estimated to have risen by 20% in the past 20 years as a consequence of population growth and aging. Costs of care are also increasing, and there is evidence that these costs result in inequality of access to oral healthcare for the elderly. Current estimates indicate that treatment of oral disease accounts for 5% of public health spending in the EU with annual treatment costs rising from μ 54 billion in 2000 to a projected μ 93 billion in 2020, a cost greater than the management of stroke and dementia combined. European health systems are ill prepared to cope with this escalating burden of care and its associated costs.

In the elderly, the effects of oral disease can be difficult to manage, with toothloss affecting food choice, quality of life and general health. Oral and chewing function in particular diminish as natural teeth are lost. Toothloss can also have negative impact on appearance and self-esteem, with broader psycho-social consequences, such as withdrawal from social contact. Population surveys have indicated a growing concern among older adults regarding toothloss, with a markedly decreasing acceptance of the condition in older patients. Given the rapidly changing age profile of the European population, and their complex health needs, there is a need to develop new evidence-based approaches to healthcare, including oral healthcare, which yield better clinical outcomes for elderly patients but are also cost-effective.

An update on vitamin D – how can we best meet the new recommendations?

Dr Kirsty Pourshahidi

NORTHERN IRELAND CENTRE FOR FOOD AND HEALTH (NICHE), ULSTER UNIVERSITY

Evidence of both low dietary intakes of vitamin D, as well as poor vitamin D status is frequently reported in nationally representative population surveys, including the UK National Diet and Nutrition Survey and the National Adult Nutrition Survey in Ireland. Preventing vitamin D deficiency is of vital importance due to its multifactorial roles in the human body. Traditional roles of vitamin D lie within the musculoskeletal system, with deficiency leading to conditions such as rickets in children, or osteoporosis and osteomalacia in adults. More recently, sub-optimal vitamin D status has also been linked to a plethora of other diseases and conditions, such as multiple sclerosis, diabetes, cardiovascular disease and some cancers.

Our main source of vitamin D is endogenous synthesis following exposure to the UV-B light from the summer sun. With today's modern lifestyles, however, it has become evident that this may not be an effective means of maintaining an adequate vitamin D status across the year. Therefore, we are reliant on topping up our body's stores with food sources of vitamin D (both natural and fortified sources) and/or dietary supplements. In 2011, the update of the Dietary Reference Intakes for calcium and vitamin D by the US Institute of Medicine prompted the re-evaluation of dietary reference values (DRV's) for vitamin D in many other countries. Previously in the UK, there were no set DRV's for vitamin D for the majority of the population (aged 4-64 years), as it was believed that adequate amounts could be synthesised from the sun. Such DRV's were only in place for certain 'at-risk' groups, including infants/young children, elderly adults, and pregnant/lactating females (7-10 μ g/day). After considering the latest research, the Vitamin D Working Group of the UK's Scientific Advisory Committee for Nutrition (SACN) has recommended a Reference Nutrient Intake (RNI) for vitamin D of 10 μ g/day for everyone aged 4+ years. For infants (0-11 months) and children (1-4 years) old, a safe intake of 8.5-10 μ g/day has been advised.

Given the habitually low dietary intakes of vitamin D typically reported, and the generally low uptake of supplementation, it is clear that alternative food-based strategies are required to help the UK population meet these revised DRV's. There is increasing evidence to support the role of vitamin D food fortification in maintaining or improving the vitamin D status of the consumer, and indeed, both mandatory policies and voluntary fortification practices are in place for a range of staple food products across the world. Emerging research on the updated vitamin D content of many animal-derived foods, as well as results from novel biofortification studies are also promising, and it is likely that a combination of fortification and biofortification strategies will be required to help consumers meet the revised requirements and tackle the problem of vitamin D deficiency at the population level.

Weight loss after pregnancy – a challenging but opportune time to intervene

Dr Michelle McKinley

CENTRE FOR PUBLIC HEALTH, QUEEN'S UNIVERSITY BELFAST

The topic of weight management in women is one of major public health importance as the impact of the obesity epidemic on the health of mothers and babies becomes apparent.

Obesity has nearly doubled worldwide since 1980. In the UK, first trimester obesity more than doubled between 1989 and 2007 from 7.6% to 15.6%. Overweight and obesity in pregnancy are associated with adverse health outcomes for both mother and baby. Furthermore, excessive gestational weight gain and postpartum weight retention are established predictors of long term obesity.

Much of the research in this field to date has focused on weight management during pregnancy but there is now increasing recognition of the importance of correcting weight before and between pregnancies.

This review will examine evidence in this area to date, highlighting gaps in knowledge about effective and appropriate weight management interventions in women during the postpartum period and key factors that need to be considered when developing interventions for this specific stage of life

Dairy foods and diabetes – a protective role?

Dr Joline WJ Beulens

VU UNIVERSITY MEDICAL CENTER, AMSTERDAM, THE NETHERLANDS

The prevalence of type 2 diabetes is increasing to an estimated 10% worldwide. Lifestyle and diet play an important role in the prevention of type 2 diabetes. Dairy foods are suggested to be associated with a reduced risk of type 2 diabetes. However, the association may differ for different dairy foods. A recent meta-analysis summarized the evidence from 22 prospective cohort studies on the association of dairy food consumption with type 2 diabetes. This study showed that total dairy food consumption was associated with a reduced risk of type 2 diabetes, but this seemed mainly attributable to low-fat dairy foods. Milk intake was not associated with risk of type 2 diabetes. Yogurt consumption was associated with a reduced risk of type 2 diabetes at 80 g/day, but not with higher intakes. Cheese intake was not associated with risk of type 2 diabetes. These associations for fermented dairy foods could be explained by effects of probiotics or vitamin K2 in these products. Short-term intervention studies with high- or low-fat dairy foods could, however, not detect any effects on cardiometabolic risk factors such as blood lipids, blood pressure or insulin sensitivity. Similarly, a Mendelian Randomisation study showed that milk intake was not associated with type 2 diabetes genetically via lactase persistence.

Overall, low fat dairy and yogurt consumption may be associated with a reduced risk of type 2 diabetes. These associations should be interpreted with caution due to heterogeneity between studies

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