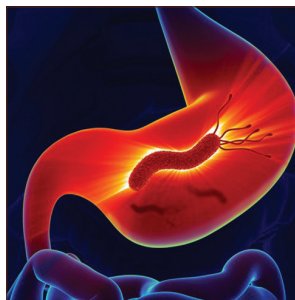
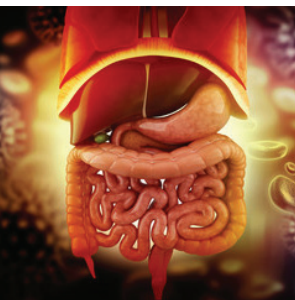


Poster

Nutrition Health & Gastroenterologists 2019



Joint Event
17th International Conference on
Nutrition and Fitness
&
2nd International Conference on
Gastroenterology and Digestive Disorders
May 23-24, 2019 | Vienna, Austria

Inadequate timing of daily food intake may affect reproductive function in post-adolescent female rats

Tomoko Fujiwara¹, Rieko Nakata², Masanori Ono³, Michihiro Mieda³, Hitoshi Ando³, Takiko Daikoku³ and Hiroshi Fujiwara³

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To investigate the effects of meal timing during circadian cycle on the ovarian function, we performed animal experiments using young female rats. Eight-week-old female Wistar rats were classified into 3 groups: fed during the daytime only (non-active phase), night-time only (active phase), or control group I (without time or calorie restriction) for 4 weeks, and daily body weight and frequency of ovulation in each group were measured by a weight scale and a vaginal smear, respectively. At the end of the period of dietary restriction, ovaries were removed and the numbers of growing follicles and corpora lutea were evaluated based on hematoxylin-eosin-stained tissue sections. In addition, 8-week-old female rats were fed only during the night-time for 4 weeks under a 20% reduced food supply of the control group II (without any restriction). In the daytime-fed group, the frequency and number of ovulations were significantly decreased compared with those in the control group I. This group also showed a reduced body weight gain concomitant with about 20% of reduction in the daily food intake. In contrast, in the night-time-fed group, even when a 20% reduction of the daily food intake was loaded, frequency of ovulation did not change as

compared with control group II. These findings indicate that restricting food intake to the inactive phase impairs ovarian function in post-adolescent female rats, proposing that the timing of food intake during circadian cycle is an important factor to interfering with the reproductive function.

Speaker Biography

Tomoko Fujiwara, is a Professor at Kyoto Notre Dame University, graduated from Nara Women's University in 1984 and Master Course, Nara Women's University in 1986. She was appointed as Professor at Ashiya College in 2007. She obtained Doctor of Philosophy from Nara Women's University in 2009. In the meantime, she served as an Editor-in-chief, Bulletin of Ashiya College in 2009-2015. From 2015, she is Professor, Department of Home Science and Welfare, Kyoto Notre Dame University, Kyoto, Japan. She has been studying the pathological relationship between dietary habits and reproductive functions in young women and published many papers such as "Fujiwara T Nakata R (2010) Skipping breakfast is associated with reproductive dysfunction in post-adolescent female college students. *Appetite* 55: 714-717."

Hiroshi Fujiwara is a Professor and Chairman of Graduate School of Medical Science, Kanazawa University, Japan

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 Notes:

A cross-sectional study on associations between dietary patterns and cognitive function among Korean elderly

Yoon Jung Yang¹, Yeong Mi Park¹, Bo Youl Choi² and Mi Kyung Kim²

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²Hanyang University, South Korea

People consume various foods with complex combinations of nutrients. Therefore, dietary pattern is a useful tool to consider overall diet. The aim of the study was to determine associations between dietary patterns and cognitive function among Korean elderly. A total of 1,394 subjects aged greater than or equal to 60-year olds participated in the baseline survey.

Cognitive function was assessed by the Korean version of the Mini-Mental State Examination (MMSE-KC) or the Mini-Mental State Examination for Dementia Screening (MMSE-DS).

Dietary intake was assessed by using a quantitative food frequency questionnaire with 106 food items. Dietary patterns from 23 predefined food groups were extracted by factor analysis. Three major dietary patterns were identified and assigned descriptive names based on the food items with high loadings: "healthy" pattern, "western" pattern,

and "mixed rice only" pattern. The "healthy" pattern was characterized by high consumptions of vegetables, fish, dairy products, and fruits. The "healthy" pattern was associated with a higher MMSE score. This cross-sectional study suggests that a diet with high consumptions of vegetables, fish, dairy products, and fruits may be beneficial in cognitive function among Korean elderly. Further longitudinal studies are needed to confirm these findings.

Speaker Biography

Yoon Jung Yang is an associate professor at Dongduk Women's University in South Korea. This presentation is a part of a collaboration with the professors of Hanyang University. This research was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Science, ICT & Future Planning (NRF- 2018R1D1A1B07049353).

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 Notes:

Nutritional value of MASO31 formula and complementary feeding who recommendations in Tanganyika, DRC

Ngoy Bulaya Emmanuel, Bengeya Jean Marie, Mukalay Wa Mukalay Abdon, Mulungulungu N Ho Ali Deogratias and Luboya Numbi Oscar

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Background: Complementary feeding is among the main causes of malnutrition worldwide and was shown to be an effective child survival strategy ranked among the top life-saving interventions for children under 5 years. WHO and UNICEF underline the use of available food locally produced for children less than 2 years as a significant strategy to ensure the optimal Complementary feeding. Nevertheless, there is limited knowledge on adequacy of additional foods locally produced, like MASO31, in DRC.

Objectives: This study aimed to evaluate the nutritional value of MASO31 content according to the complementary feeding WHO recommendations.

Method: Two samples of Maize-Soya blend (MASO 31) formula were taken away of two different preparations, from Tanganyika Province, for biochemical analysis. Energy, and nutrients (protein, Fe, Ca, P, Zn,) were analyzed in the Research and Agro alimentary Analysis Center (CRAA) of Lubumbashi in June 2014. Conversion factors, KJELDHAL, Soxhlet, non azoted extractive and spectrometry of plasma inductive coupling (PIC) emission were the biochemical methods used. Comparative analysis of MASO 31 content was done using the Complementary feeding WHO Recommendations like gold standard.


Results: MASO31 content was over complementary feeding WHO Recommendations in daily energy need and in term of minimum meal frequency. But calcium and phosphorus needed some improvements.

Conclusion: MASO31 formula may be recommended in complementary feeding in DRC but calcium and phosphorus may be enriched. Controlled Randomized Trials is needed to test the short- and long- term effects of this recipe on the nutritional status of children 6-23 months old.

Speaker Biography

Ngoy Bulaya Emmanuel, a Nutritionist in Public Health (2005). He obtained his MPH in Epidemiology, Preventive Medicine and Disease Control at the School of Public Health, Lubumbashi University (2007). He obtained his MPH in Nutritional Epidemiology at the School of Public Health, Kinshasa University (2017). He was elected and became the provincial president of the DRC nutritionist's association in the entire Katanga Province from (2009 - 2012). In September 2009, University of Lubumbashi, at the School of Public Health, appointed him as Assistant Professor in Nutrition Unit while the DRC Health Ministry designated him as Provincial Coordinator of National Nutrition Program (2009 – 2015). He worked at the School of Agronomic Studies as Secretary of the Manager Committee (2003 - 2006).

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 Notes:

PPAR γ /Pgc-1 α -Fndc5 pathway up-regulation in Gastrocnemius and Heart muscle of exercised, branched chain amino acid diet fed mice

Navid Abedpour^{1,3}, Kamran Ghaedi^{1,2} and Mohammad Hossein Nasr Esfahani¹

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Branched Chain Amino Acids (BCAAs), including Leucine, Isoleucine, and Valine, are essential amino acids that body is unable to synthesize and needs to be provided by the diet. BCAAs play a significant role in energy homeostasis as they are important for the maintenance of skeletal muscle. A great proportion of BCAAs metabolism occurs in skeletal muscle, where metabolism is regulated. In the present investigation, we have attempted to address whether a combination of BCAAs supplement consumption with aerobic exercise could elaborate the expression of PPAR γ , Pgc-1 α and Fndc5 genes and mitochondrial biogenesis in gastrocnemius muscle and heart tissue of male C57BL/6 mice.

Thirty-six young male mice with an average weight of 16 \pm 2g were selected. Mice were randomly assigned to 6 groups: 20 mg/mL of BCAAs consumption with simultaneous exercise-training (20BCAAs/Ex), 60 mg/mL of BCAAs consumption with simultaneous exercise-training (60BCAAs/Ex), exercise-trained with no BCAAs consumption group (EX), 20 mg/mL BCAAs without exercise-training (20BCAAs), 60 mg/mL BCAAs without exercise-training (60BCAAs), and untrained mice without BCAAs consumption (sed).

The findings showed 20BCAAs/Ex group significantly increased Fndc5, PPAR γ , Pgc-1 α genes expression in

skeletal and heart muscles. In addition, circulating Irisin levels in 20BCAAs/Ex group were increased ($p < 0.05$). Furthermore, we assessed the expression of mitochondrial genes in gastrocnemius and heart muscles. BCAAs were increased the expression of mtDNA transcription factor A (Tfam), Cox4i1, a and b subunits of the mitochondrial H⁺-ATP synthase (a-F1-ATPase, b-F1-ATPase) in both of gastrocnemius and heart muscles. However, the maximum enhancement was yielded when BCAAs at concentration of 20 mg/mL was supplemented. Notably, we found that Sirt1 mRNA was increased in 20BCAAs/Ex group, the same as Fndc5 mRNA in gastrocnemius and heart muscles. Interestingly, plasma urea and lactate levels were significantly enhanced in 60 mg/mL BCAAs administrated mice which performed exercised ($p < 0.05$).

Speaker Biography

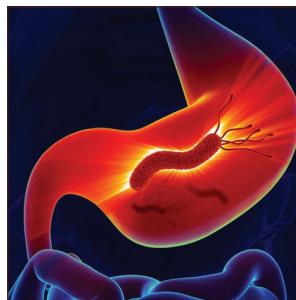
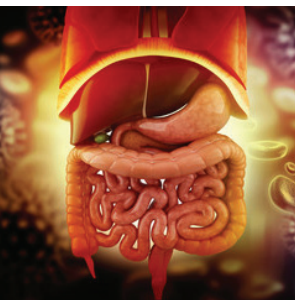
Navid Abedpour has acquired his MSc degree in the field of Nutrition and Sport. Currently, he is the senior researcher on a project tackling unraveling of the molecular mechanisms of several miRNAs, lnc RNA and Circular RNA to progress in diabetic and inactivity mouse that induce with advanced glycation end products diet in Royan Institute (Genetics Lab).

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 Notes:

Video Presentation

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Methodology of math-physical medicine

Gerald C Hsu

eclaireMD Foundation, USA

Math-physical medicine approach (MPM) utilizes mathematics, physics, engineering models, and computer science in medical research. Initially, the author spent four years of self-studying six chronic diseases and food nutrition to gain in-depth medical domain knowledge. During 2014, he defined metabolism as a nonlinear, dynamic, and organic mathematical system having 10 categories with ~500 elements. He then applied topology concept with partial differential equation and nonlinear algebra to construct a metabolism equation. He further defined and calculated two variables, metabolism index and general health status unit. During the past 8.5 years, he has collected and processed 1.5 million data. Since 2015, he developed prediction models, i.e. equations, for both postprandial plasma glucose (PPG) and fasting plasma glucose (FPG). He identified 19 influential factors for PPG and five factors for FPG. He developed the PPG model using optical physics and signal processing. Furthermore, by using both wave and energy theories, he extended his research into the risk probability of heart attack or stroke. In this risk assessment, he applied structural mechanics concepts, including elasticity, dynamic plastic, and fracture mechanics, to simulate artery rupture and applied fluid dynamics concepts to simulate artery blockage. He further

decomposed 12,000 glucose waveforms with 21,000 data and then re-integrated them into three distinctive PPG waveform types which revealed different personality traits and psychological behaviors of type 2 diabetes patients. Furthermore, he also applied Fourier Transform to conduct frequency domain analyses to discover some hidden characteristics of glucose waves. He then developed an AI Glucometer tool for patients to predict their weight, FPG, PPG, and A1C. It uses various computer science tools, including big data analytics, machine learning, and artificial intelligence to achieve very high accuracy (95% to 99%).

Speaker Biography

Gerald C Hsu received an honourable PhD in mathematics and majored in engineering at MIT. He attended different universities over 17 years and studied seven academic disciplines. He has spent 20,000 hours in T2D research. First, he studied six metabolic diseases and food nutrition during 2010-2013, then conducted research during 2014-2018. His approach is "math-physics and quantitative medicine" based on mathematics, physics, engineering modelling, signal processing, computer science, big data analytics, statistics, machine learning, and AI. His focus is on preventive medicine using prediction tools. He believes that the better the prediction, the more control you have.

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 Notes:

Promoting gastrointestinal health and reducing subclinical inflammation in overweight and obese individuals through intake of whole grain products in comparison with fruits and vegetables

Julianne Kopf and Devin Rose

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The importance of fruits and vegetables (FV) in a healthy diet is well accepted; however, the importance of whole grains (WG) is less recognized. The purpose of this trial was to determine the impact of either a FV or a WG intervention on markers of inflammation and gut microbiota composition in overweight or obese individuals that have low intakes of these food groups. Forty-nine overweight or obese subjects with low intake of FV (<2 servings/d) and WG (<1 serving/d) were randomized into three groups: WG (3 servings/d), FV (5 servings/d), and refined grains (RG) (3 servings/d) for 6 weeks. The WG diet resulted in a significant decrease in TNF- α , a pro-inflammatory cytokine, whereas no significant effects were found on the other diets. There was a significant decrease in LBP on both the WG and FV diets, with no change on the RG diet. A decrease in LBP is a marker of improved gut barrier function. The FV diet had a significant change in IL-6, but no significant change in the other treatments.

The FV intervention induced a significant increase in alpha diversity. The WG intervention did not result in any significant differences in microbiota composition. These data support the positive impact that WG and FV intake can have on metabolic health in overweight or obese individuals with normally low intake of WG and FV.

Speaker Biography

Julianne Kopf completed her master's in Food Science and Technology at the University of Nebraska. Her research has one publication and received 1st in the 2017 IFT Nutrition Poster Competition. During her master's she also ran Bug eater Foods, an edible insect company for human consumption. This was a food start up that sells cricket-based protein shakes and pasta. In 2016 she was awarded an USDA SBIR Phase 1 Grant for research in extrusion of edible insects. Currently she is running Bug eater Foods and works at Natures Variety as a Quality Lead and Practitioner.

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Notes:

Deliverables in functional foods: Concept to product in the Indian context

Asna Urooj

University of Mysore, India

The design and development of functional foods is a key issue, as well as a scientific challenge, which should rely on basic scientific knowledge relevant to target functions and their possible modulation by food components. Functional foods themselves are not universal and a food-based approach would have to be influenced by local considerations. In contrast, a science-based approach to functional food is universal. The function-driven approach has the science base as its foundation. Several foods in the traditional Indian cuisine have been used since ancient times for their medicinal value. Today, the bio actives present in them have been identified and recognized for various biological activities. Several herbs and spices of Indian origin are reported to have health benefits. In order to gain a broader understanding of the functional foods/ ingredients/ herbs in the Indian diet, my research group is exploring several aspects related to the development of functional foods employing a systematic approach viz., identify potential functional ingredients, study their techno functional properties, nutrient bioavailability and biological responses to functional foods/ ingredients. In addition, the effect of processing on their functional properties is also studied. Attempts have been made to understand the mechanism of action to facilitate its use in the functional food formulations. The selected food/

bioactive is then subjected to toxicity studies prior to undertaking clinical studies. Some such highlights are mentioned here - determinants of functionality in cereals and legumes were source of starch, cooking methods, food form and food composition. Use of mixed cereals/ pulses resulted in lowering the starch digestibility and glycemic responses in the traditional foods. Germination of legumes increased the glycemic responses, while addition of barley and cinnamon in bread, *chapathi* and *roti* lowered the glycemic responses in in type 2 diabetic subjects. It is important to develop effective synergies between science and functional foods for the benefit of the consumer.

Speaker Biography

Asna Urooj, obtained her MSc and PhD in Food science & Nutrition, from University of Mysore and she is a Professor and Chairperson at post-graduate Department of Studies in Food science & Nutrition, University of Mysore, India. Her areas of research are Diabetes, Starch digestibility & glycemic responses, Natural antioxidants, Anti-hyperglycemic and hypolipidemic effects of medicinal plants and Disease specific food formulations. She has completed 11 research projects funded by UGC, DST, MHRD, and BBSRC-UK. She has 176 research papers published in peer reviewed journals, with 2740 citations with h-index of 26.

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Notes:

Prevalence of risk factors associated with overweight-obesity detected by impedance in university students Barranquilla Colombia

Carmen Carrero Gonzalez, Gloria Lastre- Amell, Maria Alejandra Orostegui, Linda Ruiz Escorcía and Leandro Sierra Carrero

Universidad Simon Bolivar, Colombia

Introduction: A high percentage of body fat is considered a risk factor that predispose to the development of cardiovascular diseases, metabolic syndromes and other chronic noncommunicable diseases, these are the main cause of death worldwide. The World Health Organization (WHO) between 2014 -2015, found around the world that adults 18 years and over 39% overweight and 13% with obesity.


Objective: It was to determine the levels of blood pressure, body fat, visceral and the prevalence of overweight - obesity (according to body mass index), included as indicators of health risks, in university students.

Materials and Methods: Cross-sectional study in a sample of n = 86 students taken at random, 76 female and 10 males between 18 and 33 years belonging to different study programs, who were taken blood pressure levels and measurements of weight, height, percentage of body fat, visceral, determination of (BMI) through electrical bioimpedance.

Results: For the female sex, the body mass index obtained a higher percentage in the category: Normal (53.5%), followed by an overweight (19.8%), for the masculine sex, the category prevailed: Normal (4.7%), followed by similar results in the category of overweight and obesity grade I, (3.5%) For body fat, a higher percentage was found in the female category: Very High (41, 9%), while for the masculine sex the category prevailed: Normal (7%), similar results were observed for visceral fat in both sexes. In relation to the blood pressure figures, Normal High figures were observed in the male sex.

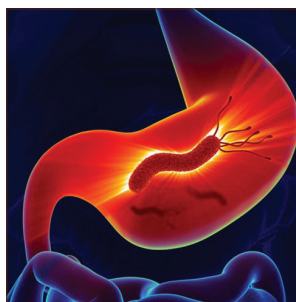
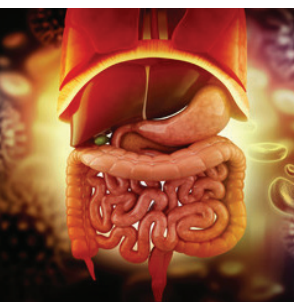
Conclusion: In the female sex, body and visceral fat prevalence was observed, unlike the male sex, it is necessary to complement the body mass index with body and visceral fat measurements.

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 Notes:

Accepted Abstracts

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Characteristics and challenges in using dietary supplement databases derived from label information

Leila Saldanha and Johanna Dwyer

NutriQ, USA

In the USA, dietary supplements are regulated as foods and contain vitamins, minerals, botanicals and other ingredients. Two types of supplement databases exist in the USA. Databases of small, analytically-derived values of representative samples of products sold on the market, and large databases of values declared on product labels (label-derived). Each has its own unique challenges. Because chemical analyses of representative national samples of products are expensive, and methods for many botanical ingredients are not available, analytically-derived databases are usually limited to nutrients provided in popular supplements, such as multivitamin- mineral supplements, omega 3 fatty acids and calcium-vitamin D supplements. Databases that use values derived from product labels, assume these values are valid and reflect product contents. The Dietary Supplement Label Database (DSLDB) from the National Institutes of Health (NIH) is free and contains information taken from over 85,000 labels of products marketed in the USA. Information

presented on product labels must conform to US Food and Drug Administration (FDA)'s labeling regulations. The 2016 regulations revised the Daily Values (DV) and units for expressing nutrients on product labels, as well as the definitions for sugar and dietary fiber. The regulations will not affect how information on botanicals and other non- nutrients appear on labels. The regulations will continue to give manufacturers considerable flexibility in declaring these ingredients. For example, when botanicals are labeled as propriety blends the level of individual ingredients within the blend need not be declared. This presentation will discuss on how the 2016 FDA labeling regulations will affect product labels and data in label-derived databases, demonstrate the characteristics and challenges of working with label-derived data, and challenges with conducting research using label-derived data available in the DSLDB.

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 Notes:

Risk factors and outcomes in critically ill patients presenting with Gastrointestinal Hemorrhage complicated by Myocardial Ischemia

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Introduction: Gastrointestinal hemorrhage (GIB) is frequently associated with significant cardiovascular stress due to the resulting imbalance between myocardial oxygen supply and demand. The aim of this study is to determine the risk factors, clinical predictors, and prognostic significance of myocardial ischemia in patients admitted to our intensive care unit (ICU) with GIB.


Methods: This is a retrospective review of our ICU database and electronic medical record (EMR) of all patients admitted to the ICU with GIB (including upper or lower GIB) between 10/1/05 and 9/30/18. Data aggregated include demographics, hemoglobin and troponin (TROP) values, comorbidities, ICU length of stay (LOS) and outcome parameters including in-hospital mortality. Patients were categorized as having myocardial ischemia ("ISCH," including ST elevation myocardial infarction, non-ST elevation myocardial infarction, or demand ischemia), or no ischemia ("NON"). We compared risk factors and clinical characteristics of patients with and without ISCH and created

a multivariable logistic regression model to determine the independent association of ISCH with mortality.

Results: This investigation includes 403 patients with GIB; 256 had serial TROP values. 155 of 403 (38.5%) had enzymatic and/or electrocardiographic evidence of ischemia. ISCH had longer ICU LOS (1.7 [1.0-3.2] vs. 1.3 [0.8-2.0] days; $p = 0.0001$) and higher mortality (20.0% vs. 5.6%; $p < 0.0001$). Multivariable analysis demonstrated that ISCH was independently associated with higher mortality: Odds ratio (95% confidence interval) 3.23 (1.34-7.78; $p = 0.0088$).

Conclusion: Patients admitted to the ICU with GIB are at a high risk of developing myocardial ischemia which is identified in this investigation as being an independent risk factor for mortality. Recognition of associated risk factors and comorbidities in the setting of GIB can identify patients who are at increased risk of cardiovascular stress and could aid in targeting more aggressive treatment, potentially improving outcomes.

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 Notes:

The need for ethical leadership has never been greater


Mark Hollingsworth

The Nutrition Society, UK

The presentation examines the structure of ethical leadership. Leaders who put their personal interests first, who see leadership as power, are identified through links with corruption, nepotism, egoism, and abuse of power. They avoid the truth, do not take responsibility for their actions, often simply to cover their own tail, or to make themselves look good. Ethical leaders however act in accord with their conscience, when called upon, risking their careers by pursuing a more expansive vision of the organisational, institution, national or local interest in opposition to internal and/or external popular opinion or pressure. Such leaders are naturally humble, trustworthy, honest, considerate, charismatic and fair. They set high standards through personal example, becoming the role

model and champion for the importance of ethics. Ethical leaders are able to recognise ethical dilemmas, the trigger situations and 'inner voice' which alerts them to certain challenging situations. However, recognising ethical dilemmas is one thing, deciding how to manage them is somewhat different. Ethical leaders have developed systems to assist them in dealing effectively with ethical dilemmas. In summary, to act ethically requires one key trait: Courage. In practice this means to be a true ethical leader, to engender deep trust and loyalty, starts with telling the truth. Telling those being led not what they want to hear, but rather what they need to hear is ethical leadership in action.

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 Notes:

Vegan diet in Health, Fitness and Sports: Benefits to adolescents and athletes- lessons to be learned to improve individual health

Katharina C Wirnitzer

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Vegan diets are booming in the mainstream and in sport. According to the Forbes magazine and The Economist, the vegan movement is forecasted to keep on growing in 2019 with the younger generations are the key drivers of this global shift towards a healthier and more sustainable relationship with food.

Health above all is the most basic prerequisite for human development and becoming a successful athlete. Vegan diets are appropriate for all ages, and athletes, too. However, despite the sound health benefits, vegans of all ages but vegan athletes in particular, are frequently faced with prejudice on unsubstantiated grounds. From current sporting success all the way back to ancient times, it is evident that vegans can win races up to professional levels and even break records. At the same time, data on veganism related to sports is sparse. Findings from our laboratory has been published over the past decade, show that a vegan diet is compatible with endurance performance and to contribute most beneficially to an athletes' health.

Therefore, this keynote sheds light on a highly underestimated body of evidence still mostly neglected (inclusive the potential benefits-risks-ratio by looking at the myths about meat). In presenting relevant information for both experts and practitioners in the field of sports, it combines scientific rationale from evidence-based data with anecdotal information, in order to support a more healthy approach to individual health and sports nutrition counseling of young people and competitive athletes.

The knowledge about the various advantages of vegan diets on health and sports performance has the potential to encourage athletes and their families, coaches, and experts in health, nutrition and sports, decision makers, multipliers and role models in sports and school settings, to be more open-minded when a pupil, student or an athlete expresses his/her desire to adopt a vegan diet.

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 Notes:

Towards a personalized approach to promote Musculoskeletal and Cardiovascular Fitness

Flück Martin

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Human Health and performance depends on constitutional factors and is conditioned by nutritional cues. Specifically metabolic fitness and strength are key variables to protect against morbidity by enhancing mobility and quality of life that are potentially conditioned by the nutritional stimulus of regular intense exercise. In recent decades it has become increasingly evident that a considerable inter-individual capacity resides in the human population regarding the outcome of exercise training interventions on performance. This allows some individuals to improve maximal oxygen uptake efficiently while others nearly fail to respond to the stimulus.

Through the study of the cellular pathways underlying skeletal muscle's malleability to exercise training in

untrained and moderately subjects, and high-level athletes, we have identified that the capacity to improve muscle metabolism is reflected in a specific molecular signature that is graded to the volume and intensity of the impacting mechanical and metabolic stimuli during exercise. We have identified natural variants (i.e. polymorphisms) in the genes of the angiotensin-tenascin-C signaling pathway which modify muscle's exercise response and aerobic performance and mitigate the molecular response of the hypertensive patient to cardiovascular rehabilitation and anti-hypertensive medication. A concept is discussed how genetic, medical and training-log data can be combined to a state-of-the-art approach to maximize muscle performance through tailored exercise interventions.

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Notes:

Non-alcoholic steatohepatitis before and after liver transplantation


Stefano Gitto

University of Florence, Italy

Non-alcoholic steatohepatitis has become a leading indication for liver transplantation in the western countries. After transplant, both recurrent and de novo non-alcoholic fatty liver disease can be usually diagnosed. Nonetheless, dedicated surveillance programs for patients with pre- or post-transplant non-alcoholic fatty liver disease are not offered. Patients waiting for transplant for non-alcoholic steatohepatitis show certain individualities and would deserve targeted stratification of mortality risk. Obesity, hyperlipidemia and diabetes mellitus can be frequently diagnosed in the post-transplant period. These conditions together with immunosuppressive regimen, make transplant recipients a high-risk subgroup

for recurrent or de novo non-alcoholic fatty liver disease. Onset of fatty liver disease after liver transplant has a relevant impact on both morbidity and mortality. A targeted stratification of neoplastic and cardiovascular risk for patients with non-alcoholic steatohepatitis waiting for transplant would be mandatory. In both pre- and post-transplant period, non-alcoholic fatty liver disease should be considered not only a liver disease but also a cardiovascular risk factor. Patients within Transplant Program, especially those with known metabolic risk factors, should be followed with personalized diagnostic and life-style interventions before and after transplant.

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 *Notes:*

Effects of whey protein supplement in the elderly submitted to resistance training: Systematic review and meta-analysis


Tamy Colonetti, Antonio Jose Grande, Karen Milton, Charlie Foster, Maria Cecilia Manenti Alexandre, Maria Laura Rodrigues Uggioni and Maria Inês da Rosa

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It is accepted resistance training promotes increased muscle strength and skeletal muscle mass. In the aging context, resistance training has a special importance after 60 years old, when changes in body composition are accelerated due to the aging process (Csapo & Alegre 2015). Whey protein is available as a dietary supplement claimed for building muscle mass. Considering the rapid rate of digestion, this supplement provides fast supply of amino acids that can be absorbed by the muscles to repair and rebuild muscle tissue (Chen *et al.*, 2014). We performed this systematic review to map the evidence and analyze the effect of whey protein supplementation in the elderly submitted to resistance training. We performed a systematic review following the PRISMA-statement guidelines (Liberati *et al.*, 2009). The review protocol is registered at PROSPERO (CRD42014014317). A comprehensive search on Medline, LILACS, EMBASE and the Cochrane Library for relevant publications was conducted until August 2015. The terms used in the search

were: "Resistance Training"; "Whey protein"; "elderly". Results: A total of 632 studies were screened. Five studies were included composing a sample of 391 patients. The supplement whey protein was associated with higher total protein ingestion 9.40 (95% CI 4.03 to 14.78), and with an average change in plasma leucine concentration, mean difference in plasma leucine concentration ranging from 406 μ mol/L to 490 μ mol/L compared with the control group ($p < 0.05$, $I^2 = 74\%$). The supplementation was also associated with increased mixed muscle protein synthesis 1.26 (95% CI 0.46 to 2.07) compared to the control group. Conclusion: We observed the use of whey protein in older adults promotes an increase in total protein intake, resulting in increased concentration of leucine and mixed muscle protein synthesis rate.

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 Notes:

Gastric fermentation in functional dyspepsia

Barrios Adriana, Barrios Antonio, Dunsford Matthew, Alvarez Angela, Tzorin Dominga and Paz Jose Miguel

Las Torres Clinic Quetzaltenango, Guatemala

Background/Aims: The role of the gastric fermentation in functional dyspepsia has been investigated.

Methods: Lactulose Hydrogen Breath test, *H. pylori* 13C Urea Breath Test. 47 patients with functional dyspepsia (FD) has been investigated.

Results: Positives for lactulose hydrogen breath test (SIBO) 23, negatives (SIBO) 24.

H. pylori and hydrogen breath test (SIBO) positives 12.

Introduction: At least 20% of the population has chronic symptoms that can be attributed to disorders of gastroduodenal function, and the majority of these people have no evidence of organic causes. Diagnostic criteria: One or more of the following bothersome: postprandial fullness, early satiation, epigastric pain, epigastric burning and no evidence of structural disease, (including a upper endoscopy) that is likely to explain the symptom onset at least 3 months with symptom onset at least 6 months before diagnosis. (1) The bacterium *Helicobacter pylori* is found in 40% of the population and is responsible for the development of the duodenal ulcer disease. The infection also is a cause of gastric ulcer diseases, and of some cases of non-ulcer dyspepsia and gastric adenocarcinoma (2). In an analogous way, the post-infectious in the IBS (Irritable

Bowel Syndrome), several studies have identified the *novo* development of FD following an enteric infection. *Giardia lamblia* infection has been shown to provoke visceral hypersensitivity and delay gastric emptying. Besides the bacteria *E.coli* in gastric infection can produce dysmotility (3). The latest iteration of the Rome IV, published in 2016, represents a significant departure from prior version with a much broader approach to the definition and potential pathophysiology of functional gastrointestinal disorders and now recognizes the possible contribution of such phenomena as low-grade inflammation, changes in the gut microbiota, and altered brain processing to the pathogenesis of the symptoms (3). Finally, the growth of bacteria was demonstrated with culture of gastric biopsy (4).

Hydrogen breath test using various substrates like glucose, lactulose, lactose and fructose are being used more and more to diagnose small intestinal bacterial overgrowth (SIBO) and lactose or fructose malabsorption. Though quantitative culture of jejunal aspirate is considered as gold standard for the diagnosis of SIBO, hydrogen breath test, in spite of their low sensitivity, are popular for their non-invasiveness. (5).

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 Notes:

Effect of *Eurycoma longifolia* on testosterone negative feedback loop regulation

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Eurycoma longifolia is an herbal supplement used as an alternative medicine to up-regulate testosterone levels for hypogonadism as well as sport performance. Using an animal model, EL is postulated to boost testosterone by interfering with its negative feedback loop. This study aimed to assess the effect of EL on-testosterone regulation in young healthy men.

Following ethical approval and informed consent, in a double blind matched-paired study, sixteen males (24.4 ± 4.7 years; 1.74 ± 0.07 m; 73.7 ± 8.4 kg) ($n = 8/\text{group}$), received 600 mg/day EL or placebo for 2 weeks. Blood samples were collected on days (D) 1 and 14 for analysis of androgens and liver functions.

EL resulted in a significant increase (0.97 ng/ml) in testosterone ($p=0.043$) at D14 vs D1. Significant differences from D1 vs D14 ($p < 0.05$) in EL vs placebo were observed in free testosterone (24.7%), oestrogen (17.0%) and luteinising-hormone (LH; -7.81%). Changes in follicular-

stimulating-hormone (FSH; 7.6%), sex-hormone-binding-globulin (1.3%), aspartate-aminotransferase (3.1%) and alanine-aminotransferase (3.3%) were not different between groups. Supplementation of EL in young healthy men significantly increased testosterone levels, however, the secretion of LH and FSH, did not decrease.

These preliminary data, therefore, suggest an interference of the testosterone negative feedback loop in the presence of EL. Importantly, the increase in testosterone is within the normal healthy range for humans and the liver function tests suggest the dosage is safe for human consumptions. In conclusion, consuming 600 mg/day EL for 14 days, would have positive outcomes on testosterone and other anabolic hormone levels. In turn, the findings could be extended into studies involving; sports and exercise performance, rate of injury recovery and decreasing testosterone with age.

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 Notes:

Dietary intake, physical activity level, body composition and muscle strength from a Malaysian adolescents cohort study

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Background: The increased prevalence of obesity, unhealthy eating habits and sedentary lifestyle among Malaysian adolescents has become a public health concern. A cohort study was conducted among adolescents (aged 13-years) attending 15 public secondary schools from the Central (Kuala Lumpur and Selangor) and Northern (Perak) Regions of Peninsular Malaysia.

Methods: This study is to identify the trends of self-reported physical activity (PA) levels, dietary intake, body composition and muscle strength. The self-reported PA was assessed using a validated Malay version of the PA Questionnaire for Older Children (PAQ-C). Fasting blood samples were collected to investigate their lipid profiles. Anthropometrical measurements which include height, weight, waist, hip circumferences, hand grip and body fat percentage were all measured using calibrated scale. The 7-day diet histories of habitual food intake were conducted by qualified dietitians and nutritionists. The data were collected in 2012, 2014 and 2016 respectively.

Results: From the baseline data, it appears that obese adolescents in rural schools consumed more energy and sugar (1987.6 ± 374.0 kcal/d and 48.9 ± 23.0 g/d) (p -value <0.001). A downward trend in the PA level was seen in all categories with a significant reduction among all rural adolescents ($P = 0.013$) and more specifically, PA among girls residing in rural areas dropped significantly ($P = 0.006$). After controlling for ethnicity, place of residency and body mass index (BMI), there was a positive relationship between hand grip strength and the intake of energy at the age of 15 years old.

Conclusion: Adolescents appears to be less active generally as they are growing but female living in rural areas experienced more body fat increment with the reduction of physical activity. A structured intervention study for the adolescents is needed for better health.

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 Notes:

Study of Anti-Ulceration action of white logged mushroom *Lentinus squarrosulus* (Mont.) snack supplement

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Background: Gastritis or /and gastric ulcers are one of the most common symptoms which occur in a large amount of the population. It results in a very high amount of medication expense. This study investigated the prevention and treatment of gastritis or /and gastric ulcer actions using white log mushroom *Lentinus squarrosulus* (Mont.) as a snack supplement.


Method: White wistar rats were induced with 100% absolute alcohol to be effective for gastritis and /or ulceration within rats. The gastric lesions of white wistar rats were investigated and calculated the lesions of stomach areas under microscopic method. The results were calculated and a comparative study among white wistar rats which were induced with 100% absolute alcohol revealed that the white wistar rats which were given extracted solution of white log mushroom and a solution extracted from snack supplement of white log mushroom can have anti-ulceration healing effects. It was found that

Lentinus squarrosulus, (Mont.) consisted of *Beta-glucan* was the active ingredient creating a healing effect.

Results: It showed a result of 100% healing effect in gastritis and/or ulcers in which it had similar healing effects between extracted solution of white log mushroom and the solution extracted from snack supplement (250 mg/kg body wt.) The healing activity also showed the equivalent effect compared to cimetidine.

Conclusions: Extracted solution of white log mushroom and from snack supplement of white log mushroom showed prevention and treatment efficacy in gastritis and/ or ulcer are equivalent to cimetidine. A further study should be experimented in a clinical comparative study of anti -ulceration efficacy.

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 Notes:

Clinical profile and outcome of acute pancreatitis in children admitted in Philippine Children's Medical Center

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Introduction: Pediatric acute pancreatitis has been reported to show an increasing incidence worldwide. Determining local data on clinical profile, factors, severity and outcome would help improve recognition, diagnosis and management of this emerging disease.

Objectives: To determine the clinical profile of Pediatric Acute Pancreatitis and the factors associated with their outcome and severity.


Methods: This was a retrospective chart review of children 0-18 years old with diagnosis of Acute Pancreatitis. Demographic, clinical and diagnostic data gathered were compared among severity classification and outcome.

Results: Thirty-five cases were identified in a period of 18 years but only 28 were reviewed. Mean age was 11.5 years old 4.1 SD (range 4–18) with slight male predominance. Ninety-three percent presented with abdominal pain. Most common etiology was idiopathic

(44%). Gallstones and choledochal cyst post-excision were the most common of the co-morbidities seen. Most common imaging findings was edematous/enlarged pancreas. Five cases of acute recurrent pancreatitis noted. Most common local complications seen were pseudocyst formation and fluid collection (11% each). One death was due to hemorrhagic pancreatitis. Of the factors reviewed, presence of gallstones was associated with non-mild severity classification ($p < 0.028$) and 3-10 years age group with incomplete enzymatic/radiologic resolution upon discharge ($p < 0.04$).

Conclusion: Presence of gallstones and 3-10 years old age group were found to affect severity and outcome and should be considered closely during management of pediatric acute pancreatitis.

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 Notes:

Neuro-gastrointestinal encephalopathy (MNGIE) as mitochondrial dysfunction: Difficult diagnosis and effective treatment

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MNGIE is a mitochondrial disease that is characterized by disorders of the nervous system, endocrine system and the gastrointestinal tract. We have gained experience of prenatal manifestation of the disease. The diagnosis of which was established at the age of 19. In other cases, the disease manifested at 33 and 27 years.

The purpose of the study is to study the frequency and the nature of the clinical manifestations of a rare hereditary disease - MNGIE.

Materials and methods: classic clinical-genetic and modern technologies are used. Patient S. referred with a diagnosis of colitis, malabsorption syndrome, gastroduodenitis, cachexy.

Results of the study: Complaints of progressive weight loss (30 kg for 7 years), epigastric pain, flatulence, altered defecation pattern (alternating constipation with diarrhea), severe general weakness, amenorrhea.

Ill since 7 years: epigastric pain, progressive weight loss. After the flu, the condition progressively worsened: pain in the epigastrium, general weakness, weight loss increased. Pedigree is burdened with neurological (hyperkinetic syndrome) and multifactorial pathology (hypertension, chronic gastritis). Height - 166 cm, weight - 35 kg, severe cachexia, mongoloid eye incision, divergent strabismus,

protruding ears, thoracic spine scoliosis, chest deformity, hyperemia of nose skin, hands, feet, moderate myopia, astigmatism. In the neurological status - ataxia, tremor.

Biochemistry: ↓ glucose, ↓ total protein, ↓ calcium, ↓ folic acid.


Ultrasound: Moderate diffuse changes in the liver parenchyma, low location of the gallbladder, signs of pancreatopathy, crystaluria.

The course of individual rehabilitation drug therapy, which primarily included energy therapy, as well as metabolic cofactor therapy and diet therapy:

- Coenzyme Q
- cytochrome C
- L-carnitine
- creon
- omeprazole
- probiotics
- microhydrin
- vitamins B6, C, E, folic acid

Results: In the case of MNGIE, it is possible to avoid death by diagnosing and effective treatment.

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 Notes:

Prevalence of lamivudine drug resistance among hepatitis B virus untreated patients

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Background: Hepatitis B virus (HBV) represents a global health challenge due to its worldwide distribution and serious complications. Mutations of HBV polymerase, especially occurring at the highly conserved YMDD region, are related to resistance to lamivudine. Although these mutations are frequently secondary to lamivudine use, they can also occur naturally.

Aim: The aim of this study is to determine the prevalence of genotypic resistance to lamivudine in HBV isolates obtained from untreated HBV-infected individuals.

Methods: Quantitative real-time PCR assay was carried out on One hundred and fifteen clinical specimens of chronic

carriers. The specimens were extracted and amplified using INNO-LiPA HBV Drug Resistance primers and run on a 2% agarose gel, YMDD variants were analyzed by the HBV Drug Resistance Line Probe assay (Inno-LiPA HBV-DR).

Results: YMDD variants were detected in 40 (70.1%) of the 57 inactive HBV carriers. The YIDD mutant was presented in all cases (40 cases), either alone or associated with YVDD or V80+I80.

Conclusion: HBV genotypic resistance to lamivudine in untreated HBV-infected is common.

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