Scientific Tracks & Sessions
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Food Safety 2019
Food Science 2019





2nd International Conference on
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Priscila Zaczuk Bassinello, J Food Technol Pres, Volume 3
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Pasta, snack crackers and bean temp-eh hamburger: Food development with nutritional and functional appeal

Priscila Zaczuk Bassinello
Embrapa Rice and Beans, Brazil

The search for food products with nutritional and functional appeal coupled with curiosity about new types and availability of food, as well as ready-made and / or ready-to-eat foods has increased in recent decades. In this scenario, the development of bean gluten free products is attractive due to its high protein content, dietary fiber, complex carbohydrates, and the presence of B vitamins, minerals as well as phenolic compounds, antioxidants and anthocyanins. Therefore, the development of quick cooking noodles and bean snacks at low cost is an option for improving the nutritional quality of these products. Following this trend, another alternative to consumers is the common bean temp-eh, typically produced by the solid fermentation of soybean by the fungus *Rhizopus oligosporus*. The objective of this study was to develop pasta, biscuits and bean temp-eh hamburger, and to evaluate their composition and sensorial acceptance. The pasta and biscuits were developed from precooked carioca and black bean flours, and the temp-eh produced with 100% carioca or white bean grains as well as with the mixture of carioca beans and soybeans (1:1). The best temp-eh composition was used to formulate the temp-eh hamburger. Pasta and snack crackers made from carioca and black beans showed high protein and fiber content, low caloric value when compared to commercial products based on wheat flour. BT presented a remarkable reduction of the protein content in relation to the traditional soybean temp-eh, but presented high fiber content, lower caloric value and antioxidant activity. Hamburgers had reasonable acceptability by consumers and resembled chicken hamburger. In general, the products developed showed good sensory acceptance, nutritional and functional appeal, that is, they raised the desires of consumers who search for practical foods without giving up the nutritional quality or healthy properties. In addition, they can be used as a good protein source for vegans and vegetarians.

Speaker Biography

Priscila Zaczuk Bassinello is a food science researcher at Embrapa Rice & Beans (since 2002) with focus on grain quality-technological, nutritional, functional, bio-fortification, and sensorial quality of dry beans, rice and their byproducts for food development. She is a coordinator of the AACC rice division (2011), member of the International Network for Quality Rice led by IRRI (2011-2014), head of the Embrapa Research Group of Special Rice and Bean grains (2015-2016), executive secretary and active member of Embrapa projects Portfolio on food, safety, Nutrition and health since 2013. She collaborated with the Embrapa's Document "Vision 2030: The future of Brazilian agriculture" (2018). She was titled Ambassador of Beans by the Sector Chamber of the Bean and Pulses Productive Chain, at the Brazilian Ministry of Agriculture (2018). She is the professor who advises master/doctor's students on food science and technology at the Goias Federal University and collaborates with other university programs. She is also an authored/co-authored more than 70 research papers, 1 book and 6 book chapters in the last 10 years, and has just published an international book on ''Phaseolus vulgar-is: Cultivars, Production and Uses'', as editor. She contributed to the organization for economic cooperation and development consensus document on common bean constituents (Safety of Novel Foods and Feeds, No. 27). She co-inventoried a Brazilian patent 14224-6 (2012) on a computer program for automation of Matton Bean Cooker, at INPI (National Institute of Industrial Property).

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Notes:

Gavin Dunne, J Food Technol Pres, Volume 3
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Transforming olive waste into animal feed

Gavin Dunne
The Olive Feed Corporation, Ireland

8 million tonnes of olive waste are produced each year worldwide. That is after the oil has been extracted the skin, flesh, stone and seed remain. There is no uniform way of disposing of or processing this in Europe, or anywhere else. It gets turned into cheap bio fuel that produces GHG's, it gets dumped causing air, soil and water pollution. Through a proprietary caramelization process. The Olive Feed Corporation has transformed this waste into a palatable, safe and nutritious animal feed, that when consumed by animals produces the most flavorful and expensive meat in the world, while also reducing methane gas emissions from animals.

Speaker Biography

Gavin Dunne is an Irish entrepreneur who after establishing Ireland's first low cost telco and selling the company to World-com, went on to build real estate projects around the world. He is now Founder and CEO of The Olive Feed Corporation after discovering a proprietary cooking process to turn olive waste into animal feed.

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Notes:

Sushil Chandra Mahapatra, J Food Technol Pres, Volume 3
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Administering gluten free diet: Personal experience

Sushil Chandra Mahapatra
All India Institute of Medical Sciences, India

Gluten is a cereal protein largely found in wheat and others, which triggers an auto-immune enteropathy in some genetically predisposed children, leading to a clinical problem called Celiac Disease (CD). The only known treatment for this condition is a Gluten Free Diet (GFD). When the CD patients follow a strict GFD, there is an improvement in the clinical and histological parameters. However even a very small reintroduction of gluten in the diet leads to atrophy of intestinal architecture of villi, leading to malabsorption, as seen in many micro-challenge studies. Various factors such as, inadvertent gluten consumption from "hidden" sources; too strict imposition of GFD; cross-contamination of originally gluten-free cereals during processing stages; lack of proper knowledge of the CD and its management; poor socio-economic status; and improper labeling of available food products for CD patients, make GFD compliance exceedingly difficult. We used dietary and compliance tools to provide and ensure a near zero GFD in the pediatric gastroenterology clinic. The assessment of nutritional intake was assessed by a. 24 h Dietary recall and b. Semi-Quantitative Food Frequency Questionnaire (SQFFQ). The compliance to GFD was ensure by a. Semi-Quantitative Gluten Food Frequency Questionnaire (SQGFFQ); b. GFD Information Education Communication (IEC) booklet; c. Knowledge Attitude Practice (KAP) questionnaire and d. Nutritionists' GFD Adherence Scale (NGFDAS). Finally, to provide a near zero GFD, an improvised GFD advice (iGFD) was done. With motivating the parents, care givers and the CD patients, most of the patients did improve as indicated by their growth and intestinal biopsy.

Speaker Biography

Sushil Chandra Mahapatra has completed his MD from AIIMS, New Delhi; the premier medical institute in India in the year 1985. He has many publications that have been cited over 1000 times, and his publication H-index is 15 and i-10 index 18. He is a WHO fellow and has been awarded Best Teacher by the Association of Physiologists and Pharmacologists of India. The above study was part of the PhD thesis work of his student Ms. Shihka Nayar.

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Zuzana Dicakova, J Food Technol Pres, Volume 3
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Monitoring of the salt content in cheese and the other dairy products designated for Pre-school children

Zuzana Dicakova
University of Veterinary Medicine and Pharmacy, Slovakia

The salt is the most famous flavouring of foodstuff, an important preservative and a necessary supplement for healthy functioning of the organism. However, over average use of salt is a risky factor which influences health of not only adults but children as well. Our usual diet is fairly rich in salt content, whose daily intake doubles the recommended dose. According to recommendations for children under 15 years old, the daily intake of salt should range from 0.5 g/day to 2 g/day, including salt contained in dairy products, meat products, bakery products and many others. Nowadays, daily salt intake exceeds recommended standards. The recommended maximum of daily salt intake for pre-school children is up to 2 g. Our interest is primarily focused on milk products, especially cheese, how they are involved in the salt income. The problem of our era is that the range of dairy products is immensely broad, and no literature or experts knows which specific cheeses are the most suitable for certain age categories. In the sales network, we encounter a number of different types of cheeses, whose graphic design evokes that this cheese is suitable for children, but is it really so? Based on this fact, we experimentally determined the salt content in cheeses and the other dairy products which used to be consumed by children in Slovakia, and the results were compared with the salt content given on the product packaging. The amount of salt was determined by titration through the argentometric method. Based on determined salt concentrations, appropriate portions of each kind of cheese were designed for preschool kids to meet the requirements of healthy nutrition. From our calculations, we can see that choosing the right kind of cheese is important to meet the recommended standards. With a suitable cheese, the proportion of salt in dairy products can be reduced up to 2.5 times. By giving specific examples to parents we can help them choose foods that meet healthy eating requirements for children. The eating habits created in childhood are very important, so it is essential to monitor the family-friendly assortment as well as school meals.

Speaker Biography

Zuzana Dicakova holds PhD in food hygiene from University of Veterinary Medicine and Pharmacy in Košice, Slovakia, where she was employed as a researcher and now as a teacher at the department of food hygiene and technology. She is a guarantor of teaching subjects: food chemistry, food nutrition assessment and production technology and quality of saccharides. Her main research focuses on the hygiene and technology of food of animal origin with relation to amino acid composition and biogenic amines formation. As a member of research teams participated in the determination of amines in meat, meat and dairy products and fish in various national projects related to food hygiene. She deals with the composition of foods with a focus on salt content. Dr. Zuzana Dicakova is also involved in sensory analysis of food and specification of honey based on its colour spectrum. She also works as a tutor of Slovak and foreign students and she is author/co-author of five textbooks and manuals relating to food hygiene and food chemistry.

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Notes:

Amin Olaimat, J Food Technol Pres, Volume 3
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Survival of *Shigella* and *Salmonella* in ready-to-eat Mediterranean vegetable salads

Amin Olaimat
Hashemite University, Jordan

Salads form an indispensably healthy part of the Mediterranean diet. Recently, salads have served as a transmission mode for pathogens. This study investigated the growth behavior of *Salmonella* and *Shigella* in different types of salads namely: tomato cucumber (TC) salad without additives, TC with additives (1.0% lemon juice and 0.5% salt), TC with tahini (10% w/w), coleslaw, and toum sauce. Salads were inoculated with ca. 5-6 log10 CFU/g of either a cocktail of 5 serotypes of *Salmonella* or 2 *Shigella* spp. The salads were stored at 4°C, 10°C or 24°C for 5 d. The pathogens were able to grow or survive in the different salad types except for coleslaw and toum sauce, where the numbers in these salads declined sharply at 24°C but slowly at 4 and 10°C. *Shigella* spp. Survived in higher numbers in the different salads at low temperatures and low pH salads compared to *Salmonella* spp. This study shows that *Salmonella* and *Shigella* spp. are able to survive and potentially grow in different types of salads. Therefore, proper control of storage temperature, strict hygienic practices, and application of decontaminate washing steps for the food ingredient, utensils and food contact surfaces prior to preparation are crucial.

Speaker Biography

Amin Olaimat is an assistant professor of food safety and hygiene at the department of Clinical Nutrition and Dietetics, Faculty of Allied Health Sciences in the Hashemite University, Jordan. He has completed his PhD in food science from University of Manitoba, Canada and obtained his BSc and MSc degrees from the Jordan university of Science and Technology, Jordan. He also published 40 peer-reviewed papers in reputed international journals and 20 conferences beside 1 book chapter. His publications have been cited over 900 times with H-index of 13. His current research areas include study and analysis the microbial quality and safety of traditional foods, the antimicrobial activity of functional ingredients from natural sources against food borne pathogens in different food products, development of active packaging materials to improve the quality and safety of foods, development of functional products and study the sensory characteristics.

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Bowirrat Abdalla, J Food Technol Pres, Volume 3
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Obesity and overweight among Arab population in Middle East

Bowirrat Abdalla
An-Najah National University, Israel

At the time that one third of the globe populations still suffers poverty and under-nutrition; two third are struggling against overindulge foods which lead to overweight and obesity, where these observable facts kill more people than malnourished and underweight population. Obesity and overweight are an important adaptable risk factor for many chronic diseases and are the fifth leading risk for global deaths. The World Health Organization predicts there will be 2.5 billion overweight adults in the world by 2017 and more than 750 million of them will be obese. Epidemiological studies of obesity in the Mediterranean basin were limited, particularly for Arab population. Nevertheless, the effects of overweight and obesity are widely documented as one of the recent leading Arab health challenges. Indeed, many efforts have been made to stress the role of cultural attitudes that may underlie the high prevalence of obesity among Arab population. Historically, bread is the main staple in the Arab's diet and consumed widely. Decades ago bread was homemade by whole-wheat flour, today the consumed bread is almost store-bought or commercially produced white-flour bread. Indeed, this is one of many examples that describes the transition from traditional diet to the modern lifestyle characterized by low fibers and high fat dietary patterns. In fact, Arab community has undergone major transitions in lifestyle-from agricultural to predominantly urban lifestyle. The transition was primarily influenced by changes in the modernization, westernization and socioeconomic status. Adopting less healthy dietary patterns, such as high carbohydrates, low fiber and high fat diet consumption, in addition to relinquishing the Mediterranean diet have been the main reasons of overweight and obesity among Arab population in Middle East.

Speaker Biography

Bowirrat Abdalla has completed his MD from Rome University, his residency in clinical neurology from London University, UK, his PhD from Tel-Aviv University, Israel and postdoctoral studies from Boston University, USA. He received his Professorship from Boston University. He has published more than 120 manuscripts and 6 books in reputed journals and has been serving as an editorial board member of repute. Furthermore, he received many international awards including the Bruce S. Schoenberg international award in Neuroepidemiology of AD from the American Academy of Neurology.

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Mahmoud Abughoush, J Food Technol Pres, Volume 3
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Use of plant essential oils to inhibit *Salmonella* enterica in Hummus

Mahmoud Abughoush
Hashemite University, Jordan

Aims: Screen the antimicrobial activity of different essential oils against *Salmonella* and investigate the inhibitory effect of cinnamon or thyme oils against *Salmonella* and mesophilic aerobic bacteria (MAB) in hummus.

Methods and Results: Different essential oils (thyme, sage, cardamom, laurel, rosemary, cinnamon, ginger, fir) were tested against 5 *Salmonella* serotypes. *Salmonella*-inoculated Hummus was treated with 0.5 to 1.5% thyme or cinnamon oils (which exhibited the highest antimicrobial activity using disc-diffusion method with inhibition zones of 22.5-38.5 mm in diameter) and stored at 4 or 10°C. *Salmonella* cells were not detected in Hummus treated with 0.5-1.0% cinnamon oil by 7 and 1 d, respectively, at 4 or 10°C. Cinnamon oil at 0.5-1.5% reduced the MAB in Hummus by 1.3-4.6 log CFU/g at 4 °C. However, addition of 0.5-1.5% thyme oil into Hummus reduced *Salmonella* by 1.0-2.9 log CFU/g, respectively, at 4°C by 10 d. Thyme oil also inhibited growth of MAB in Hummus and the count remained constant until the end of storage period at 4°C. While at 10°C, thyme oil showed lower inhibitory effect.

Conclusion: Cinnamon and thyme oils were effective in inhibiting *Salmonella* in Hummus.

Significance and Impact of Study: Using cinnamon and thyme oil may improve the safety and extend the shelf-life of Hummus.

Speaker Biography

Mahmoud Abughoush has completed his PhD in food chemistry, food safety and processing in 2003 from Kansas State University / USA in the field of food science. He is associate professor at the Hashemite University / Jordan. He has published more than 30 papers in reputed journals. Now, Abughoush is the Dean of applied and Medical Science College at the Hashemite University, Jordan.

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Lidiya Wilwet, J Food Technol Pres, Volume 3
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Development of species-specific PCR assay for fast fraud detection in seafood: Application to the authentication of commercially important shrimp species

Lidiya Wilwet
Central Institute of Fisheries Education, India

Shrimps are the important resources from both commercial fisheries and for aquaculture in many countries, account for more than 30% of global consumption of seafood worldwide. The high demand and popularity of shrimp products have paved way for species substitution in the commercial market. Identification of species becomes complicated once its external morphological identification characteristics are removed particularly in frozen and precooked shrimp products. Therefore, to enforce labelling regulations and prevent product substitution, there is a need for sensitive analytical methods that can be used to determine the species of a seafood product with no detectable external features. This study describes a uniplex PCR assay with species specific primers based on the 16S rRNA mitochondrial gene to identify the commercially important shrimp species such as: *Fenneropenaes indicus*, *Penaeus monodon*, *P. semisulcatus*, *Litopenaeus vannamei*, and fresh water prawn *Macrobrachium rosenbergii*. The regions which shows maximum inter specific variations were selected through whole mitochondrial genome analysis and which paves a way to design five pairs of species-specific primers based on the 16S rRNA were developed for species identification. The sensitivity estimation indicated that the species-specific primers could correctly amplify the target 16S rRNA gene and which yield band sizes of 220, 376, 146, 275 and 750 bp respectively. The specificity of the primers was very high since it doesn't cross react with any one of the closely related species under the same family. The unique band patterns were also obtained in processed shrimp products without any degradation or alteration in the major fragments. The proposed method was also validated with 100 shrimp products such as frozen, fried, cooked and canned shrimp products collected from all over the country. Thus, the developed protocol can be performed within 2 hrs to authenticate five shrimp products of commercial significance so it can be used to expose fraudulent substitution of processed shrimps in national and international trade.

Speaker Biography

Lidiya Wilwet is doing second year of PhD in Central Institute of Fisheries Education, Mumbai, India. She is doing research in the field of "Development of Rapid analytical techniques for finding seafood fraud". During her M.F. Sc research, she has developed RFLP markers for commercially important exportable shrimp species viz. *Penaeus monodon*, *Penaeus semisulcatus*, *Fenneropenaeus indicus* and *Litopenaeus vannamei* and which is published in Journal of Food Chemistry through this she acquired Best Research paper and Technology Development Award from Tamil Nadu Fisheries University. Apart from this, she published four research papers in reputed journals.

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Saira Sattar, J Food Technol Pres, Volume 3
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Optimization and characterization of physicochemical and bio-active attributes of functional peach-based beverage

Saira Sattar
Government College University Faisalabad, Pakistan

The demand for functional foods and drinks with health benefit is on the increase. The synergistic effect from mixing two or more of such drinks cannot be overemphasized. This study was carried out to formulate and investigate the effects of blending on peach juice incorporated with plum juice and sugar solution, regarding resultant changes in the chemical composition and antioxidant capacity of the optimized mixed beverage. Composition of mixed fruit beverage was optimized by D-optimal mixture design in the ratio of 72 (peach juice): 25 (plum juice) :2 (sugar solution) to form a blended beverage with acceptable sensory attributes. The formulated peach based beverage had greater TPC, TFC, antioxidant activity and organic acids concentration than average peach juice. High levels of organic acids including citric, malic, oxalic and shikimic acid were determined in the formulated beverage which results in low pH value of the beverage. This research therefore indicates the significance of peach and plum juices, making them viable ingredients for the production of functional beverages possessing important antioxidant properties with potential health benefits.

Speaker Biography

Saira Sattar is a PhD scholar at Government College university Faisalabad, Pakistan. She has done her PhD research work at University of Leeds, UK under research fellowship program. Her research article has been recently published in allied academic journal of food technology and preservation.

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Virginie Rigourd, J Food Technol Pres, Volume 3
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Breast feeding and Epigenetic

Virginie Rigourd
Human Milk Bank, France

The human milk of part its nutritional and biologic properties stays the standard gold for the nutrition of the newborn child and the infant. The most recent studies confirm that the volume and the nutritional quality of the milk depend on numerous environmental, nutritional, genetic and epigenetic factors. Some of them could be modifiable or adjustable and during the critical period of 1000 days could impact the quality of the milk and thus the health of the infant and even the future adult but also the health of the mother. One day, we could respond to specific needs using human milk as a "lactothérapy".

Speaker Biography

Virginie Rigourd is the managing director of the Human Milk Bank of Ile de France. He has graduated from the Medicine University in Paris, France in 1998 and finished post graduate training in 2003 from the same university on intra uterin growth retardation topics. She worked as paediatrician ahead of Ile de France Milk Bank, Paris, France and neonatalogiste in NICU at Necker Hospital, Paris, France. Member of the French Milk Bank Association and European Milk Bank Association. Since 2002 she worked as a national consultant, providing assessments of human milk security and on projects on human milk quality. Dr. Rigourd has carried out few researches on medication and breast feeding. During her work she has gained local and national recognition for her different advice on breast feeding and on practice around human milk in NICIU.

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Emma Pickett, J Food Technol Pres, Volume 3
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Team baby: A partner's guide to supporting breastfeeding

Emma Pickett
Association of Breastfeeding Mothers, UK

Infant feeding and breastfeeding are priorities for anyone concerned about food safety and often overlooked – in healthcare professional training and by politicians and decision-makers. The 2016 Lancet series on breastfeeding identified the UK as having one of the lowest breastfeeding rates in the world. 90% of UK mothers say they are not able to breastfeed for as long as they wished. This leaves them at significantly greater risk of mental health issues and both the mother and baby are at greater risk of a wide range of health problems.

The 2016 Lancet series reminded us: "Increasing breastfeeding to near-universal levels for infants and young children could save over 800,000 children's lives a year worldwide, equivalent to 13% of all deaths in children under two, and prevent an extra 20000 deaths from breast cancer every year." And crucially, these lives are not only saved in developing countries but around the world.

Why is breastfeeding in the UK in crisis? Mothers are not failing; they are being failed. Mothers may be in an area where the local authority has cut breastfeeding support. Families may be confused about normal newborn behaviour and perceived insufficient milk supply is a widespread problem. They may struggle to meet health care professionals who have the resources to help them. The online course, "Team baby: A partner's guide to supporting breastfeeding" aims to address some of these issues. What has the Association of Breastfeeding Mothers learnt in our 40 years of supporting new families?

Speaker Biography

After a career as a Deputy Headteacher in central London, Emma Pickett initially trained with the Association of Breastfeeding Mothers (abm.me.uk), qualifying as a breastfeeding counsellor with them in 2007. She is currently their chair. She qualified as a Board-Certified Lactation Consultant (IBCLC) in 2011, recertifying in 2016. She has supported families at groups in North London for 10 years and answers calls on the National Breastfeeding Helpline.

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Virginie Rigourd, J Food Technol Pres, Volume 3
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What are Human Milk Oligosaccharides (HMOs) and why are they so important?

Virginie Rigourd
Human Milk Bank, France

Breast feeding (BF) is the more ecologic and economic mode of nourishing for the newborn and the infant, it provides ideal nutriment until 6 months and must be promote until 24 months. BF promote growth and neurologic development and protect infant against infection disease. Between the different factors implicated, more than 200 oligosaccharides are synthesized in the mammary gland, second constituent of human milk (HM), have a central place. Concentration in HM is higher in the early stage of lactation and varied with mothers and environment characteristics, HMOs resist to hard conditions (pasteurization, freezer). Numerous studies have demonstrated beneficial effects of HMOs, including modification of the intestinal microbiota, anti-adhesives antimicrobial effects, modulation of intestinal cell response, effects immune development and on brain development. Thus, HMOs participate at infectious disease prevention, anti-allergic properties, neurologic development, for more immature newborn it prevents enterocolitis, and have later actions like prevention of obesity but also mastitis for the mother.

Speaker Biography

Virginie Rigourd is the managing director of the Human Milk Bank of Ile de France. She has graduated from the Medicine University in Paris, France in 1998 and finished post graduate training in 2003 from the same university on intra uterin growth retardation topics. She worked as paediatrician ahead of Ile de France Milk Bank, Paris, France and neonatalogiste in NICU at Necker Hospital, Paris, France. Member of the French Milk Bank Association and European Milk Bank Association. Since 2002 she worked as a national consultant, providing assessments of human milk security and on projects on human milk quality. Dr. Rigourd has carried out few researches on medication and breast feeding. During her work she has gained local and national recognition for her different advice on breast feeding and on practice around human milk in NICIU.

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Cariline King, J Food Technol Pres, Volume 3
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Food, Diet and Nutrition for pregnant and breastfeeding mothers

Caroline King
Imperial College Healthcare NHS Trust, UK

Pregnancy is a time of massive growth for the fetus. Empirically calculated nutritional requirements are far larger than actual observed intakes of pregnant women. Nutritional recommendations will be discussed and the mechanisms whereby a pregnant women's body adapts to allow optimal accretion of nutrients by the fetus.

After delivery breast milk is a continuation of the immunological protection a mother confers on her baby via the placenta during pregnancy. Breast milk is manufactured by a woman from her nutritional stores however homeostatic mechanisms ensure a highly consistent nutritional profile independent of her diet. The lipid content varies more frequently being dependent on the degree of emptying of the breast. That of some water-soluble vitamins also varies but that depends more on maternal intake. The role of alcohol, caffeine and some medications in a lactating mother's diet will also be discussed

Speaker Biography

Caroline King is a pediatric dietitian and neonatal specialist at Imperial College Healthcare NHS Trust at London, UK.

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Virginie Rigourd, J Food Technol Pres, Volume 3
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Breast milk donation in the Muslim population: Why it is possible?

Virginie Rigourd
Human Milk Bank, France

Introduction: Some mothers have negative ideas about human milk donation, especially in the muslim population because of the « milk brother-sister » concept, whereas they are often in need of human milk.

Main issue: Mrs. Y delivered at a VLBW infant of 500g after 26 weeks of amenorrhea. She was able to collect 200mL of milk per day at day 4, 500ml/day at day 7, and then up to 1.5L/day. At the end of her hospitalization, the milk bank asked her if she was willing to donate her milk. Mrs. Y at first refused to offer her milk for donation because of the « milk brother-sister » concept. After discussion, our team managed to convict Mrs. Y to donate the179 Liters of milk not used by her baby.

Management: We addressed the two questions, as a muslim:

-am I allowed to donate my own milk?

-can my infant receive donated milk?

We i) performed a literature review of all the points of view of the religion concerning human milk donation, ii) sought the expertise of religious figures, iii) we examined biological and genetically data.

Conclusion: These various aspects: religious, cultural, biological, and epigenetic all support the possibility of muslim mothers to donate their own milk to milk banks and their children to receive donated milk. Milk banks should be created in muslim countries to promote the health of pre-term infants.

Speaker Biography

Virginie Rigourd is the managing director of the Human Milk Bank of Ile de France. She has graduated from the Medicine University in Paris, France in 1998 and finished post graduate training in 2003 from the same university on intra uterin growth retardation topics. She worked as paediatrician ahead of Ile de France Milk Bank, Paris, France and neonatalogiste in NICU at Necker Hospital, Paris, France. Member of the French Milk Bank Association and European Milk Bank Association. Since 2002 she worked as a national consultant, providing assessments of human milk security and on projects on human milk quality. Dr. Rigourd has carried out few researches on medication and breast feeding. During her work she has gained local and national recognition for her different advice on breast feeding and on practice around human milk in NICIU.

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Jo Watt, J Food Technol Pres, Volume 3
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Supporting and protecting breastfeeding in hospital and at home

Jo Watt
Hearts Milk Bank, UK

Breastfeeding rates in the UK are amongst the lowest in Europe, despite many women who give up saying that they had intended to breastfeed for much longer. It is acknowledged that there are many reasons for this, but often lack of specialist support, knowledge and encouragement to continue, are reasons given for discontinuing and rates to be low.

Getting support in the first few days is crucial to keeping breastfeeding on track. After just the first week it becomes increasingly difficult to maintain breastfeeding once problems have arisen, supplementation has started, and the mothers supply has been compromised.

Add to this increasing numbers of mothers and babies delivering with complex conditions and needs, and babies born prematurely requiring admission to the neonatal unit. This results in mothers and babies needing to be separated, which in itself can make establishing breastfeeding much more difficult. This is also the group of mothers and babies where there can be a lack of knowledge and skills to help manage and give this much needed care to establish and maintain breastfeeding. Lack of practical knowledge and skills is known to be associated with increased formula supplementation and early drop off, instead of supporting and establishing breastfeeding.

This presentation will include details of the supportive interventions required to ensure optimal support of new mothers in hospital and examples of typical problems seen by Lactation Consultants working with mothers at home.

Speaker Biography

Jo Watt is a midwife and IBCLC Lactation Consultant. Having qualified as a midwife, she gained extensive experience of working in both hospital and community settings. After raising her own family, she became interested in infant feeding and breastfeeding support, and trained as a breastfeeding counsellor. Since that time, she has built her career around her passion for supporting mothers in making the best feeding choices for their child, helping to create the necessary infrastructure and processes within the health service, and engaging directly with mothers to provide one-to-one support. Jo has worked in two NHS Trusts as the Infant Feeding Lead and the project lead for Baby Friendly Accreditation, delivering training programmes for midwifery staff, and establishing best practices for feeding support within the maternity units. Following this, she has been practising within the community, including voluntary work as part of the team in an NHS feeding clinic and consultation through a small lactation practice. Jo's primary current activity is as the Lactation Services Co-ordinator at the Hearts Milk Bank, a charity established in Hertfordshire to help provide supplies of donated breast milk to mothers nationwide. She is involved in donor recruitment and lactation support, and also supports families in the community where donor milk is used to help mothers having feeding problems. For these mothers, extra feeding support and access to screened donor milk can provide a buffer until they have an increase in their own supply or simply provide breast milk that wouldn't be available because of maternal illness.

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Notes:

Joint Event
2nd International Conference on
Food Safety and Hygiene
&
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Claude Billeaud, J Food Technol Pres, Volume 3
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A new high hydrostatic pressure destroyed all pathogens including spores while preserving the bioactive proteins of donated human milk

Claude Billeaud
Association Européenne de l'Education, France

Background: The main process used to pasteurize human milk is the low-temperature, long-time Holder method (HOLDER and recently investigated, the high-temperature, short-time method). Both processes lead to an appropriated inactivation of vegetative forms but are ineffective versus the bacterial spores.

Research Aims: Find a method accomplish two main objectives: inactivation of all pathogens, including spores, and preservation of the activity of milk components.

Design/Methods: Recently, a novel approach of the high hydrostatic pressure processes have been developed by HPBioTECH. We compared the effect of human milk treatment on the same samples (raw human milk, holder and our novel high hydrostatic pressure) on vegetative and spores forms of pathogens and on bioactive components (lipase activity, immunes proteins).

Results: a) Pathogens destructions: two main microbial strains have been selected: Staphylococcus aureus (as reference for the vegetative forms) and Bacillus cereus (as reference for spores). This research led process adapted to the a) microbial decontamination of 6 log, either for Staphylococcus aureus or Bacillus cereus, b) Human milk bioactive components: the main components of human milk is preserved. Activity of the lipase after this treatment (close to 80%) and that of several additional components (α-lactalbumin: 96-99%: Casein: 98-100%, Lysozyme :95-100%; lactoferrin: 93-97%; sIgA: 63-64%).

Conclusions: This novel high hydrostatic process generate microbiologically safe human milk could potentially result in important benefits for preterm infants: (i) improved assimilation of human milk, leading to daily weight and (ii) improved resistance to infections(iii) to avoid discarding 10% of contaminated by Bacillus Cereus human milk collected.

Speaker Biography

Claude Billeaud received his MD degree from the Medical University of Bordeaux (France) in 1979 after a graduation in human cytogenetics (1976). He then studied pediatrics and has been the Clinical Assistant Director of Bordeaux University in the departments of Pediatrics, Neonatology and Intensive Care since 1983. He currently serves as a pediatrician in the neonatal unit at the Children's Hospital of Bordeaux, as a scientific manager of Bordeaux-Marmande human milk bank, as a lecturer and head of research in neonatal nutrition at the Medical University of Bordeaux. His particular interest in research led him to graduate in Biology and Health (1988, Bordeaux), be awarded a master in statistics applied to clinical research (1991, Montreal) and complete a PhD in nutrition and food science (2000, Bordeaux). Along his career he has often been invited as a guest professor specialized in nutrition and neonatology in various universities abroad (Montreal, Corrientes in Argentina). Over the last 35 years, he has been an active member of different scientific organizations, either French, European or American, specialized in perinatal medicine (neonatology, pediatrics and nutrition). In this instance, he has served as the President of the Association for Pediatric Education in Europe (A.P.E.E) since 2008. He has also been very involved in the French human milk banking association (ADLF) for more than 10 years, sharing his academic knowledge focused in nutrition and his long clinical experience in neonatology. He is currently carrying out several researches on the composition of human milk. As an expert in nutrition and perinatal medicine, he is also the author and co-author of numerous scientific publications.

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Virginie Rigourd, J Food Technol Pres, Volume 3
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Severe combined immune deficiency and continued breastfeeding: Report of 5 own mother's milk donation (OMM) at the regional Ile de France milk bank

Virginie Rigourd
Human Milk Bank, France

Introduction: Severe Combined Immunodeficiency (SCID), is a group of rare inherited diseases characterized by the severe impairment or even absence of both cellular and humoral immunity. Thus, children with SCID are immune-compromised, which render them easily susceptible to opportunistic and lethal infections, including various bacteria and viruses, especially Cyto-Megalo Virus (CMV), that may be transmitted by their mothers' milk during breastfeeding. Therefore, CMV seropositive mothers are forced to discontinue breastfeeding, and switch to formula feeding, soon after their children are diagnosed with SCID disease. However, in addition to the allogeneic stem cell transplant and gene therapy, breastfeeding can also be a natural mean of protection against secondary infections in addition to its nutritional benefits. Therefore, we provide a simple and available technique to maintain mothers' milk feeding for children with SCID even for CMV seropositive mothers.

Study design: Between May 2013 and August 2014, the regional IDF milk bank has pasteurized 5 milk samples of CMV seropositive mothers, whose children were placed in a sterile room.

The Holder pasteurization (30 min at 62,5°C) and the bacteriologic milk analysis were conducted, following the 2008 good practices guide of the milk bank. A virological CMV analysis was also made on these milk samples.

Results: The milk delivered was bacteriologically-proven to be sterile and CMV negative. All 5 infants received their own mother's milk during their isolated period. Breastfeeding was continued even after their discharge home.

Discussion: All CMV seropositive mothers (50% of women in France) excrete CMV in their milk. Unlike freezing, pasteurization is the best way to stamp out CMV in human milk samples. Conclusion: Thus, the contribution of milk banks should be more and more requested for promoting breastfeeding and favoring the mother-child bond especially in case of severe combined immune deficiency.

Speaker Biography

Virginie Rigourd is the managing director of the Human Milk Bank of Ile de France. She has graduated from the Medicine University in Paris, France in 1998 and finished post graduate training in 2003 from the same university on intra uterin growth retardation topics. She worked as paediatrician ahead of Ile de France Milk Bank, Paris, France and neonatalogiste in NICU at Necker Hospital, Paris, France. Member of the French Milk Bank Association and European Milk Bank Association. Since 2002 she worked as a national consultant, providing assessments of human milk security and on projects on human milk quality. Dr. Rigourd has carried out few researches on medication and breast feeding. During her work she has gained local and national recognition for her different advice on breast feeding and on practice around human milk in NICIU.

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