

Accepted Abstracts

Food Safety 2019 ***Food Science 2019***



2nd International Conference on
Food Safety and Hygiene
&

7th International Conference on on
Nutrition, Food Science and Technology
March 07-09, 2019 | London, UK

Impact of a modified version of baby-led weaning on dietary variety, nutrients and food preferences in infants

Brittany Morison

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Baby-led weaning (BLW) is a form of complementary feeding where the baby feeds themselves foods that they can pick up right from the start of complementary feeding. It appears to be gaining popularity in the United Kingdom and New Zealand. However, the published evidence available in this area is very limited. Baby-Led Introduction to Solids (BLISS) is a modified version of BLW,

and the BLISS study is the first randomized controlled trial of a baby-led approach to complementary feeding in the world. It aims to address this current gap and determine whether a baby-led approach is associated with potential health benefits or risks in infants through to 2 years of age.

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Probiotics, diet and cancer therapy: A promising synergistic approach

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In the last decade, interactions between human microbiome and tumour have attracted much interest in trying to understand the characteristics of complex microbial communities, as well as their possible mechanisms through which they are involved in cancer prevention, carcinogenesis and anti-cancer therapy. Cancer patients can benefit from different types of therapeutic strategies. However, the toxicities associated with these therapies can cause dysbiosis, colitis and IBS symptoms, affecting the patient's quality of life and the response to therapy. Several studies identify a compositional and functional imbalance in the intestinal microbial community associated with GI mucositis induced by chemotherapy. Furthermore, signs of a previous dysbiosis may also occur due to the effect of gastric tumours on the digestive system, increasing the risk of systemic infections. It is well known that there are several dietary interventions aimed to improve dysbiosis and IBS symptoms. In this context, a dietary regime containing low glycaemic index foods, high in soluble fibre,

adequate in protein, high in omega-3 containing foods (wild fish and low in omega-6 nuts), dairy free, red and cured meat free was effective in reducing or eliminating IBS symptoms, such as diarrhoea/constipation episodes, and bloating in 80% of the patients analysed (n=146, age 18-64, 120 women, 26 men). The purpose of this study was to see if the same dietary regime, in combination with the administration of probiotics containing *Lactobacillus rhamnosus*, applied to a small number of pancreatic cancer patients at the beginning of their first cycle of chemotherapy will improve the common gastrointestinal side effects to prevent weight loss and dysbiosis preliminary results (patients n=10, age 40-75 without metastatic tumours) show that all the patients experience only short diarrheal episodes followed by constipation and tiredness in the two days after the chemotherapy but no further digestive symptoms in the following days or weight loss.

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We are what we eat. The making of Italians through food

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The aim of this paper is to understand Italianness through food. I will look at post unification Italy through the lens of food and I will try to answer the following questions: what role did food play in the unification of the country? How was regionalism integrated into the new national state through food? How did food shape Italy in the beginning of the 20th century? In particular, I will examine Pellegrino Artusi's cook-

book, but also literary texts and magazines dealing with food culture and the development of "Italianness" during and after Risorgimento. In this paper I will draw on an interdisciplinary approach to food studies to understand the importance of food in the making of Italians from a cultural, political and economic perspective.

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Contemporary predictive Microbiology for Food safety and quality

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Predictive microbiology has been termed the quantitative microbial ecology of foods – the behaviours of bacteria and other microorganisms in foods and food processing environments including growth, survival, death and cross-contamination. By measuring the patterns of growth and inactivation and summarising data as mathematical models, they can be used to rapidly assess the behaviour of given food-associated microbes reducing the need to do extensive experimentation. Recently we have established an online, user friendly platform called CB-Premium (<https://www.cbpremium.org/>) that allows ready access to a continually expanding suite of predictive models. We see CB-Premium allowing rapid development of safety plans for many food commodities and for all major pathogens. CB Premium extends the value of ComBase (<https://www.combase.cc/index.php/en/>), a large international database of quantitative microbial growth data

for foods. Alongside CB-Premium and ComBase, we continue to actively develop predictive models that extend to prediction of shelf-life of perishable foods. Specifically, we have developed and validated models to predict shelf-life end points of chilled vacuum-packed red meat that should be flexibly applicable within domestic and export meat supply chains. Such models have been developed with the concept that they are most reliable when there is assurance of consistent product hygiene and through use of appropriate and/or innovative hurdle technology. Successful implementation of such models could be useful in developing models for other food commodities, especially in the convenience RTE sector, providing the opportunity to not only keep food safe and nutritious but also contributing to food wastage reduction.

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The effect of adding whey protein to a moderately high-fat meal on postprandial lipaemia**Jelena Vidic**

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Objective: Presently, whey protein has been subject of many studies investigating human health due to their amino acid content. As a result, the current double-blinded, randomized, controlled trial aimed to investigate the effect of adding whey protein to a moderately high-fat meal on Postprandial Lipaemia (PPL).

Methods: Five overweight and obese postmenopausal women (aged between 51-70 years, with a mean BMI of 35.6 kgm^{-2} , mean % body fat of 50.1) who do not perform more than 2.5 hours of exercise per week completed two trials, consuming breakfast either with or without added whey protein (15g) after which blood samples were collected (0 h, 2 h, 4 h, 6 h postprandially). Blood was analysed to obtain the fasting triacylglycerol (TAG) and fasting glucose as well as postprandial TAG and postprandial glucose concentrations. Resting metabolic

rate (RMR) (2.5 h and 5.5 h postprandially) as well as subjective appetite sensations and palatability of the meal were measured.

Results: There was no significant difference in postprandial lipaemic response, postprandial glycemia (PPG), RMR, subjective appetite sensations or palatability between the two meals. However, it was observed that the whey protein meal significantly increased the desire to consume salty food and drink ($p=0.048$).

Conclusion: The addition of whey protein did not have any significant effect on postprandial TAG concentrations. However, our study showed that the consumption of whey protein did not have any detrimental effects on other measured parameters, such as PPG and that therefore can be incorporated into diet.

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Boosting Brain performance – Reducing risk of cognitive decline and Mental health challenges - Why dietary choices and nutritional supplements matter**Susan Kath**

Founder of About Nutrition, Australia

With our understanding of neuroplasticity, we are now presented with the opportunity to investigate the potential to modify and improve brain activity and function. Through the assessment of genes, epigenetic and metabolic markers, individualized treatment plans are being developed that are demonstrating reductions in cognitive decline, and improvements in neurological function. The development and progression of alzheimer's disease and dementia appears to be influenced by dietary choices, nutritional status, epigenetic and lifestyle behaviours. By focusing on modifying dietary intake and lifestyle to optimize health markers, rather than merely preventing disease, this may arrest and even reverse cognitive decline. Studies are also demonstrating reductions in symptoms such as depression, anxiety and schizophrenia through modifications in diet and addressing nutritional

deficiencies. Nutritional supplementation may also improve the efficacy of medication when required. Research is unveiling a strong symbiotic relationship between humanity and our microbiota and the importance of the gut brain axis and its intercommunication. Providing a dietary model that supports not only the optimization of our own health, but also that of the microbiota, may contribute to greater neurological health. Developing protocols that support and enable people to implement and comply to dietary and lifestyle changes are key to supporting improved health outcomes. My presentation will outline how modifications of dietary choices and key nutrients may assist in reducing neurological decline and supporting brain health.

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The 21st Century Challenge: To feed 10 billion people safely, securely and sustainably

Malcolm Elliott

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In 1970, when Norman Borlaug, “The Man Who Fed the World”, accepted the Nobel Peace Prize, he observed that “Most people still fail to comprehend the magnitude and menace of ‘the population monster’. If the world’s population continues to increase at the estimated present rate of two per cent a year it will reach 6.5 billion by the year 2,000 unless man becomes more realistic about his impending doom”. He observed that “it is time that the tide of the battle against hunger was changed for the better - but ebb tide could soon set in if we become complacent”. The harsh reality of this warning was recognized in 2008 when the price of wheat and maize doubled and that of rice tripled, leading to food riots in twenty countries. The rate of increase of the world’s population has not been reduced and in October 2011 it reached 7 Billion of whom some 948 million were chronically malnourished. As

the global population continues to rise, we must confront the question “how will we feed 10 billion people safely, securely and sustainably”. We will need to grow more food on less land, using less water, less labour and fewer agrochemicals while we confront global climate change and avoid further dramatic reductions of biodiversity. Norman Borlaug was in no doubt that the problems could be resolved so long as the whole range of scientific advances is deployed at the earliest opportunity. Borlaug was particularly concerned that the campaigns of “anti-science zealots” are causing the potential benefits of molecular approaches to crop and animal improvement to be missed. The regulations that are applied to food safety will be discussed with emphasis on these issues.

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