Dairy Day: Staying Stronger for Longer

20 November 2023

The Consumer Education Project Team

Consumer Education Project of Milk SA	Christine Leighton Project Manager christine@dairycep.co.za
	Maretha Vermaak Registered Dietitian maretha@dairycep.co.za
	Jeandre Johnston Science and Social media Officer jeandre@daircep.co.za

BIOS AND ABSTRACTS

Dairy Day: Staying Stronger for Longer

20 November 2023

Speaker 1	**Dr Sandra Iuliano** **University of Melbourne** sandraib@unimelb.edu.au	
Title of talk	Food, Nutrition and Musculoskeletal Health – Staying Stronger for Longer	

BIO

Dr Sandra Iuliano has researched in the field 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 and food-based approaches to prevent falls, fractures, and malnutrition in older adults in aged-care. She provided input into the new single framework quality and safety standards in aged care, was summoned to present evidence at the Australian Royal Commission into Quality and Safety in Aged-Care regarding nutritional care in residential aged-care and is a member of the National Aged-care Advisory Council. She had presented globally on food and nutrition for older adults. She is a strong advocate for improving nutritional care and quality of life via improved food provision in aged-care

ABSTRACT

Protein and calcium are important for muscle and bone health across the lifespan. During childhood and adolescence adequate protein supports appropriate growth and development, and sufficient calcium helps ensure optimal bone accrual. While childhood growth is relatively constant in both boys and girls, adolescence is a critical time to ensure an adequate calcium intake to meet accelerated bone accrual during maturity. However, this is a time that calcium intake is often reduced in young people. Calcium supplementation is associated with increased bone mineral density accrual during growth, but benefits are lost when supplementation ceases. Protein and calcium needs stabilise during adulthood to maintain muscle and bone mass, but requirements increase again with aging. During aging more protein is required to stimulate muscle protein synthesis compared to during adulthood, partly due to a blunted anabolic response to protein ingestion. Maintaining muscle in older adults has both functional and metabolic benefits. Excessive loss of muscle mass and strength (sarcopenia) is associated with increased disability, falls and mortality. Adequate calcium helps minimise bone loss that occurs after menopause in women and in later life in both men and women. Milk, yoghurt, and cheese are one for the few food sources that contain good amounts of high-quality protein and calcium. Consumption of these foods in randomised controlled trials is associated with improved bone accrual during growth, maintenance of bone during adulthood and fracture reduction in old age. The success of these interventions in driven by good compliance with these foods, therefore the greatest benefits are gained from on-going consumption throughout the lifespan. Milk, yoghurt and cheese are an inexpensive, easily available and safe means of ensuring adequate intakes of high-quality protein and calcium to support musculoskeletal health over the lifespan and is a cost-saving means of reducing fractures in older adults

Dairy Day: Staying Stronger for Longer

20 November 2023

Speaker 2	**Dr Rivkeh Haryono, Snr Nutrition Scientist** **Dairy Australia** Rivkeh.haryoni@dairyaustralia.com.au	
Title of talk	Make or break – Communicating the importance of dairy for older Australians in Australia	

BIO

Dr Rivkeh Haryono is a Nutrition Scientist at Dairy Australia where she is responsible for reviewing the latest dairy related human health and nutrition scientific literature. In her role, Rivkeh communicates the science into policy and regulatory submissions, industry positions on nutrition issues and supports consumer marketing and communications activities. With her research background, Rivkeh manages Dairy Australia's investment in nutrition science. Rivkeh is also a Registered Nutritionist and was a participant in the Oceanic Nutrition Leadership Platform in 2016.

ABSTRACT

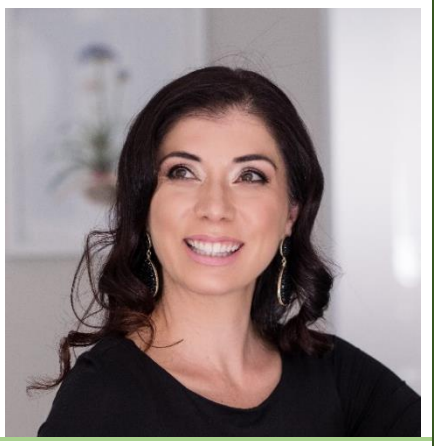
Aged care residents and older adults living within the community are currently not meeting any of the Five Food Group recommendations from the Australian Dietary Guidelines, including the dairy food group, and therefore nutrient requirements are not being met, placing them at higher risk of falls and fractures. Intake of discretionary foods are also high in this population group, so making some simple swaps can help increase dairy intake. In the policy setting in Australia, The Royal Commission into Aged Care Quality and Safety has placed aged care in the spotlight in recent years. Of the many recommendations, food and nutrition was flagged as an area for urgent attention.

Groundbreaking results in an aged care clinical trial showed for the first time the crucial role of milk, cheese and yoghurt in preventing falls and fractures in Australian aged care residents. The study conducted by the University of Melbourne and Austin Health, and funded by global dairy organisations, found a 33 percent reduction in all fractures, a 46 percent reduction in hip fractures, and an 11 percent reduction in falls in the facilities that increased their serves of dairy from 2 to 3.5 serves a day. These benefits were achieved while spending less than AUD $1 per resident per day on the increased serves of dairy.

Dairy Australia had two key objectives associated with promoting the research being 1/ to drive awareness that increasing consumption of dairy foods in older adults reduces their risk of fractures and falls and 2/ to increase update of dairy in an aged care setting and within the community. To achieve these objectives, Dairy Australia has been leading a phased campaign targeting consumers, healthcare professionals and nutrition key opinion leaders.

Dairy Day: Staying Stronger for Longer

20 November 2023

Speaker 3	**Monique Piderit, Registered Dietitian** **Nutritional Solutions** monique@nutritionalsolutions.co.za	
Title of talk	Become a micro-influencer: Communicating nutrition science to the SA HP and consumer	

BIO

Monique is a registered dietitian at Nutritional Solutions, and PhD candidate at the University of Pretoria.

Guided by evidence-based nutrition, Monique enjoys addressing consumers and healthcare professionals alike with informative, evidence-based information on various topics of nutrition. In this hyperconnected world, social media has made many an influencer an expert in all things nutrition. Today Monique will share some insight on the importance of why we should all be communicating nutrition science on social media, to healthcare professionals and consumers alike.

Dairy Day: Staying Stronger for Longer

20 November 2023

Speaker 4	**Dr Liska Robb** **University of the Free State** Jansevanrensburgl1@ufs.ac.za	
Title of talk	Dairy's Building Blocks for Nourishing Prenatal Brain Development: Helping Children Reach their Full Potential	

BIO

Dr Liska Robb is currently a lecturer at the Department of Nutrition and Dietetics at the University of the Free State in South Africa. She obtained her BSc Dietetics degree in 2009, MSc Dietetics in 2013 and PhD Dietetics in 2021. Her research focus is on maternal and infant nutrition, with emphasis on the importance of micronutrients such as choline. She is passionate about improving long-term health by focusing on the importance of nutrition during the first 1000 days of life. She is actively involved in both undergraduate and postgraduate training in dietetics at the UFS.

ABSTRACT

Fetal and infant brain development determine the trajectory of the organism across the lifespan. Optimal maternal and infant nutrition during the period of rapid brain development is vital to the integrity of the neural substrate for subsequent lifelong functions. A review of the literature reveals 6 nutrients that have been studied with respect to maternal nutrition and subsequent offspring brain development: folate, iodine, iron, vitamin D, choline, and docosahexaenoic acid (DHA; 22: 6n-3). The research is discussed with a focus on the timing of nutrient needs (preconception, prenatally, and postnatally) as well as potential confounding and unobserved variables (Cheatham, 2019). The role of dairy in providing some of these vitally important nutrients is also highlighted.

Dairy Day: Staying Stronger for Longer

20 November 2023

Speaker 5	**Prof Corrina Walsh** **University of the Free State** walshcm@ufs.ac.za	
Title of talk	Dairy intake in SA: Implications for health	

BIO

Corinna Walsh is a professor in the Department of Nutrition and Dietetics at the University of the Free State. Her research interests include Developmental Origins of Health and Disease, HIV and malnutrition with a specific focus on nutritional health, food security, and transitions from traditional to Western lifestyles and how these impact on health. She has published widely and has supervised more than 40 Masters and Doctoral students. Corinna is a National Research Foundation rated researcher and is the past president of the Nutrition Society of South Africa

ABSTRACT

A recent review of the literature aimed to investigate South African adults' dietary intake and eating patterns from 1997 to 2021. Results showed that in all groups, the frequent intake of milk and milk products was relatively low (except among those who lived on farms and in upper-class urban areas). When milk was consumed, it was usually in small amounts (e.g. used in tea and sometimes coffee). The consumption of cultured milk (Amasi) was reported in some studies.

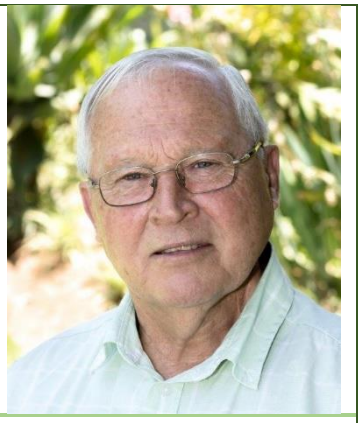
In terms of nutrient intakes, the prevalence of inadequate intakes of calcium and potassium was universally high across all strata represented in the studies included for the reference period. Thirteen (13) studies reported calcium intakes in women (ranging from 116 to 690 mg/day) and 10 in men (ranging from 229 to 620 mg/day). Calcium intakes were lower in rural compared to urban dwellers.

The low intake of dairy amongst most South Africans is concerning, since dairy intake has multiple beneficial functions that have been widely studied and are fundamental to the health and development of people.

This presentation will highlight the implications of inadequate dairy intake for health, including aspects such as the glycemic index of the diet and calcium absorption.

Dairy Day: Staying Stronger for Longer

20 November 2023

Speaker 6	**Dr Heinz Meissner** **Milk South Africa** **heinz@milksa.co.za**	
Title of talk	Environmental management by the dairy sector	

BIO

Senior positions which Dr Meissner held include Professor in Animal Nutrition at the University of Pretoria (1983-1995) and Director of the ARC's Animal Nutrition and Products Institute (1995-2004) at Irene where he managed the interface between animal production, product development and consumer science. Since retirement in 2007 he is consulting for various institutions, but primarily the Dairy Industry where he since 2008 manages the R & D initiative of Milk SA. He is also an Extraordinary Professor at the UP Faculty of Veterinary Science since 2009.
Apart from animal nutrition and management, Dr Meissner has vast experience in environmental issues and has represented the Dairy Industry on the Scientific Committee for the Environment of the International Dairy Federation (2010-2018). He has published more than 200 scientific publications; developed the well-known Meissner-tables for estimating grazing capacity (1982-1983); for Agri SA, compiled the document ''Implications of a carbon tax and offset system for Agriculture in South Africa'' (2017); developed the Code of Best Practice for the Red Meat Producers Organization (RPO) (2010, 2014 and 2023); wrote a document on ''The Status, Socio-economic and Environmental Impact and Challenges of Livestock Agriculture in South Africa'' (2011-2012), and wrote the major part of the SAJAS Vol 53 Review paper: ''The broad-based eco-economic impact of beef and dairy production: A global review'' (2023).

He has received a number of recognitions: During his term of office at the ARC-ANPI, the Institute received the award in 2001 from the Department of Agriculture ''as the research institute that has made the most outstanding contribution towards food safety, food security and nutrition for the people of South Africa''; in 2003 he received the award Agricultural Scientist of the Year from the Agricultural Writers Association of SA; in 2004 the Gold Medal of the SA Society of Animal Science for ''Exceptional Service to the Livestock Industry''; in 2008 an award from the RPO, for ''Exceptional Service to Agriculture, Animal Science and the Red Meat Industry''; in 2015 from the Animal Feed Manufacturers Association, the AFMA Person of the Year award, and in 2023 from Milk SA an award in recognition of the distinguished contributions in the field of science &technology, which had a significant impact on the image and competitiveness of the SA dairy industry.

Dairy Day: Staying Stronger for Longer

20 November 2023

ABSTRACT

The goal of the dairy sector is to provide nutritious food in an economic, social and environmental responsible manner, and to endorse the UN 2030 Agenda for Sustainable Development. The presentation will deal with environmental integrity as it pertains to greenhouse gas (GHG) emissions, soil health and nutrient supply, waste management, water quality and quantity, and biodiversity.

Greenhouse gas emissions: Reduction in GHG on dairy farms is a priority focus of research and expert support. Estimates from pasture-based dairy farms average 1.12 kg CO_2 eq/kg FPCM, which resembles main milk producing countries. Methane emissions from dairy cattle, because of various interventions such as improved feeding and breeding practices, declined by 31% from 2010 to 2017. Nitrous oxide on dairy farms results mainly from over-fertilization. Through testing and extension, nitrogen application has been successfully reduced from 300-400 kg/ha/year to 150-250 kg/ha/year.

Soil health and nutrient supply: Soils rich in organic carbon are associated with enhanced carbon sequestration, biodiversity, water cycling, productivity, and climate change mitigation. The influence on carbon sequestration is well illustrated in a case study on two farms: On one farm the soil C declined from 4.9 to 4.2%. The farm CO_2 eq emissions were 8 412 tons/annum, but because of the decline, the net emissions increased to 20 612 CO_2 eq. On the other farm, soil C increased from 2.6 to 2.8%. The farm CO_2 eq. emissions were 15 563 tons/annum, however due to the increase, the net emissions decreased to 7 123 CO_2 eq.

Waste management: Waste is of concern from pre-farm gate through to dairy processing plants. Most dairy farms have waste disposal and sewage systems which use the solids as fertilizers and the water in irrigation or recycling for cleaning. Some large dairy processing companies have waste reduction and water cleaning operations, some of which generate methane for electricity and the purified water recycled for cleaning.

Water quality and quantity: Water is a finite and vulnerable resource and must be dealt with responsibly, both as it applies to quantity and quality. Recent developments and initiatives are steadily contributing towards creating a culture of circularity and sustainability. For example, a water stewardship program has been introduced which encourages innovative initiatives in water management, ecosystem protection, recycling, and effluent treatment.
Biodiversity: The country is rich in natural resources, which include its biodiversity and ecosystems. With increasing agricultural production, the development of a biodiversity-based agricultural system to ensure future sustainability has become a key driver. Therefore, many dairy farms have undertaken to integrate biodiversity-conscious approaches in their businesses. The vast costs involved in repairing ecosystems are understood and therefore the benefits in removing aliens, and monitoring soil health, structure, nutrients and biological activity, are recognised.