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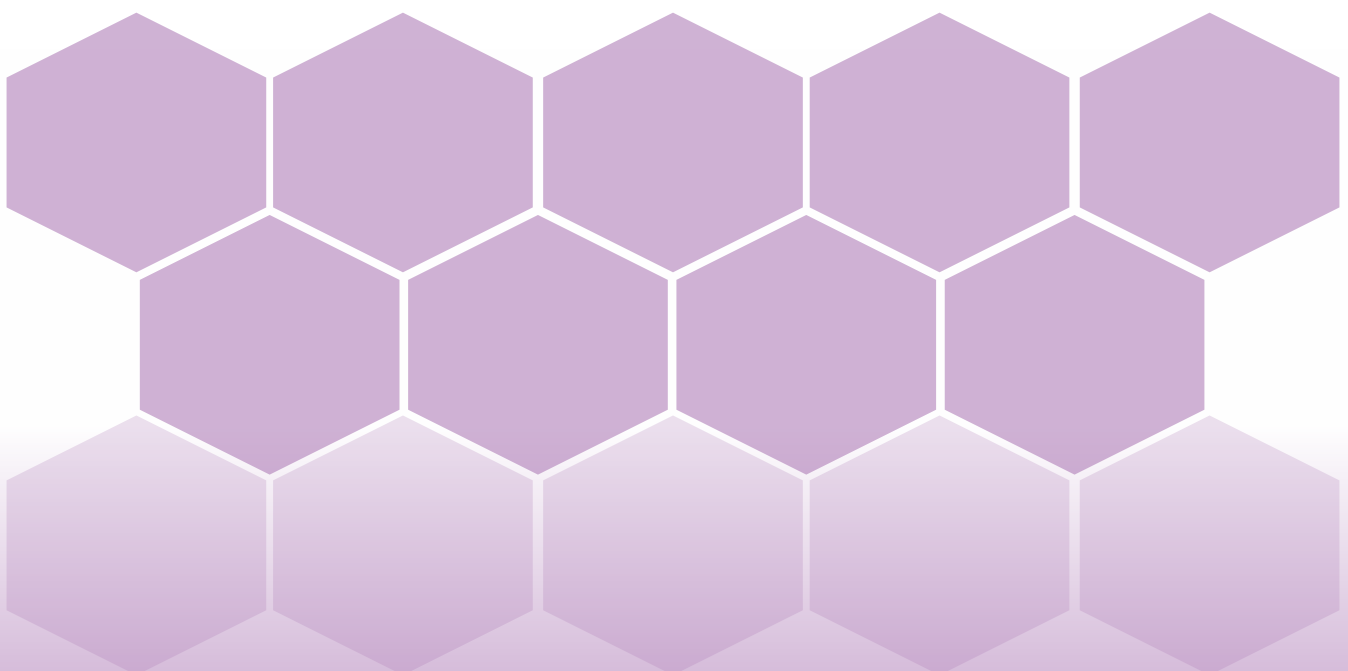
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17<sup>th</sup> Global

# **Dieticians and Nutritionists Annual Meeting**

October 02-03, 2017 Kuala Lumpur, Malaysia

## **Posters**



# 17<sup>th</sup> GLOBAL DIETICIANS AND NUTRITIONISTS ANNUAL MEETING

October 02-03, 2017 Kuala Lumpur, Malaysia

## Food safety assessment of frozen storage full liquid diet

Hui-Hua Cheng

National Cheng Kung University Hospital, Taiwan

**Background:** Dysphagia is a common symptom in elderly people and patients suffering from degenerative diseases such as stroke, dementia, Parkinson's disease and Alzheimer's disease and head and neck cancer. In these persons, food with a modified texture may facilitate safe oral intake. Full liquid diet is smooth liquids at room temperature. It contains fiber and variety of nutrients that can provide sufficient nutrition.

**Aim:** Assessing frozen storage full liquid diet.

**Methods:** Tested liquid diet were cooked and stored at -18 °C for 7 and 14 days. Samples for microbiological analysis were collected from refrigerator thawing, microwave thawing, stove reheating, microwave reheating and after re-cooking 1 hour. We determined the aerobic plate count, coliform, *E. coli* and *Staphylococcus aureus*.

**Results:** At thaw and reheat, the mean aerobic plate counts for all samples were <103 CFU/g. The mean coliform counts for all samples were <10 CFU/g. The *E. coli* and *Staphylococcus aureus* counts for all samples were not detected.

**Conclusion:** The microbial quality of the frozen storage full liquid diet after 14 days is safe.

### Biography

Hui-Hua Cheng has completed her Master of Science degree from Chung Shan Medical University. She is currently a Dietician at National Cheng Kung University Hospital, Taiwan.

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October 02-03, 2017 Kuala Lumpur, Malaysia

## The effects of nutritional intervention in pancreatic cancer patients with cachexia

Lai Hui-San, Se Kuo, Y P Li, Huihsin Li, H C Lu and Tasi P Y  
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**Introduction:** An impaired nutritional status is associated with reduced quality of life, lower activity level, increased treatment-related adverse reactions, reduced tumor response to treatment and reduced survival. However, malnutrition is common in patients with pancreatic cancer. Many pancreatic cancer patients are unable to meet their daily caloric requirements.

**Objectives:** To investigate the effects of nutritional interventions in pancreatic cancer patients.

**Method/Design:** The nutritional interventions were individualized nutritional counseling by registered dietitians (RD) in pancreatic cancer patients. The outcomes were assessed after 3 months of nutritional interventions.

**Results:** There were 219 pancreatic cancer patients recruited in total; 129 men and 90 women (median age, 60.8±11.6 years). Compared with baseline, our data demonstrated energy and protein intake were increased by 32.1% and 30.4% in pancreatic cancer patients with cachexia. Estimated energy and protein requirements were calculated for all patients. Total daily energy requirement intake less than 75% was considered as inadequate. After nutritional intervention, the percentage of pancreatic cancer patients with cachexia who reached estimated energy requirements were increased from 38% to 64%. Adequate protein intake (≥75 % of the requirement) was increased from 36% to 58%.

**Conclusion:** Nutritional intervention by individualized counseling can improve nutrition intake in pancreatic cancer patients with cachexia.

### Biography

Lai Hui-San has received Master of Science degree from Department of Food and Nutrition from Providence University in 1993. She is currently working in the Department of Nutritional Services of National Cheng Kung University Hospital.

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## Do patients really understand how to eat right?

Su-E Kuo<sup>1,2</sup>

<sup>1</sup>National Cheng Kung University Hospital, Taiwan

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Diet control is the key element of nutrition therapy especially for chronic diseases; insufficient nutrition knowledge may impact patient's health outcomes. The aim of this study is to know the nutrition knowledge gap between patient self-evaluated and dietitian-evaluated. Patients diagnosed with stage 3-5 chronic kidney disease had received dietitian's instruction were included, questionnaire were collected by another single interviewer after informed consent. Five questions were used to compare, patients self-evaluated their cognition about: (1) I understand appropriate daily cereal and meat portions, (2) I understand what the high potassium, (3) high sodium and (4) high phosphorus food sources are and (5) I understand what the low protein with high caloric food sources are. And then interviewer asked patients to answer each question and speak out at least 5 food examples, if patient could speak out more than 5 examples scored as understand (3 points), if 3-4 examples scored as partially understand (2 points), if less than 3 examples scored as do not understand (1 point). 356 valid questionnaire were collected, score of patient self-evaluated were significantly higher than the score of dietitian-evaluated in 5 questions ( $p=0.000$ ), the difference were  $0.29\pm 0.52$ ,  $0.61\pm 0.76$ ,  $0.83\pm 0.83$ ,  $0.72\pm 0.80$ ,  $0.81\pm 0.73$  separately. Higher education level got higher score. The results showed that patients are less familiar with high sodium, high phosphorus and low protein high caloric food sources. Clinical dietitians could make more efforts to do at follow-up clinics.

## Biography

Su-E Kuo is a graduate student of Department of Education, National University of Tainan. Presently, she is a Dietitian and also the Director of Department of Nutritional Services at National Cheng Kung University Hospital.

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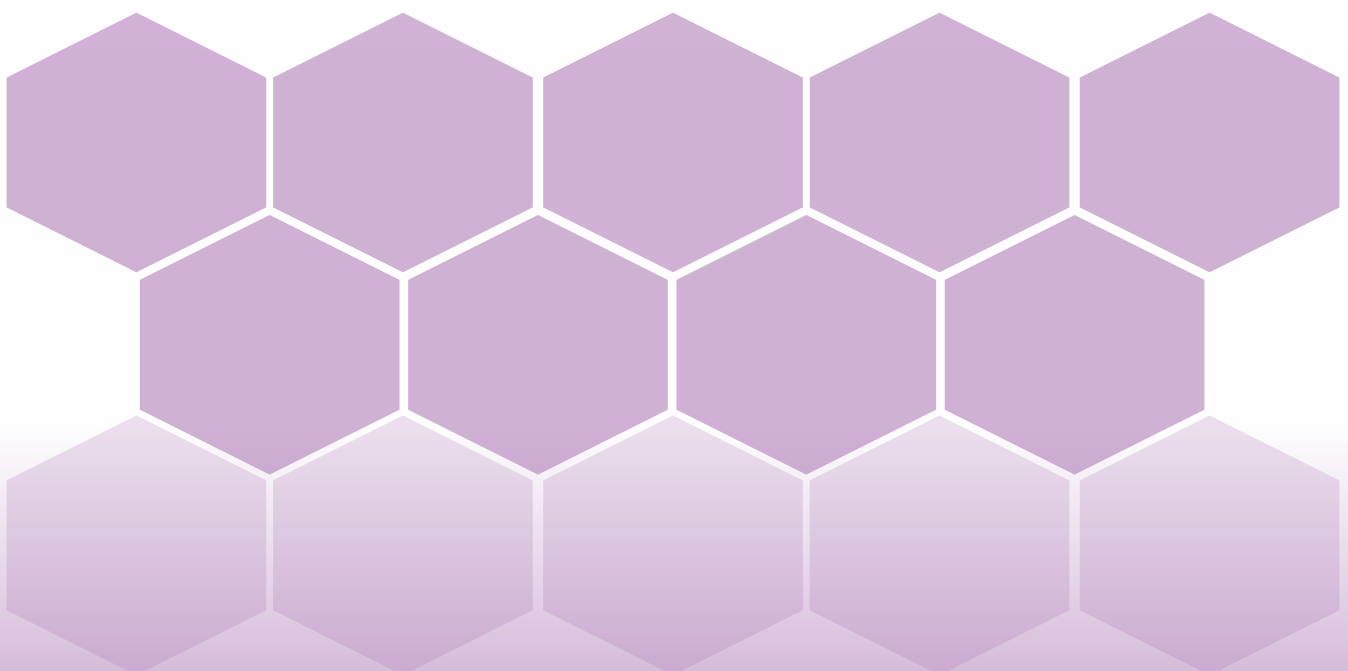
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## **e-Posters**



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October 02-03, 2017 Kuala Lumpur, Malaysia

## A Mediterranean diet enriched with omega 3-polyunsaturated fatty acids in the management of pediatric asthma: A randomized controlled trial

Maria Papamichael<sup>1</sup>, Ch Katsardis<sup>2</sup>, D Tsoukalas<sup>3</sup>, B Erbas<sup>1</sup> and C Itsiopoulos<sup>1</sup>

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<sup>3</sup>European Institute of Nutritional Medicine, Italy

The change in dietary patterns has contributed to the rise in obesity and asthma in children. Both chronic diseases are associated with co-morbidities, considerable disability, poor quality of life and increase in medical costs. Research studies have demonstrated that an elevated BMI is related to an increase in asthma risk and development of future exacerbations, less asthma control and an increase need for medication use. The purpose of this Randomized Controlled Trial is to investigate the effect of a Mediterranean diet enriched with fatty fish on asthma in Greek children. This is the first announcement of baseline results for this intervention study. Sample consists of 72 children aged 5-12 years with doctor-diagnosed mild-asthma; of which 54.2% are male and 45.8% females were recruited in this study. Children were randomized equally into two groups. The intervention group is instructed to consume 2 fatty fish meals (at least 150 g cooked fish/meal) per week over a period of 6 months. And the control group, their usual diet. Statistical analysis of baseline data reveals that 64% of children are normal height and 36% are tall. Regarding bodyweight, 1% of children are severely underweight, 3% are slightly underweight, 57% are normal weight, 28% are overweight and 11% are obese, according to Hellenic pediatric growth charts. This finding is significant since BMI seems to play a major role on asthma outcome in children. The effect of weight reduction in overweight asthmatic children might be of great value for current treatment guidelines and in alleviation of asthma symptoms.

### Biography

Maria Papamichael is a registered Dietician who has dedicated her life in educating people the importance of good nutrition and exercise in the prevention and management of disease as well as in improving health and well-being. Being an asthma sufferer since childhood, has motivated her to undertake a PhD research project at La Trobe University to investigate the prophylactic potential of a Mediterranean diet enriched with fatty fish in the management of asthma in children.

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October 02-03, 2017 Kuala Lumpur, Malaysia

## Elemental composition, phytochemical content and *in vitro* antioxidant activity of fenugreek micro, baby and mature greens

Manjula Devi Ghoora and N Srividya

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Tropical vegetables are a source of readily available vitamins, minerals and health-promoting phytochemicals. The last two decades have seen a renewal of interest in fresh and novel vegetables such as microgreens and baby greens. The nutrient and phytochemical composition of the vegetables is expected to vary across stages. However, comparative study across growth stages is limited. Thus, the objective of the present study was to assess the elemental composition (Ca, Fe, Mg, Zn P, K, Na and Se), phytochemical content (ascorbic acid, lutein, chlorophyll and total polyphenol) and *in vitro* antioxidant activity (DPPH radical scavenging activity (RSA) and FRAP) of microgreens, baby greens and mature greens of fenugreek, one of the commonly consumed tropical leafy vegetable. The estimated daily intake (EDI) and the nutrient contribution (% RDA) were also computed for the greens. Fenugreek mature greens were found to contain higher concentrations of most minerals than baby and microgreens, except Zn and Se which were highest in microgreens. Microgreens also had higher ascorbic acid, total polyphenols, DPPH RSA and FRAP values compared to baby and mature greens. The phytochemical pigments, lutein and chlorophyll content were comparatively higher in fenugreek mature leaves as compared to micro and baby greens. The mineral contribution (% RDA) followed the order: Mature greens>microgreens>baby greens. The ascorbic acid contribution for microgreens was significantly higher ( $P<0.05$ ) (134% RDA) compared to the other two greens. Thus, for a nutritionally wholesome diet, fenugreek microgreens can be used along with mature greens for daily sustenance.

### Biography

Manjula Devi Ghoora has completed BSc in Plant Sciences from the University of Mauritius and MSc in Food Technology from Sri Sathya Sai Institute of Higher Learning, India. She is currently pursuing her Doctoral studies in the Department of Food and Nutritional Sciences at SSSIHL. She has completed 2 Internships in renowned research institutes in Mauritius and has followed several academic courses. She has presented 5 papers in national conferences/seminars and has 2 international publications.

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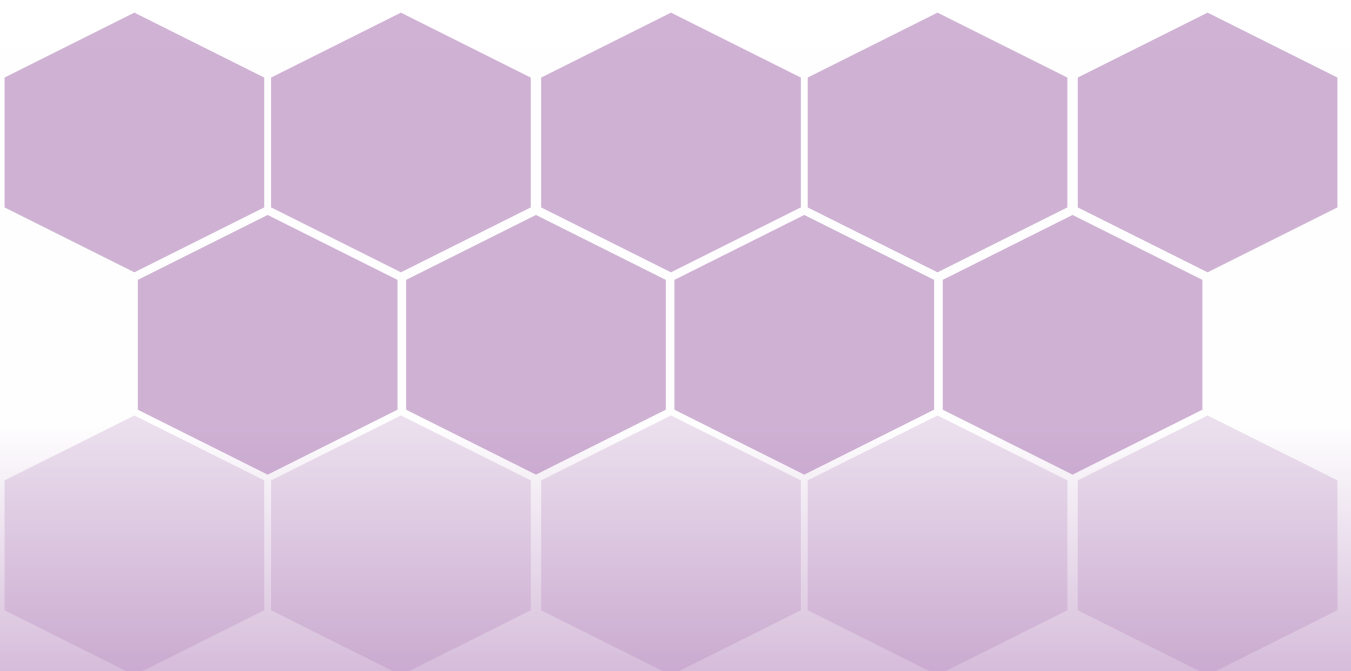
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## **Accepted Abstracts**





# 17<sup>th</sup> GLOBAL DIETICIANS AND NUTRITIONISTS ANNUAL MEETING

October 02-03, 2017 Kuala Lumpur, Malaysia

## Vitamin D status among the juvenile population living in the United Arab Emirates: A retrospective study

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<sup>2</sup>All India Institute of Medical Sciences, India

<sup>3</sup>Czech University of Life Sciences, Czech Republic

Vitamin D deficiency is a clinical problem and recently we have shown that 82.5% of our study cohort had inadequate serum 25(OH)D levels. In this study, we analyzed serum 25(OH)D levels of juvenile patients admitted to a Hospital in Abu Dhabi, United Arab Emirates (UAE) from October 2012 to September 2014. Out of a total 8,113 studied juvenile patients, almost 60% of females and 45% of males in the age group of 1-18 years were found to have low serum 25(OH)D levels ( $\leq 30$  nmol/L). According to the coefficient of variation among juveniles females had significantly higher variability (63.82%) than males (49.97%). Among juveniles, age appears to be an important determinant factor for defining vitamin D deficiency. Vitamin D deficiency was found to be present in 9.5% of patients in the age group of 1-3 years followed by 56.4% of patients in the age group of 7-9 years and 79.9% of patients in the age group of 13-15 years. In all the analyzed age groups females were found to have lower levels of 25(OH)D than males. It is important and perhaps alarming to note that such higher rate of vitamin D deficiency is present in the juvenile population but highest in teenagers.

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October 02-03, 2017 Kuala Lumpur, Malaysia

## Prevalence of obesity and its association with diet among 13-years old Omani school children

Halima Al Dhali

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Obesity is a global health disorder and the WHO considers obesity as the most serious non-communicable disease worldwide and is closely related to improper diet. All age groups are affected but the problem becomes worse when children are affected. Obesity in children is defined as BMI > 95th percentile as defined in the Expert Committee Recommendations. In the US, childhood obesity is about 11%, overweight is about 25%. Obesity prevalence worldwide is on the increase since 1970 especially in developed countries. A WHO report stated that, approximately 58% of diabetes mellitus, 21% of ischemic heart disease and 8-42% of cancer globally was attributable to obesity. These diseases can affect children and adolescents. Obesity also increase cardiovascular disease and increases the risks of all-cause mortality. Obese children are more likely to become overweight in adulthood than are lean children. Approximately, one half of overweight adolescents and over one-third of overweight children remain obese in adulthoods. The findings of this study provide evidence that unhealthy dietary habits were appears to be associated with obesity in this group of Omani adolescents. The findings of our study provide evidence that unhealthy dietary habits were prevalent in both genders. Therefore, the promotion of healthy lifestyles should be a national public health priority. In addition, there is an urgent need for national policy promoting healthy eating among Omani adolescents.

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October 02-03, 2017 Kuala Lumpur, Malaysia

## Brain coordination and the association with diet in prediabetes

Yi-Cheng Hou<sup>1</sup>, Jiun-Rong Chen<sup>1</sup>, Shwu-Huey Yang<sup>1</sup>, Yu-Te Wu<sup>2</sup>, Cheng-yu Chen<sup>3</sup> and Chien-Han Lai<sup>2</sup>

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The functional connectivity of diabetes can help us explain the brain function decline in hyperglycemic status. However, the issue has not been addressed much in prediabetes. Therefore, we designed this study to investigate the inter-hemispheric coordination in the prediabetes. 64 prediabetic patients and 54 controls were enrolled in this protocol. They received the structural and resting-state functional magnetic resonance imaging screen. The imaging data were preprocessed and analyzed to obtain voxel-mirrored homotopic connectivity (VMHC), which can measure inter-hemispheric coordination. The VMHC values were compared between two groups with age and gender as covariates. The controls had higher VMHC values than prediabetic patients in bilateral anterior cingulate cortex. The prediabetic patients had higher VMHC values than controls in bilateral middle frontal gyrus. The VMHC values were also negatively correlated with pre-prandial serum glucose level in inferior frontal gyrus of prediabetic patients. In addition, the VMHC values of prediabetic patients were negatively correlated with total carbohydrate and calorie intake in anterior cingulate cortex. The inter-hemispheric coordination in anterior sub-network of default mode network and fronto-cingulate regions would play a role in the pathophysiology of prediabetes. The diet impact on the inter-hemispheric coordination is also an interesting issue.

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# 17<sup>th</sup> GLOBAL DIETICIANS AND NUTRITIONISTS ANNUAL MEETING

October 02-03, 2017 Kuala Lumpur, Malaysia

## Improving nutritional outcomes: An implementation science approach

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Implementation Science (IS) has been emerged recently focuses the study of methods to improve the uptake, implementation and translation of research findings into routine practices. The essential component of IS in public health is translating evidence-based interventions into widely used programs and policies in public health to improve population health. There are ample evidences available in addressing nutritional status of children among vulnerable communities. What is missing is the knowledge about how to identify and implement the evidences to the population who really in need. This is primarily because of IS research area is less popular and many researchers are not adequately trained in this area. The implementation science scientists systematically study the effectiveness of strategies designed to encourage the implementation of evidence-based interventions to better understand implementation outcomes, service delivery outcomes and individual outcomes. The researchers currently working in the areas of nutrition need to start thinking on IS research methods that use epidemiological and other social science methods to identify programmatically relevant opportunities and challenges. IS should go beyond simply identifying issues; however, it should also provide approaches and methods that would be generalizable in the population and eventually support the implementers in resolving the identified problem. The organizations that are interested in IS should work in collaboration with academic institutions, research and implementing organizations for identifying and implementing evidences for improvement in nutritional outcomes of the population. Further, more financial resources should be directed to encourage such institutional arrangements and provide longer term sustainability. Many evidence-based nutritional interventions fail to produce results when transferred to large population primarily in developing countries across the world, largely because their implementation process is not adequately tested, not suitable for the population chosen or incomplete interventions. When a researcher along with the implementers identifies appropriate evidence suitable for the population could resolve this. This can also create a culture for learning and research and for using research to make informed decisions about nutrition programs. As we enter the sustainable development goals era and scaling up moves from evidence to action, implementation science will become indispensable in improving nutritional outcomes.

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October 02-03, 2017 Kuala Lumpur, Malaysia

## Prevalence of dyslipidemia and atherogenic risk among type-2 diabetic outpatients in teaching hospital

Odeaf O Asamoah Boakye

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Dyslipidemia is major risk factor of cardiovascular diseases and concurrently, CVDs are responsible for 68% cause of mortality among type-2 diabetes. The study aimed to determine dyslipidemia and atherogenic index, among type-2 diabetic outpatients. A cross sectional study was conducted. The waist circumference, fasting blood glucose, HbA1c, serum total cholesterol, triglyceride, high density lipoprotein, low-density lipoprotein, coronary risk and atherogenic index were determined. Sociodemographic data were collected with questionnaire. Data were analyzed using SPSS version 23. Out of 152 subjects, 37 (24.3%) were males and 115 (75.7%) were females. The prevalence of hyperglycemia was 74.3%. The prevalence of single dyslipidemia, combined dyslipidemia and mixed dyslipidemia were 63.8%, 15.8% and 1.3%, respectively. Also, 35.3% of subjects had high coronary risk and 5.3% had high atherosclerosis risk. Coronary risk was strongly associated with TC, ( $r=0.690$ ,  $p<0.0001$ ) and LDL-C, ( $r=0.783$ ,  $p<0.0001$ ). Additionally, atherosclerosis risk was strongly associated with TG, ( $r=0.817$ ,  $p<0.0001$ ) and VLDL-C, ( $r=0.817$ ,  $p<0.0001$ ). Logistic regression showed TC, TG, LDL-C had significant effects on coronary risk for cardiovascular diseases (TC: OR=2.640, 95% CI=1.879-3.708,  $p<0.0001$ , TG: OR=2.549, 95% CI=1.342-4.841,  $p=0.004$ , LDL-C: OR=4.858, 95% CI=2.902-8.135,  $p<0.0001$ , respectively). Atherogenic dyslipidemia was high among type-2 diabetics and was significantly associated with high coronary and atherosclerosis risk. Atherogenic dyslipidemia is predisposing factor of CVDs among type-2 diabetics, putting them to high risk of mortality.

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# 17<sup>th</sup> GLOBAL DIETICIANS AND NUTRITIONISTS ANNUAL MEETING

October 02-03, 2017 Kuala Lumpur, Malaysia

## Prevalence of vitamin B12 and folate deficiency in school age children residing at high altitude regions in India

Aakriti Gupta and Umesh Kapil

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**Background & Aim:** Vitamin B12 and folate deficiency is associated with poor cognitive function and anemia amongst school age children. High prevalence of vitamin B12 and folate deficiency have been earlier reported amongst school age children in plain regions of India. The present study was conducted to assess the prevalence of Vitamin B12 and folate deficiencies among children residing at high altitude regions of Himachal Pradesh, India.

**Material & Methods:** A total of 215 school children in the age group of 6-18 years were included. Biochemical estimation of serum vitamin B12 and folate levels was undertaken using chemiluminescence immunoassay method. The consumption pattern of foods high in dietary vitamin B12 and folate was recorded using food frequency questionnaire.

**Results:** The median level (interquartile range) of serum vitamin B12 was 326 (259-395) pg/mL and 7.7 (6-10) ng/mL of folate. We found that the prevalence of vitamin B12 and folate deficiency amongst school age children was 7.4% and 1.5%, respectively. This was possibly due to high frequency of consumption of foods rich in vitamin B12 and folate.

**Conclusion:** The findings of the present study revealed low prevalence of vitamin B12 and folate deficiencies amongst children aged 6-18 years living at high altitude regions in India. This was possibly due to high frequency of consumption of foods rich in vitamin B12 and folate. Hence dietary interventions including promotion of regular consumption of foods with high vitamin B12 and folate may be a potential strategy for improving vitamin status of the population.

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October 02-03, 2017 Kuala Lumpur, Malaysia

## Promoting future smart food for achieving food and nutrition security

Lipy Adhikari

International Centre for Integrated Mountain Development, Nepal

Food and nutrition security is a worldwide concern from decades. Nonetheless, agricultural intensification today is increasingly relying on a narrow range of crops due to commercialization. As stated in the FAO report (1996/2009a) of the several hundred thousand known plant species, some 120 are cultivated for human food, but just 9 supply over 75% of global plant-derived energy intake and of these, only 3 (wheat, rice and maize) account for more than half of it. Genetic resources of the Neglected and Underutilized Crop Species (NUS), recently named as Future Smart Food (FSF) by FAO, are vital for sustainable agriculture. The role of FSF used by indigenous farming communities becomes extremely important for food and nutrition security. FSF have high nutrient content; can grow in extreme climatic conditions and in most difficult terrains with minimal inputs. Unfortunately, FSF are fast disappearing because of the standardization of agricultural practices, mono-cropping trends and changing food habits skewed towards few commodity crops, dominating food systems at all levels. Reports claim that lack of diversity in food often leads to micronutrient deficiencies, further increasing health risks in people. Traditional crops like buckwheat, millet, barley are often pronounced as foods of poor, replaced with high-value commodities to generate more income. Evidence suggests that with the replacement of finger millet in the diet, cases of anemia are reported in the women of Nepal. Globally, such practices have given rise to heavy genetic erosion, also leading to the erosion of cultural diversity associated with their use and appreciation.

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# 17<sup>th</sup> GLOBAL DIETICIANS AND NUTRITIONISTS ANNUAL MEETING

October 02-03, 2017 Kuala Lumpur, Malaysia

## Nutritional assessment of children with sickle cell diseases in Komfo Anokye Teaching Hospital

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Kwame Nkrumah University of Science and Technology, Ghana

**Background:** Sickle Cell Disease (SCD) is a long term hemolytic disease mostly associated with impaired growth, delayed maturation and poor nutrition status. It is also one of the major contributing factors for childhood mortality.

**Objective:** The study aimed to assess the nutritional status of children with sickle cell diseases using dietary intakes, anthropometric measurements and biochemical markers.

**Methods:** A cross sectional study was conducted on 100 children with sickle cell diseases aged 3-12 years at the Komfo Anokye Teaching Hospital. 24-hour dietary recall and food frequency questionnaire were used to assess dietary intake. Serum protein, albumin and ferritin as well as full blood count were used to assess biochemical status. Weight, height and Mid-Upper-Arm-Circumference were used to calculate Body Mass Index (BMI), weight-for-age (percentile), height-for-age (percentile), BMI-for-age (percentile) and MUAC-for-age (percentile).

**Findings:** The mean intake of iron was  $5.9 \pm 3.0$  mg/d, zinc was  $5.1 \pm 3.0$  mg/d and vitamin A was  $107 \pm 112.4$ , while vitamin E was  $4.2 \pm 2.9$  for the children with SCD. Calories were  $852 \pm 342.3$  kcal while protein was  $25.0 \pm 10.7$  g/d. Low BMI-for-age, MUAC-for-age, weight-for-age and height-for-age were observed in 40%, 37%, 22%, and 69% of the children, respectively.

**Conclusion & Recommendation:** There was significant association ( $p=0.00$ ,  $r=0.64$ ) between vitamin B12 and the red blood cell count. Thus, there was inadequate nutritional intake of the children that were assessed. It is therefore recommended that a longitudinal study be conducted on children with sickle cell diseases to assess the actual nutritional requirements of children with SCD.

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## Extraction of oil from water melon seeds using drying method (sunlight and oven)

**Zaccheaus Olasupo Apotiola**  
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This study was conducted to investigate the effect of two drying methods (sunlight and oven) on the quality and quantity of oil from watermelon (*Citrillus lanatus*) seeds. The oils produced were used to fry yam chips. The water melon seeds were removed from the pod and washed, the dried seeds (sun-dried or oven-dried) were de-hulled, dry milled into fine crumbs using blender. The powdered product was later put into pestle machine for extraction of oil. Result shows that there was no significant difference in the quantity of oil obtained from either of the samples. The sun-dried sample yielded 40% of oil/100 g of seeds, compared to the oven-dried samples which yielded 37% of oil/100 g of seeds. However, it was observed that Free Fatty Acid (FFA) and acid value were higher in sun-dried sample relative to oven dried sample. Free fatty acid value for sun dried sample was 3.3 mg KOH/g and oven dried sample was 2.2 mg KOH/g. This is important variable considering the quality of oil because the lower the FFA, the better the quality of the oil. Crude protein in the seed was 26%, which compared favorably with high proteins seeds and nuts like cowpea (22.7%) and soy beans (35%). The results show that there is no significant difference between the samples. The result of sensory property using student t test revealed that (f) calculated at  $p < 0.05$  and  $p < 0.01$  are 2.101 and 2.878, respectively from the result; there is no significant difference between the values.

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