

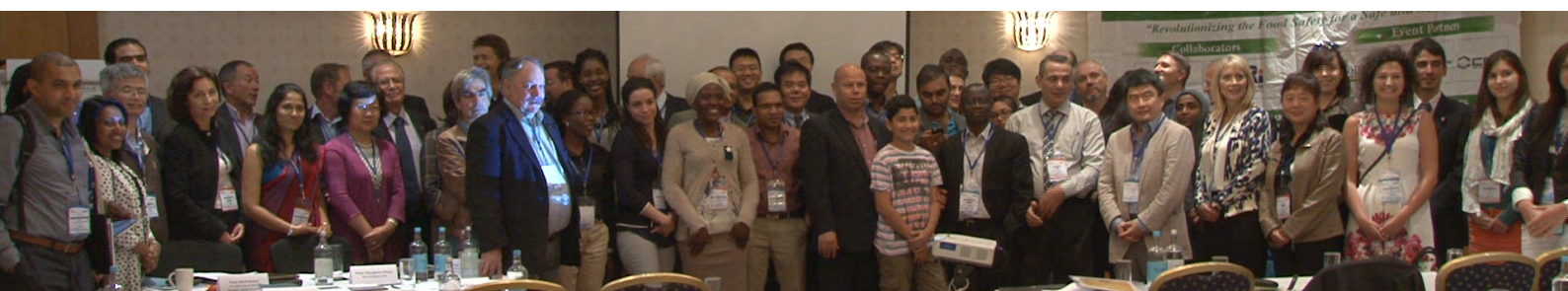


9th International Congress on

Nutrition & Health

February 20-21, 2017 Berlin, Germany

Workshop Day I



9th International Congress on

Nutrition & Health

February 20-21, 2017 Berlin, Germany



Diana V Artene

Carol Davila Medicine and Pharmacy University, Romania

Beetroot juice increases the risk of thyroid nodules and hypothyroidism in breast cancer patients

After diagnosis, many breast cancer patients start consuming high quantities of beetroot and carrot juice in the hope that it will sustain their treatment. But these foods are very high in nitrates which can competitively inhibit the use of iodine by the thyroid, potentially leading to hypothyroidism or thyroid nodules. Thus, we applied a nitrate and iodine food frequency questionnaire (asking about dairy, fish, sea food and iodized salt for iodine intake and spinach, carrots, beetroot, lettuce and arugula for nitrates intake) to 353 ER+/PR±/HER2- breast cancer patients during anti-estrogenic treatment. We excluded patients with a thyroid disease diagnosis before the cancer diagnosis, ex-smokers or those with renal disease or bipolar disorders. In this sample of patients, the only correlations between dietary intake of nitrates and the appearance of thyroid nodules were protection factor by minimum intake of dairies 250 ml/day; risk factor by intake over 200 g spinach, 250 g carrots or beetroot 250 g/day. And the correlations between dietary intake of nitrates and hypothyroidism were protection factor by intake of iodized salt 2.5 g, minimum fish 100 g or 250 ml dairy/day; and risk factor by intake over 250 g carrots or beetroot 250 g/day. The results of this study support the hypothesis that an increased intake of foods high in nitrate - in particular beetroot and carrot juice-is a risk factor for the *de novo* development of hypothyroidism or thyroid nodules after the diagnosis of breast cancer.

Biography

Diana V Artene is a Nutritionist-Dietitian, with a Master's degree in Nutrition Sciences and PhD in Oncology Nutrition. She is a Certified Member of the International Society of Sports Nutrition and a Reviewer for the American Society for Nutrition. She has written three Nutrition Books: "The Old Chocolate Diet"; "Nutrition Guide for Mums" and "5 Gears Diet". She works as an Oncology Nutritionist at Professor Dr. Al Trestioreanu Institute of Oncology in Bucharest, Romania.

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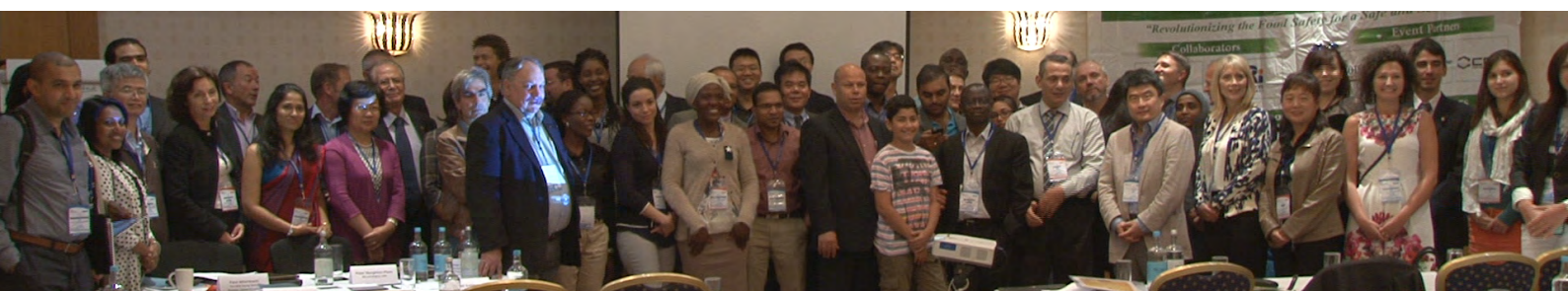


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*Scientific Tracks & Abstracts
Day I*



Sessions

Day 1 February 20, 2017

Nutrition and Health | Nutrition in Cancer and Chronic Illness | Nutritional Deficiencies and Disorders | Nutritional Therapies and Treatments

Session Chair
Serge Picaud
Vision Institute, France

Session Co-Chair
Juma Khudonazarov
HelpAge International, United Kingdom

Session Introduction

Title: Novel extended - release formulation of *Monascus* fermented rice extract (RYR)

Marco Consumi, University of Siena, Italy

Title: Vitamin A deficiency promotes inflammation by induction of type 2 cytokines in experimental ovalbumin - induced asthma murine model

Dong Li, Jilin University, China

Title: High degree of BMI misclassification of malnutrition among Swedish elderly population: Age-adjusted height estimation using knee height and demi-span

Nivetha Natarajan Gavriilidou, Lund University, Sweden

Title: Cardioprotective effect of moderate wine consumption

Elizabeth Fragopoulou, Harokopio University, Greece

Title: Research on the protective effect of gallic acid-phospholipid complex on chronic alcoholic liver injury model in mice

Weiwei Cui, Jilin University, China

Title: Dairy products intake in older adults across Europe based on SHARE database

Ines Ribeiro, University of Porto, Portugal

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Novel extended-release formulation of *Monascus* fermented rice extract (RYR)

Consumi M, Leone G, Pepi S and Magnani A
University of Siena, Italy

Monascus fermented red rice (RYR) has been demonstrated to lower cholesterol in blood and sold over-the-counter as an alternative to cholesterol-lowering statin drugs, especially for who stop statin drugs due to their side effects. The goal of this work is to develop an extended-release formulation that able to maintain the activity effect against cholesterol, obtaining a constant release of statins present in RYR throughout the staying of the tablets inside the intestine. This study focus on the analysis of different carriers for controlled release systems composed by polysaccharide-based matrices by two different formulations based on K-carrageenan and gellan gum (ranging from 10% to 90% in weight). Samples as cylindrical tablets have been physico-chemical characterized by FTIR, DSC, TGA, Rheometer and TOF-SIMS, water uptake, water bond, water diffusion and mesoporosity. The Monacolin K release has been monitored until 48 hours in simulated intestinal fluid SIF. HMG-CoA reductase activity has been measured to determine the formulation influence on statin activities against the lovastatin activity used as control. The selected formulation enhances the statins release respect to the RYR matrix alone and, in addition, the preliminary biological results suggest that the activity of these samples is associated with the inhibition of HMG-CoA reductase. It can be concluded that, release tests pointed out that formulations obtained combining polymers in a ratio close to 1 (i.e., 40/60 and 50/50) guaranteed a potentiated release of lovastatin from RYR inducing also a superior hypocholesterolemizing action both in terms of hepatocytes cholesterol production and inhibitory activity towards 3-hydroxy-3-methylglutaryl-coenzyme A reductase (HMG-CoA). The most effective one, in hypocholesterolemizing activity, in terms of inhibitory activity versus HMG-CoA reductase and hepatocytes cholesterol production, was the formulation obtained combining 40% of k-carrageenan and 60% of gellan gum.

Biography

Consumi M is a Research Scientist at University of Siena in the Department of Biotechnology, Chemistry and Pharmacy. He received his PhD in Biomaterials from University of Trento and has studied polymers and polymer based materials for controlled release of active substances in pharmaceutical and nutraceutical field. As a Post-doctoral Fellow, he focused on understanding the correlation between the chemical composition of materials and their biological activity. He has broad expertise in synthesis, modification and characterization of polymers (naturals and synthetics) and materials for biomedical applications. Actually, he is involved in 2 EU ITN projects in bacterial infection topic to fundamentally better understand the biology, chemistry and physical properties of biofilms.

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Vitamin A deficiency promotes inflammation by induction of type 2 cytokines in experimental ovalbumin-induced asthma murine model

Dong Li and Weiwei Cui
Jilin University, China

Statement of the Problem: Vitamin A (VA) deficiency is one of the most common malnutrition conditions. Recent reports showed that VA plays an important role in the immune balance, lack of VA could result in enhanced type 2 immune response characterized by increased type 2 cytokines production and type 2 innate lymphoid cells infiltration and activation. Type 2 immune responses plays protective role in anti-infection, but plays pathological role in asthmatic disease.

Methodology & Theoretical Orientation: In order to investigate the role of VA in the asthmatic disease, we used ovalbumin-induced asthma murine model, and observed the pathological changes between mouse received VA-deficient and -sufficient diets. We also measured the type 2 cytokine expressions to reveal the potential mechanism.

Findings: Our results showed that VA deficiency exacerbates ovalbumin-induced lung inflammation via induction of the type 2 cytokine productions.

Conclusion & Significance: VA deficiency, or malnutrition in further extent, may contribute to the increasing prevalence of asthma.

Biography

Dong Li has done his PhD in Immunology from University of Glasgow in 2014. His research interest is to identify the key factors in immune regulation which control the development of allergy and inflammatory diseases. Current focus is on the role of cytokines IL-1 family members in the mucosal immune system related diseases as well as how nutrition status influences these key immune regulatory factors.

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High degree of BMI misclassification of malnutrition among Swedish elderly population: Age-adjusted height estimation using knee height and demi-span

Nivetha Natarajan Gavriilidou
Lund University, Sweden

The degree of misclassification of obesity and undernutrition among elders owing to inaccurate height measurements is investigated using height predicted by knee height (KH) and demi-span equations. Cross-sectional investigation was done among a random heterogeneous sample from five municipalities in Southern Sweden from a general population study 'Good Aging in Skåne' (GÅS). The sample comprised two groups: Group 1 (KH) including 2839 GÅS baseline participants aged 60-93 years with a valid KH measurement; and Group 2 (demi-span) including 2871 GÅS follow-up examination participants (1573 baseline; 1298 new), aged 60-99 years, with a valid demi-span measurement. Participation rate was 80%. Height, weight, KH and demi-span were measured. KH and demi-span equations were formulated using linear regression analysis among participants aged 60-64 years as reference. Body mass index (BMI) was calculated in kg/m². The results obtained were: undernutrition prevalences in men and women were 3.9 and 8.6% by KH, compared with 2.4 and 5.4% by standard BMI, and more pronounced for all women aged 85+ years (21% vs. 11.3%). The corresponding value in women aged 85+ years by demi-span was 16.5% vs. 10% by standard BMI. Obesity prevalences in men and women were 17.5 and 14.6% by KH, compared with 19.0 and 20.03% by standard BMI. Values among women aged 85+ years were 3.7% vs. 10.4% by KH and 6.5% vs. 12.7% by demi-span compared with the standard. In conclusion, there is an age-related misclassification of undernutrition and obesity attributed to inaccurate height estimation among the elderly. This could affect the management of patients at true risk. We therefore propose using KH- and demispan-based formulae to address this issue.

Biography

Nivetha Natarajan Gavriilidou has her expertise in Dentistry and Geriatric Epidemiology and passion in improving the health and wellbeing of elderly adults. Her research efforts in Swedish geriatric nutritional studies open doors for possibilities for interdisciplinary research for example, i.e., oral health among elderly and multi-morbidity. The current study shows that there is an age-related misclassification of undernutrition and obesity attributed to inaccurate height estimation among the elderly. This could affect the management of patients at true risk. We therefore propose using KH- and demi-span-based formulae to address this issue.

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Cardioprotective effect of moderate wine consumption

E Fragopoulou¹, S Antonopoulou¹ and C A Demopoulos²¹Harokopio University, Greece²National and Kapodistrian University of Athens, Greece

French paradox is the observation that the French suffer a relatively low incidence of coronary heart disease, despite having a diet relatively rich in saturated fats. Several theories have been proposed in order to explain this phenomenon and several debates arose. One of them attributed this phenomenon to the regular and moderate consumption of wine in France. In this concept, many epidemiological studies confirm an inverse relationship between light to moderate wine consumption and cardiovascular events. Atherosclerosis, the underlying mechanism of cardiovascular diseases is a multifactorial process including several cellular and molecular alterations. Inflammation, thrombosis and oxidative stress are thought to play a crucial role in the onset and perpetuation of atherosclerosis. Under this perspective, clinical trials have been implemented in order to investigate the effect of acute or chronic wine consumption on biochemical markers associated with cardiovascular diseases. Among other pro-inflammatory and thrombotic mediators platelet-activating factor (PAF, 1-O-alkyl-2-acetyl-sn-glycero-3-phosphocholine) and oxidized-phospholipids have been proposed to play a crucial role in the initiation and prolongation of the atherosclerotic lesion. Therefore food compounds that inhibit PAF actions, namely PAF inhibitors, may have a dual role both in hemostatic system and inflammatory cascade. Our research team examined *in vitro* the effect of several red and white wines on PAF-induced platelet aggregation. The most potent ones were the red wine with main variety Cabernet Sauvignon and the white wine with main variety Rompola demonstrating that the variable of grape is important for the biological activity and not the color. In addition the consumption of these wines improved postprandial platelet sensitivity against PAF, independently of alcohol, in healthy volunteers. In conclusion, the moderate consumption of wine could have beneficial effect on human health due to the existence of wine micro-constituents. Since PAF is a potent mediator of inflammation and thrombosis, with a crucial role in the initiation and prolongation of the atherosclerotic lesion, the existence of PAF inhibitors in wine could partly explain the cardio-protective effect of moderate wine consumption.

Biography

E Fragopoulou is an Assistant Professor of Biological Chemistry of Natural Products. She has a Bachelor's degree in Chemistry, and MSc and Doctorate in Biochemistry. She has a great experience in the isolation and structural characterization of micro-constituents extracted from foods of the Mediterranean Diet, in the study of anti-inflammatory, anti-oxidative and anti-thrombotic effects of micro-constituents in cell free and cell culture systems. Activities in terms of international recognition are the invitation for two review articles "Food ingredients and lipid mediators" and "Lipid minor constituents in wines: A biochemical approach in the French paradox". In addition she has experience in the designing and the implementation of clinical trials. She has been involved in 12 research projects with national and international collaborations and funding, of which in 2 she was the Research Supervisor. She has 60 research and review articles published in peer-reviewed journals.

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Research on the protective effect of gallic acid-phospholipid complex on chronic alcoholic liver injury model in mice

Weiwei Cui, Xiangqun Wu and Ya Liu
Jilin University, China

Background: With the increasing consumption of alcohol, the Alcoholic Liver Disease (ALD) caused by alcohol abuse has become a serious public health problem that seriously endangers human health. Gallic Acid (GA) is well known for its antioxidant and hepatoprotective activity. Its phospholipid complex (GA-P) is more bioavailable as compared to GA owing to increase the lipophilicity. GA-P could enhance the capacity to cross the lipid rich membranes of the small intestine enterocytes and finally overcoming the disadvantage of poor absorption. In this study, GA-P was prepared and the hepatoprotective effect of it was investigated on chronic alcoholic liver injury model in mice.

Methods: Sixty healthy male C57BL/6J mice were purchased from Changsheng Experimental Animal Company (Liaoning, China). After a period of two weeks, the animals were divided into 6 groups of 10 mice each. Mice in Group I served as the normal control and were given physiological saline only; Animals in Groups II –VI were given orally alcohol infusions for 4 weeks to induce liver damage. Group II served as the bifendate control, and the animals were orally administered bifendate. Group III served as the alcohol-induced liver injury model and treated with alcohol only. In addition to alcohol, mice in groups IV were also intragastric administrated GAP daily. At the end of the 4th week, blood was taken from heart and samples were collected into EP tube.

Results: (1) The repeated oral administration caused total mortality in 50/60 mice, among which 2/10 mice in Group I, 1/10 mice in Group II, 3/10 mice in Group III, and 2/10 mice in Group IV respectively; (2) The mice body weight decreased in almost all the alcohol treated animals compared with Group I; (3) A remarkable promotion of the content of the four substances (the level of TG, GHO, ALT and AST in serum) was observed in the alcohol-induced liver injury model group when compared with the normal control. Conversely, animals treated with bifendate had a significant reduction of their compounds compared with those in the hepatic injury model group. Groups treated with GAP also showed a decrease in the amount of these four substances; (4) Compared with normal control, mice in Group III which had hepatic injury induced by alcohol caused significant decrease in liver Superoxide dismutase (SOD) and a significant increase in liver malondialdehyde (MDA) content.

Conclusions: These findings suggest that GA-P is an efficacious treatment for alcohol-induced liver damage in mice. Based on our data, GA-P should be regarded as a new and promising drug that may be useful for the prevention of liver injury and even liver fibrosis.

Biography

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Dairy products intake in older adults across Europe based on SHARE database

Ines Ribeiro¹, Marcos Gomes¹, Daniela Figueiredo^{1,2}, Joana Lourenço³, Constança Paúl¹, Alice Santos-Silva¹ and Elisio Costa¹¹University of Porto, Portugal²University of Aveiro, Portugal³USF Pedras Rubras, Portugal

The number of older adults worldwide is expected to triple, by 2100. There is evidence that dairy products intake is associated with a reduced risk of obesity and cardiovascular diseases, playing also an important role on calcium content and bone metabolism. However, dairy consumption has declined sharply in recent decades, particularly in developed countries. Better knowledge of health and nutritional status, as well as of appropriate nutritional behavior, might help oppose this trend. The aim of this study is to evaluate the dairy intake pattern among older adults across Europe. We conducted a cross-sectional analysis using data from wave 4 of SHARE (Survey of Health, Aging and Retirement in Europe) database. Prevalence rates of the number of weekly servings of dairy in individuals who are 50 years old and above were calculated for 16 European countries. From 56,223 registered individuals, 56.0% (n=31,460) were women. Overall prevalence rates of daily intake of dairies in Europe were 66.95 % (IC95%: 66.28-67.63%). Its prevalence in men was 63.35% (IC95%: 62.37-64.35%), and in women was 70.72% (IC95%: 69.79-71.66%). Among men, the highest prevalence was found in Denmark (85.50% [IC95%: 80.73-92.25%]) and the lowest in Poland (31.20% [IC95%: 27.37-35.51%]). Among women, the highest prevalence was found in Spain (89.40% [IC95%:85.90-94.57%]) and the lowest in Poland (32.20% [IC95%:28.82-36.14%]). The prevalence of intake of dairy products less than once a week was higher in Hungary for men (11.50% [IC95%: 9.83-13.61%]) and in Slovenia for women (8.90% [IC95%: 7.52-10.61%]). An association between higher age and lower dairy products intake was also found. The pattern of dairy product intake is very heterogeneous in European countries, differing with gender and age within a country; men and older individuals showed a lower intake.

Biography

Inês Ribeiro is currently attending last year of her Integrated Master's in Pharmaceutical Sciences at the Faculty of Pharmacy in Porto University (FFUP), Portugal. She has particular interest in the area of Healthy Ageing and has worked on Therapeutic Compliance and Education for Health among elders living in Porto. Currently, she is working on the topics of Nutrition and Eating Patterns in Europe, at the Department of Biological Sciences in FFUP.

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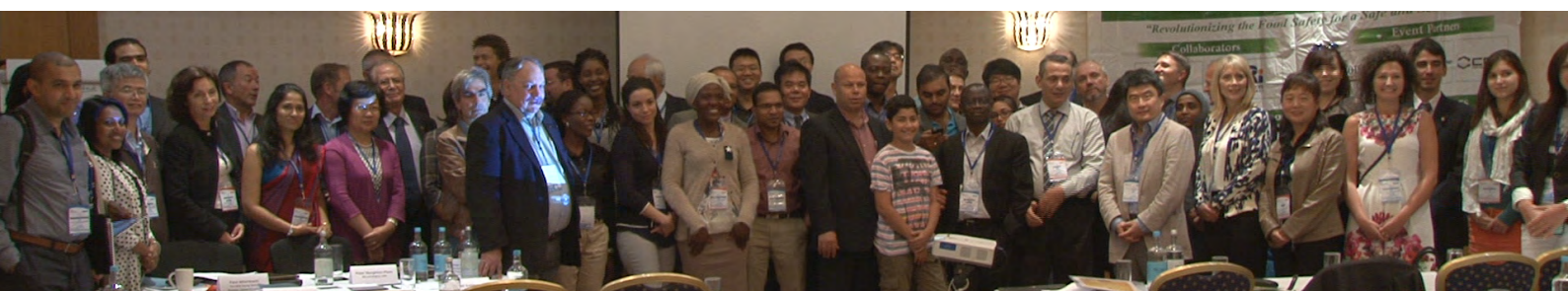


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Scientific Tracks & Abstracts
Day 2



Pediatric Nutrition and Child Care | Plant nutrition and Nutraceuticals | Balanced Nutrition and Dietary Assessment Studies | Advanced Knowledge and Current research in Nutrition

Session Chair

Ze'ev Katzir

Tel Aviv University, Israel

Session Introduction

Title: Detox and metabolism practical orthomolecular and nutritional approach

Roni Lara Moya, CESPU University, Portugal

Title: Assessment of general characteristics of children according to anorexia status

Abdullah Erdil, Ordu University, Turkey

Title: Curcumin: A multifunctional compound from natural sources and current state of its research

Zorka Stanic, University of Kragujevac, Serbia

Title: Nutritional management for the prevention of the diabetes epidemic

Carla Vartanian, American Overseas Dietetic Association, Lebanon

Title: Effect of conjugated linoleic acids on some bone markers in patients with active Rheumatoid Arthritis who referred to the Rheumatology Research Center of Shariati Hospital: A double blind clinical control trial

Naheed Aryaeian, Iran University of Medical Sciences, Iran

Title: Determination of proximate and mineral composition of three traditional spices

Ignatius Onimawo, Ambrose Alli University, Nigeria

Title: Evaluation of antioxidant activity of wild medicinal plant *Ziziphora tenuior* L and using plant tissue culture to increase its activity

Abdulkarim Dakah, International University for Sciences and Technology, Syria

Title: Physicochemical properties of the pulp of African star apple

Ignatius Onimawo, Ambrose Alli University, Nigeria

Title: Correcting effect of some biological substance on digestive disorders at heavy metal intoxication

Lyubov L Kuchkarova, National University of Uzbekistan, Uzbekistan

Title: Functional foods against metabolic syndrome: How to promote their consumption in the community?

Marjan Bazhan, Shahid Beheshti University of Medical Sciences, Iran

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Detox and metabolism practical orthomolecular and nutritional approach

Roni Lara Moya

CESPU University, Portugal

One of the main health problems of the contemporary life and a mandatory concern to all anti-aging physicians is the outcome of the constant contact with the high level of intoxication, which can be connected to the widest range of diseases, from allergies till cancer or neurodegeneration. Discussion of the physiological pathways for detoxification has been mainly centered around phase I and phase II enzyme systems. Some key nutrients and antioxidants substances, which can inhibit the oxidation of a molecule and have the capacity to nullify the ill effects of oxidation caused by free radicals in the living organisms, continuously investigated for their role in the modulation of metabolic pathways involved in detoxification processes. Superoxide dismutase (SOD), glutathione peroxidase (GPX) and catalase are the key enzymatic antioxidants of this defense system by which the free radicals that are produced during metabolic reactions are removed. Several publications to date have leveraged cell, animal, and clinical studies to demonstrate that within the correct dose and synergy, food-derived components and nutrients can function as important co-factors to modulate processes of conversion and excretion of toxins from the body. The "Phase I" cytochrome P450 superfamily of enzymes (CYP450) is generally the first defense employed by the body to bio transform xenobiotics, steroid hormones, and pharmaceuticals. These microsomal membrane-bound, heme-thiolate proteins, located mainly in the liver, but also in enterocytes, kidneys, lung, and even the brain, are responsible for the oxidation, peroxidation, and reduction of several endogenous and exogenous substrates. It is accepted that any variability in the number of CYP450 enzymes could have benefit(s) and/or consequence(s) for how some individual responds to the effect(s) of (a) toxin(s). Many nutrients appear to act as both inducers and inhibitors of CYP1 enzyme. These findings indicate that specific foods, vitamins, minerals, enzymes, etc., may upregulate or favorably balance metabolic pathways to assist with toxin biotransformation and subsequent elimination. Various foods such as cruciferous vegetables, berries, soy, garlic, turmeric and other spices, plus probiotics and exogenous antioxidants such as vitamins C, E, B complex, glutathione, cysteine, taurine, methionine, L-carnitine, CoQ10, etc., have been suggested to be beneficial and commonly prescribed as part of the orthomolecular and functional medicine-based therapies. The objective of this talk is to highlight the clinical effect of the orthomolecular nutrients in the detoxification mechanisms. Enhance the knowledge about the main antioxidants, foods, and their individual phytonutrients, especially in the case of dietary supplements and functional foods, could be worthwhile for clinicians to consider for patients who are taking a polypharmacy approach or are in contact with pollution by-products, heavy metals, hormones and further xenobiotics.

Biography

Roni Lara Moya has done his studies in Biomedicine from the University of Mogi das Cruzes, Sao Paulo. He has done his specialization in Anti-Aging Medicine from Seville University, Spain. He completed his Master of Science in Molecular and Cellular Immunology and Biology from the University of Coimbra, Portugal and Master of Science in Clinical Advanced Nutrition from the University of Barcelona, Spain. He did his PhD in Biomedicine and Immunology from the Gulbenkian Institute of Science and Coimbra University. He is the Coordinator of Orthomolecular Medicine of ReGenera Research Group for Aging Intervention. He is the Professor and Director of the Graduation Program in Orthomolecular Therapy - CESPU University, Portugal. He is the Scientific Advisor for Nutraceuticals and Cell Therapy Companies in Europe.

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Assessment of general characteristics of children according to anorexia status

Abdullah Erdil

Ordu University, Turkey

Aim: Determination of general socio-demographic and disease symptoms of children who applied to polyclinic with complaints of loss of appetite in the study and to show growth-development performance.

Material & Methods: All subjects (n=198) who did not have acute infection and gastrointestinal system disease, had at least one-month loss of appetite and volunteered to participate in the study between 01.02.2015-01.08.2015 were included in the study. Relative weighing values of patients according to age were recorded in kilograms per centile. Three categorizations were made according to the 3-day diet list requested by the children's anorexia-status family and the evaluation of the questionnaire forms (true appetite=insufficient calorie intake, normal=adequate balanced calorie intake, selective appetite=adequate-calorie intake, unbalanced diet). At the end of the study, it was determined by Chi-square analysis whether the other characteristics of the children changed according to the loss of appetite.

Results: It was determined that the loss of appetite in the study did not show a statistically significant change according to sex (p=0.085) but the selective anorexia rate (43%) was higher in girls than in boys (29.4%). Significant differences were found between the level of income in the study (P=0.003), maternal working status (P=0.040), serum 25OH-Ditamin levels (P<0.001), Percentile (P<0.001) and Relative weighing (P<0.001). As a result of the study, children with lower income levels and those with non-working mothers found a higher rate of loss of appetite. In addition, body weight percentile and relative weighing values by age were lower in children without real appetite. Again, patients with serum 25OH-Dvitamin levels <15 mg/dL had a higher rate of loss of appetite. It has been found that there is no significant effect of factors such as family structure, lack of appetite in family and who is fed by the individual (P>0.05).

Conclusion: In childhood, the proportion of normal children who apply for a doctor due to loss of appetite and eating problems varies between 20-35%. In this sense, the patients with close to the lower limit of the normal percentage and relative weight loss with respect to growth retardation, an important result of loss of appetite, should be followed closely. In addition, suggestions should be made in terms of balanced nutrition and nutritional behavior of patients with selective appetite.

Biography

Dr. Abdullah Erdil is Assistant Professor at Ordu University, Medical Faculty Education and Research Hospital, Pediatrics Altınordu/ Ordu Turkey.

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Curcumin: A multifunctional compound from natural sources and current state of its research

Zorka Stanić

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Turmeric plant, *Curcuma longa*, a popular, thousands of years used Indian spice for the human nutrition for centuries used in herbal medicines for the treatment of a variety diseases, is constantly in the focus of the world scientific community. Gladly consumed in a daily dosage of approximately 3 g/70 kg, this spice is used as a food but serves as a safe, natural medicament, without any perceived adverse, side effects in clinical trials. Thanks to the aforesaid, curcumin, as a main ingredient of turmeric, is the subject of intensive examination of various, mutually intertwined scientific fields—nutrition, food chemistry, medicine, and pharmacy. Antioxidant, anti-inflammatory, antibacterial, anti-proliferative, anti-carcinogenic, anti-amyloidogenic, antiviral, anti-HIV effects are just some of the many biological activities which this vital compound possesses. The structure of curcumin and its ability to overcome multidrug resistance of different cancer cells represents a main base for its implementation as a therapeutic agent. However, a weakness of this, justified-popular compound, consists of its low water solubility and stability, rapid metabolism and thereby poor absorption/bioavailability. Exactly the stated “weaknesses” of curcumin are the main guidelines for further researches. Nanoparticle-based carriers, different forms of curcumin encapsulation in different micelles, and improving drug delivery systems are some of today’s existing solutions for overcoming the specified drawbacks of curcumin. The significance of the quality of a substance delivery system is reflected in the fact that carrying curcumin as a food additive/nutrition also means carrying the active biological product/drug. Implementation of a safe and functional compounds from natural sources in therapy, carried out some modifications in order to achieve their multi-functionality, improve their bioavailability and delivery strategies, and reduce the potentially-negative side effects, with the main aim to enhance their effectiveness; these are the prime guidelines for the future scientific research teams, all over the world.

Biography

Zorka Stanić is working as an Associate Professor of Faculty of Science and has gained her experience in both research and teaching. She has been investigating Fundamental and Applicable Chemistry, particularly focusing on sensors/biosensors and compounds of a great importance for human. In recent years, she has built a special interest towards food additive/nutrition with an active biological/drug function and, hence, she is widely open to investigating naturally occurring polyphenols, much further. These scientific studies include evaluation and application of safe, beneficial and highly multi-functional compounds from natural source in nutrition and therapy.

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Nutritional management for the prevention of the diabetes epidemic

Carla Vartanian

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Diabetes is defined as a metabolic dysfunction that ranges from mild blood sugar imbalance to full-fledged type 2 diabetes, which can be preventable and in some cases entirely reversible. It affects more than one billion people worldwide, including 100 million Americans and 50% of Americans over 65. Recent statistics suggest that diabetes may already be the leading cause of chronic disease and death in the world, and its impact is expected to rise dramatically in the next 25 years with a major impact on the healthcare systems worldwide.

Diabetes is a constellation of signs that includes abdominal obesity, dyslipidemia, high blood pressure, high blood systemic inflammation and, a tendency to form blood clots. The “diabetic” patients have increased risk of heart disease, stroke, dementia, cancer, kidney failure and blindness among many other conditions.

To date, there are no national recommendations from governments or worldwide diabetes organizations to advise screening and treatment of this epidemic, thus many people suffering from diabetes may be left undiagnosed and untreated.

The entire spectrum of diabetes including all of its complications is simply downstream symptoms that result from unhealthy eating habits, sedentary lifestyle, and environmental factors.

Interventions with a clinical nutritionist and medical doctor and some basic lifestyle changes can help patients lose weight, regulate blood sugar, reverse the effects of diabetes and help pave the way for better long-term health.

Aside from healthy eating recommendation, exercise remains the single best medication for diabetes.

Biography

Carla Vartanian is a consultant in clinical nutrition, dietetics and metabolism and certified in Clinical Bioethics from Harvard Medical School. She has the European ESPEN teaching diploma of the European Society of Clinical Nutrition and Metabolism in which she is actively involved by conducting nutrition support workshops for dietitians and physicians. Throughout her career, her areas of interest focused on nutrition research and education as she has been speaking in many international scientific meetings, teaching nutrition in different universities in Beirut and publishing nutrition and health articles in the Middle East. In addition she has her own weekly nutrition and health awareness TV show in Lebanon since 2008. She is an active member of many nutrition and dietetic associations around the world. Her latest international recognitions include the award of teaching excellence and the successful member of the year recognition by the World Public Health Nutrition Association.

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Effect of conjugated linoleic acids on some bone markers in patients with active Rheumatoid Arthritis who referred to the Rheumatology Research Center of Shariati Hospital: A double blind clinical control trial

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Background & Objective: Rheumatoid arthritis is a systemic, chronic disease which may increase the risk of osteoporosis. This study was carried out in order to examine the effect of conjugated linoleic acids (CLAs) on bone markers in rheumatoid arthritis disease which is the most common autoimmune disease.

Materials & Methods: The present study is a randomized double-blind clinical trial. Subjects included 46 patients with active rheumatoid arthritis who were divided into two groups. Group I received standard treatment plus 2 daily 1.25 gram capsules (containing about 2 grams of 9-cis 11-tans isomer and 10-cis 12-tans isomer in ratio of 50-50 CLAs in glycerinated form), Group II received standard treatment plus 2 placebo 1.25 gram capsules containing sunflower oil with high oleic acid. Telopeptide C, osteocalcin, MMP3 were analyzed by ELISA method, PGE2 was done by competitive enzymatic immunoassay method, IGF-1 was analyzed by IRMA method based on the sandwich method and ALK-P of bone. Before and after intervention the questionnaires about general information and medical history were filled. Nutrition assessment with 24-hour record questionnaire about three day's diet was done. The results were analyzed using SPSS version 18 software.

Findings: There was no significant difference between the groups in enzyme activity of ALK-P of bone, PGE2 and MMP3 variable. However, significant differences between the groups in terms of activity of telopeptide C, osteocalcin and IGF1 were significant ($P < 0.05$).

Conclusion: There is a potential benefit effect of CLAs on bone markers in patients with rheumatoid arthritis. Therefore, in order to study the effect of CLAs on decrease bone density reduction in patients with RA as well as all patients with autoimmune and bone diseases, more studies are required with longer duration along with the evaluation of bone density.

Biography

Aryaeian Naheed has her expertise is in Nutrition and Immunology. She is a Faculty Member in Nutrition Department at the Iran University of Medical Sciences, Iran. Her topics of interest are Functional Foods, Nutraceuticals and Nutrition Immunity.

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Determination of proximate and mineral composition of three traditional spices

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Proximate and mineral compositions of three selected traditional spices (*Zingiber officinale*, *Allium sativum*, and *Monodora myristica*) were evaluated in this study. Disease-free samples of garlic, ginger and African nutmeg were bought from a local market at Ekpoma in Southern Nigeria. The samples were peeled and were grinded to a desirable texture. Wet samples were analyzed for the proximate composition and mineral contents. From the results, moisture, ash, crude protein, fat, fiber and carbohydrate content of ginger were 72.20, 0.81, 8.91, 11.71, 1.38, and 2.01%, respectively; that of garlic were 59.90, 0.94, 12.41, 6.13, 1.95, 18.53%, respectively, while African nutmeg had 8.14, 1.39, 13.57, 46.48, 27.39, and 3.06%, respectively. It was also found that sodium, zinc, iron, and calcium were 7.32, 4.99, 9.68, and 182.67mg/100g, respectively in ginger, 9.41, 1.89, 8.47, 1016 mg/100 g in garlic. In African nutmeg, it was found to be 110.20, 135.91, 147.28, and 166.10mg/100g, respectively. Consequently, ginger, garlic and African nutmeg possessed varying proportions of the proximate components as well as mineral elements. However, African nutmeg possessed better moisture, ash, crude protein, crude fat and crude fiber contents with high sodium, zinc and iron mineral contents compared to other spices examined while garlic had a better carbohydrate and calcium levels.

Biography

Professor Ignatius Onimawo has done PhD in Human Nutrition from University of Ibadan. At present he is the current Vice-Chancellor of Ambrose Alli University, Ekpoma, Edo State Nigeria. Formerly Dean of College of Food Processing and Storage Technology and Foundation Head of Department of Human Nutrition and Dietetics of Michael Okpara University of Agriculture, Umudike. Formerly the Editor-in-Chief of the Nigerian Journal of Nutritional Sciences and formerly the Director of Academic Planning and Head of Biochemistry, Ambrose Alli University Ekpoma, Nigeria.

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Evaluation of antioxidant activity of wild medicinal plant *Ziziphora tenuior* L and using plant tissue culture to increase its activity

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Medicinal plants played an important role in the treatment of diseases and health disorders for thousands of years and are still important in traditional medicine systems around the world. *Ziziphora tenuior* L. (*Lamiaceae*) is an aromatic herb used for its medicinal values against fungi, bacteria. *Z. tenuior* has been used to treat fever, dysentery, diarrhea, gut inflammation, cough, bladder stones, and painful menstruation. For increased human needs of medicines, plant tissue culture is used widely for micro-propagation of medicinal plants to produce enough amounts of drugs and secondary metabolites, using this technology, the natural products can be provided at any time of the year without waiting for the suitable season to collect the plant. This work aims to develop a reliable protocol for the *in vitro* propagation of *Z. tenuior*, and increase active substances to compare the antioxidant activity between *in vitro* propagated and wild plants. The explants were sterilized and cultured on MS medium containing different concentrations of growth regulators naphthalene acetic acid (NAA) or indole-3-butyric acid (IBA) with 0.5 mg/L of kinetin (Kin) callus formation was 70.2% after 45 days of incubation in dark on medium supplemented with 1.5 mg/L of NAA. After one month of callus culture on medium supplemented with 2 mg/L BA the shoot number was 5.12 and for the multiplication stage. The shoot number was 4.21 and length was 6.17 cm on medium supplemented with 1 mg/L Kin +0.1 mg/L NAA. DPPH (2,2-diphenyl-1-picrylhydrazyl) reagent was used to test the antioxidant activity. The aqueous and methanol extracts of *in vitro* plants which were treated with 1.5 and 1 mg/L of kin plus 0.1 mg/L of NAA showed a strong DPPH scavenging activity where IC₅₀ was 0.307 and 0.369 mg/ml, respectively, while the IC₅₀ of aqueous and methanol extracts of wild plants was 0.516 and 9.229 mg/ml, respectively.

Biography

Abdulkarim Dakah is a Doctor at Damascus University, he has done his Doctorate in Plant Biology, worked at the International University for Sciences and Technology, Kalamoon University and Damascus University. He has a lot of Laboratory skills, like: test of bioactivity of plants, plant tissue culture and molecular characterization. He has published many articles in international journals. He has done his work on Bio-pesticidal Proteins: from isolation to molecular characterization and applications and has been certified by the Atomic Energy Commission of Syria in cooperation with International Centre for Genetic Engineering and Biotechnology (ICGEB). He has reviewed a lot of manuscripts for international journals.

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Physicochemical properties of the pulp of African star apple

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Healthy samples of African star apple fruit *Chrysophyllum albidum* Lin. were purchased from a local market of Ekpoma, Southern Nigeria during the month of April. Standard biochemical protocols were adopted in the evaluation of the physicochemical properties of the pulp. From the results, ash, moisture, protein, fat, fiber and carbohydrate content were found to be 0.41, 85.38, 0.76, 4.32, 0.57 and 8.46%, respectively. It was also observed that the pulp contained 10.19 mg/100 g of calcium, 2.90 mg/100 iron, 102.85 mg/100 g sodium, 40.26 mg/100 g magnesium and 346.17 mg/100 g potassium. Polyphenolics such as tannin, total phenol, alkaloid and flavonoid were found to be 8.31 mg/100 g, 5.57 mg/100 g, 26.79 mg/100 g, and 16.10 mg/100 g, respectively while anti-nutrients such as phytate, oxalate, and saponins were found to be 0.08 g/100 g, 1.25 g/100 g, and 9.38 g/100 g, respectively. The pH, titratable acid, total dissolved solids, total solids, conductivity, sugar and energy content were found to be 2.42, 0.08%, 7.62 g/100 g, 23.33 g/100 g, 232.67Nhoms/an, 18.27 g/100 g, and 206.18 MJ/100 g, respectively. The pulp was found to be very rich in vitamin A (246.33 mg/100 g) while the vitamin C content was 40.06 mg/100g. African star apple is therefore a very nutritious fruit.

Biography

Professor Ignatius Onimawo has done PhD in Human Nutrition from University of Ibadan. At present he is the current Vice-Chancellor of Ambrose Alli University, Ekpoma, Edo State Nigeria. Formerly Dean of College of Food Processing and Storage Technology and Foundation Head of Department of Human Nutrition and Dietetics of Michael Okpara University of Agriculture, Umudike. Formerly the Editor-in-Chief of the Nigerian Journal of Nutritional Sciences and formerly the Director of Academic Planning and Head of Biochemistry, Ambrose Alli University Ekpoma, Nigeria.

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Correcting effect of some biological substance on digestive disorders at heavy metal intoxication

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Statement of the Problem: It is known that increasing of heavy metal pollution is correlated with increasing of gastrointestinal diseases. This suggests the need to find ways to mass prevention and/or correction of digestive disorders at heavy metal intoxication, especially in industrial regions. The purpose of current study is testing some of the biological substrates to correct heavy metal caused digestive disorders.

Methods: Morphological and functional characteristics of the gastrointestinal tract have been obtained during multiple experiments with administration of biologically active substances to intoxicated with heavy metal laboratory animals.

Findings: Acute toxicity of cadmium, lead and/or mercury ions results in adaptive shifts in the pancreatic and intestinal enzyme activity to preserve energy homeostasis. Chronic intoxication with heavy metals leads to the development of pancreatitis, diabetes, malabsorption and other digestive disorders. For the prevention and/or correction of heavy metal intoxication among the tested biological substrates (flavonoids, terpenoids and non-starch polysaccharides) the most effective were non-starch polysaccharides (chitosan, inulin and pectin).

Conclusion: These data suggest that adding non-starch polysaccharides in the diet may promotes the correction of pathological changes in the gastrointestinal tract in heavy metal-contaminated areas.

Biography

Lyubov L Kuchkarova has explored the impact of different exogenous (hormones, xenobiotics, immobilization, malnutrition, overheating, etc.) and endogenous (hormones) factors on the formation of hydrolytic and transport systems of the digestive system of a growing organism for 30 years. Currently, she is engaged in search of ecologically acceptable biologically active compounds to correct shifts caused by various Xenobiotics in gastrointestinal tract. In addition, she is the Head of the Health Club at the National University of Uzbekistan, where special attention is paid to healthy nutrition. She is also the author of number of textbooks and manuals on the Physiology of Digestion and Nutrition for students.

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Functional foods against metabolic syndrome: How to promote their consumption in the community?

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Metabolic syndrome (MetS) is a cluster of metabolic abnormalities characterized by central obesity, dyslipidemia, hypertension, high fasting glucose, chronic low-grade inflammation and oxidative stress. Changes in lifestyle including healthy dietary regimens and increased physical activity should be the first lines of therapy to decrease MetS. According to previous studies, functional foods help prevent or reduce metabolic syndrome by assisting the body homeostasis mechanisms. However, the development of functional foods requires consumers' awareness, positive attitude towards these products, and their acceptance by consumers. Given the importance of functional foods consumption and their acceptance by consumers, as well as the lack of information in this field in Iran, this study aimed to identify strategies based on social marketing approach to promote consumption of functional dairy products in Tehran, the capital of Iran. Qualitative data was collected via focus group discussions and individual interviews. For this purpose, 8 focus group discussions with housewives and employed women, and 40 in-depth interviews with key stakeholders (in different fields of production, distribution and consumption) was held, between May and September 2014. In total, 105 people participated in this qualitative research. Thematic content analysis was used to analyze the data, using MAXQDA® software. Using content analysis, strategies to promote consumption of functional dairy products from the perspective of key stakeholders and consumers were categorized in 5 main groups: (i) factors related to consumer, which included four subthemes - knowledge, attitude, personal taste and preferences, and nutritional priorities; (ii) product characteristics, which included two subthemes- sensory and non-sensory characteristics; (iii) product accessibility included two subthemes- physical and economic accessibility; (iv) place of the product supply; and (v) promotion strategies, which included four subthemes- informing and educating, advertising, recommending friends, professionals and others, and supporting the production. This information can be useful for different stakeholders including food industry to help them develop appropriate marketing plan for each groups of consumers to meet their specific needs and preferences, both health policy makers to understand the marketing aspect of the people's changing consumption behavior to design effective interventions to increase consumption of these products among consumers.

Biography

Marjan Bazhan has expertise in the field of Community Nutrition, Behavior Change, and Health Promotion. Her last research work was to assess the determinants of functional dairy products consumption among adults in the city of Tehran: A study based on social marketing theory. This is the first study in Iran that aimed to determine consumption status of these products, as well as identify facilitators and inhibitors affecting them for designing effective interventions to promote sustainable consumption of these products.

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