Poster Presentation

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Association between Onodera's prognostic nutrition index and infection-related hospitalizations in patients with schizophrenia

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Background: Protein-energy wasting is associated with poor outcome in various clinical settings. However, the prevalence of moderate malnutrition and the prognostic impact of nutritional status are rarely explored in hospitalized patients with schizophrenia. This study aimed to assess the prevalence of moderate malnutrition and the predictive ability of Onodera's prognostic nutrition index (OPNI) on occurrence of infection-related hospitalizations for hospitalized schizophrenia patients.

Methods: All measurements, including nutritional assessment were performed among hospitalized 582 patients with chronic schizophrenia (64.8% man, mean age 53.8 ± 9.6 years). The mean follows up period was 408 days. Cox regression models adjusting for age, sex and Charlson comorbidity index, were used to explore the association between OPNI and infection-related hospitalizations.

Results: At the end of the study, 42 patients had infection-related hospitalizations. The prevalence of moderate malnutrition defined by OPNI scores lower than 45 was 15.8% (92/582). Moderate malnutrition expressed a significant association with falls in this study. The adjusted hazard ratios (95% confidence intervals) of moderate malnutrition were 2.42 (1.17–4.59) for infection-related hospitalizations.

Conclusions: OPNI is a useful tool for identifying chronic schizophrenic patients at risk of moderate malnutrition and infection-related hospitalizations. Further studies are needed to explore whether early detection of patients with schizophrenia at risk for malnutrition could reduce the morbidity and mortality by appropriate interventions

Speaker Biography

Bo-Jian Wu has completed his MD from National Défense Medical Center in Taiwan. He has completed his MSc from the Institute of Epidemiology of National Taiwan University and Ph.D. from the institute of Clinical Medicine of National Yangming University. Now he is certified psychiatrist, and an attending physician of Department of Psychiatry, Yuli Hospital, Ministry of Health and Welfare, Hualien, Taiwan. His research mainly focus on schizophrenia, and have over 30 publications.

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Nutritional value of MASO31 formula and complementary feeding WHO recommendations in Tanganyika

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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 Canter (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 birth born in Tanganyika Province; DRC is 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 MPHN in Nutritional Epidemiology at the School of Public Health, Kinshasa University (2017). He was elected and became the provincial president of the DRC nutritionists association in the entire Katanga Province from (2009 - 2012). In September 2009, the University of Lubumbashi appointed him at the School of Public Health as Assistant Professor in the Nutrition Unit while the DRC Health Ministry designated him like Provincial Coordinator of National Nutrition Program (2009 – 2015). He worked at the School of Agronomic Studies as Secretary of the Manager Committee (2003 - 2006). He was elected and became the Provincial President of the DRC Nutritionists Association in the entire Katanga Province from (2009 - 2012). He has over three publications in various conferences.

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Accepted Abstracts

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Obesity epidemic and prevention in China

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As the second largest economy, China also has the largest number of overweight and obese (ov/ob) people in the world as about 50% of adults and 20% of children are overweight or obese. Ov/ob rates have increased rapidly in China in the past 3 decades. Funded by the United Nations Children's Fund (UNICEF), we examined obesity trends, national policies and intervention programs on childhood obesity in China since 1949, compared these with related international recommendations and practice, and provided recommendations for future efforts. In China ov/ob prevalence increased from 29.9% in 2002 to about 46.0% in 2014; from 5.8% in 1991 to 9.5% in 2011 in preschool children (2-6 y), and from 8.0% in 1985 to 27.9% in 2014 in school children (7-18 y). Development of national policies on childhood obesity prevention in China has experienced 3 stages: 1) 1949-1994: Childhood ov/ob were low, related research and national surveys emerged; 2) 1995-2010: childhood ov/ob increased rapidly, related policies and intervention programs were gradually established; and 3) 2011-: policies focused on improving nutrition status of children in poor areas, establishing monitoring systems, but effectiveness of the polices was not assessed. Nine major national intervention programs were identified. Mainly they focused on preschool or school children and on promoting physical activity (e.g., "The Happy 10 Minutes Program") and healthy eating (e.g., School Meal Program). No interventions targeted at improving environments. Recently we published the "China Blue Paper on Obesity Prevention and Control" to promote obesity interventions in China. Compared to many industrialized countries, national policies and interventions on childhood obesity in China are limited. Timely efforts including new national policies and programs are made to fight the epidemic in China. Lessons learned in China provide useful insight from many other countries.

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Screening for gestational diabetes: Examining a breakfast meal test

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Objective: To compare a glucose test based on a standardized, designed breakfast to the 75-g oral glucose tolerance test (OGTT), comparing venous and capillary glucose values for the diagnosis of gestational diabetes mellitus (GDM).

Methods: The present prospective, randomized, cross-over trial enrolled patients at high risk of developing GDM who were attending the High-Risk Antenatal Clinic of Tygerberg Hospital, Cape Town, South Africa, between March 1 and December 31, 2015. Patients were randomized to initial testing with either the OGTT or a designed breakfast glucose profile (DBGP) glucose test before the alternate test was performed 1 week later; no dietary or other interventions were applied in the intervening period. Venous and capillary fasting and 2-hour glucose values were measured and were compared between the OGTT and DBGP, and between OGTT and laboratory venous samples.

Results: There were 51 patients included in the study. The fasting and 2-hour capillary glucose values from the OGTT correlated significantly with the laboratory venous samples ($P<0.001$ at both time intervals). The 2-hour capillary glucose values from the DBGP demonstrated a satisfactory correlation with those from the OGTT ($P<0.001$).

Conclusions: The DBGP provided a sufficiently accurate alternate test for the diagnosis of GDM; it warrants further investigation.

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Greenhouse gardening for food production and the environment

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A greenhouse is essentially an enclosed structure, which traps the short wavelength solar radiation and stores the long wavelength thermal radiation to create a favourable microclimate for higher productivity. The sun's radiation incident on the greenhouse has two parts: direct radiation and an associated diffuse sky radiation. The diffuse part is not focused by the lenses and goes right through Frensel lenses onto the surface of the absorbers. This energy is absorbed and transformed into heat, which is then transported via the liquid medium in copper pipes to the water (heat) storage tanks or, if used, open fish tanks. In this way, an optimal temperature for both plant cultivation and fish production can be maintained. Stable plant growth conditions are light, temperature and air humidity. Light for the photosynthesis of plants comes from the diffuse radiation, which is without substantial fluctuations and variation throughout most of the day. The air temperature inside the greenhouse is one of the factors that have an influence on the precocity of production. The selective collector acts in a more perceptible way on extreme air temperatures inside the greenhouse. Hence, the system makes it possible to avoid the excessive deviation of the temperature inside the greenhouse and provides a favourable microclimate for the precocity of the culture. Sediment and some associated water from the sediment traps are used as organic fertiliser for the plant cultivation. The present trend in greenhouse cultivation is to extend the crop production season in order to maximise use of the equipment and increase annual productivity and profitability. However, in many Mediterranean greenhouses, such practices are limited because the improper cooling methods (mainly natural or forced ventilation) used do not provide the desired micro-climatic condition during the summer of a composite climate. Also, some of these greenhouses have been built where the meteorological conditions require some heating during the winter, particularly at night. The worst scenario is during the winter months when relatively large difference in temperature between day and night occurs. However, overheating of the greenhouse during the day is common, even in winter, requiring ventilation of the structure. Hence, several techniques have been proposed for the storage of the solar energy received by the greenhouse during the day and its use to heat the structure at night. Reviews of such techniques are presented in this chapter. Air or water can be used for heat transport. The circulating water is heated during the day via two processes. The water absorbs part of the infrared radiation of the solar spectrum. Since the water is transparent in the visible region, they do not compete with the plants that need it. Alternatively, the water exchanges heat with the greenhouse air through the walls. At night, if the greenhouse temperature goes down below a specified value, the water begins to circulate acting as heat transfer surfaces heating the air in the greenhouse. This chapter describes various designs of low energy greenhouses. It also, outlines the effect of dense urban building nature on energy consumption, and its contribution to climate change. Measures, which would help to save energy in greenhouses, are also presented. It also enabled the minimisation of temperature variation and, hence avoided the hazard of any sudden climatic change inside the greenhouses.

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Influence of yogic practices and vegan diet on selected physiological, biochemical and psychological variables among diabetic affected women

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Diabetes is a growing challenge in India with estimated 8.7% diabetic population in the age group of 20 and 70 years. The rising prevalence of diabetes and other non-communicable diseases is driven by a combination of factors-rapid urbanization, sedentary lifestyles, unhealthy diets, tobacco use, and increasing life expectancy.

Obesity and overweight are the most important risk factors responsible for diabetes. Much of the diabetes burden can be prevented or delayed by behavioral changes favouring a healthy diet and regular physical activity. To achieve a state of health and acceptable level of function, patient with diabetes mellitus need to have adequate knowledge and attitude of self-care activities. They need to clear their doubts related to self-care activities such as vegan diet ,exercise, medication ,self-administration of insulin, foot care and follow up .To lead an independent life, the diabetic individuals should be a controller of his own life.

In this study, yogic practices and vegan diet were given to experimental groups for the period of twelve weeks. The pre-test was taken on the subjects before administering the training. The subjects were involved with their respective training. At the end of the twelth week training post-test was again done on all the three groups. The scores of physiological, Biochemical and psychological variables were considered as data on the effect of varied training of yogic practices and vegan diet on diabetic women. It was concluded that Fasting blood glucose level, Postprandial blood glucose level, Resting Pulse Rate, Blood pressure, Stress were significantly reduced, and Job Satisfaction were significantly Improved due to the influences of Yogic practices and Vegan Diet than the control group among diabetic women.

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Dietary patterns, physical activity and inflammatory biomarkers in patients with type 2 diabetes mellitus

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Background: A growing number of evidences suggest that inflammation might have a critical role in the pathogenesis of T2DM.

Objectives: the objective of this study was to investigate the effect of diet and exercise in improving inflammatory biomarkers in patients with T2DM.

Methods and Participants: a cross sectional study included 106 patients (35 to 80 years) was conducted at the Endocrinology Department in King Abdullah University Hospital (KAUH). Participants were divided to 3 groups, a group who was compliant to diet and drugs, a group who was compliant to drugs only and a group who was compliant to drug, diet and exercise. A questionnaire was designed, and questions were asked face to face. A physical activity score (International Physical Activity Questionnaire (IPAQ) was used as well. Then, 3ml venous sample of blood was collected by a registered nurse for further analysis.

Results: there were no significant differences in inflammatory biomarkers between groups. However, gender, waist circumference, fish consumption, drinking water, sweetened beverages and HbA1c had significant impact on serum hs-CRP levels ($P \leq 0.05$). Regarding IL-6, we found that gender, education level, BMI, skipping meals, artificial sweeteners and serum B12 deficiency had a significant impact on IL-6. For TNF-α, fish, type of fat used for cooking, consumption of sweets and sweetened beverages and B12 supplementation have an impact on serum levels of TNF-α.

Conclusion: Many dietary habits affected the systemic inflammation among T2DM patients.

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Evaluation of the hypolipidemic and antioxidant potential of cashew apple powder: A study with high cholesterol diet induced hyperlipidemic Wistar rats

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Claim: This first-ever animal study reports safety and therapeutic impact of cashew apple powder as a functional food, effective in the management of secondary complications associated with high-cholesterol diet (HCD). The results indicate that cashew apple powder is effective in lowering cholesterol level, and potentially, antioxidant in rats fed with HCD.

Design: An 8-week-long (4 week High cholesterol diet, next 4 week treatment phase) safety and efficacy study investigated the hypolipidemic and antioxidant potential of cashew apple powder (low dose: 400 mg/kg BW and medium-dose: 800 mg/kg BW) in Wistar rats fed with a high-cholesterol diet. The study involved seven groups (controls: NC1, NC2; disease: DC; Tests: TEST1, TEST2; and standards: STD 1, STD 2) of 8 rats (four males and four females) each.

Results: The total cholesterol level significantly ($p < 0.001$) lowered in all the groups in comparison with DC. The total cholesterol level started decreasing prominently from day 14 (2nd week of treatment) in females, and from day 28 (4th week of treatment) in males. Regarding oxidative stress as evaluated from liver tissue, the levels of catalase, GSH, and SOD decreased significantly ($p < 0.001$) in DC in comparison with NC. The levels of these markers increased significantly ($p < 0.001$) in STD and TEST in comparison with DC. Similarly, the MDA level decreased significantly ($p < 0.001$) in STD and TEST in comparison with DC.

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Nutritional Status of children from 6 to 24 months and feeding practices of mothers during the weaning period in the municipality of man (Côte D'Ivoire)

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Malnutrition is a real public health problem in the world, particularly in sub-Saharan Africa. This nutritional deficiency is particularly severe during the period of supplemental feeding between 6 and 24 months. However, very few studies in Côte d'Ivoire have focused on the causal analysis of child malnutrition during the withdrawal period. The purpose of this study is to determine the nutritional status of children aged 6 to 24 months and to analyse the determinants of dietary practices during weaning in the west of Côte d'Ivoire, particularly in the municipality of Man. For the purpose of this study, a descriptive cross-sectional survey was carried out among households of 480 mother-child couples in the municipality of Man. The nutrition status of children during weaning indicated a higher prevalence for stunting compared to underweight and wasting. Among the 480 children, 39.37% are affected by protein-energy malnutrition with a prevalence of 31.66% for stunting, 11.66% for wasting and 23.12% for underweight. The most common mode of breastfeeding by mothers is breastfeeding, with a prevalence of 89.37% for 3.78% of breastfeeding exclusively. The average duration of breastfeeding is 16.3 months. On the whole, the proportion of mothers who introduce supplements before 6 months is higher with 65.77% compared to 20.88% for mothers who introduce them after 6 months. Also, the nutritional quality of the boiled food consumed was not in accordance with the nutritional recommendations for protein content (4.45-7.10 g / 100 g MS) and lipid content (0.98-7.25g/100gMS).

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