



american overseas dietetic association

To Your Health:
Prevention, Wellness and Nutrition
Intervention Across the Lifespan
March 23-25, 2006 • Dublin, Ireland



27th AODA Conference

ABSTRACT BOOK

SPEAKER ABSTRACTS

Calcium Intake in Pregnancy and Lactation: Implications for the Mother and Child across the Lifespan

Ann Prentice, PhD

Pregnant and breast-feeding mothers transfer about 200 mg calcium a day to their baby. This amount is close to the theoretical calcium accretion rate required for optimal skeletal growth in infancy. An inadequate maternal calcium intake could, therefore, compromise placental calcium transfer and breast-milk calcium secretion. This could lead to poor health and skeletal development of the baby. There is also evidence that women with a low calcium intake may at greater risk of poor pregnancy outcome and that their infant may be predisposed to high blood pressure in later life. To allow for the additional needs of reproduction, women have been recommended to increase their calcium intake during pregnancy and lactation. However, the accumulating picture from our detailed research studies in the UK and West Africa is that there are major, physiological alterations in calcium and bone metabolism that accompany human pregnancy and lactation that are independent of maternal dietary calcium supply across a wide range of intakes. This calls into question whether an increase in calcium intake during pregnancy and lactation is necessary or beneficial. Recent evidence from our rigorous calcium supplementation studies suggests that altering maternal calcium intake during pregnancy and lactation does not influence the supply of calcium to the fetus or infant. We have demonstrated that neither fetal growth and bone mineral accretion nor breast-milk calcium concentration is related to maternal calcium intake, even in women accustomed to a very low calcium intake. Our ongoing studies are investigating whether a low calcium intake during pregnancy is associated with any long-term effect on maternal bone health. In addition, we are examining whether a low maternal calcium intake predisposes the mother to hypertensive disorders in pregnancy and her infant to hypertension in later life.

Nutrition and Fertility: What's the Connection?

Susie H. Langley, MS, RD

Energy availability is critical for reproduction, thus “dieting” or restricting calories, carbohydrates, protein, essential fats and key nutrients (iron, calcium, zinc, B vitamins, cholesterol and essential fatty acids) is counterproductive when it comes to producing healthy ovum, sperm, sex hormones and normal menstrual cycles to achieve conception and optimum fetal growth and development.

Having an unrealistic weight goal or body image in addition to other lifestyle factors --inappropriate use of exercise, dietary supplements, medications/drugs, caffeine, alcohol and nicotine-- plus a high level of stress can also negatively impact on nutrition, fertility and a positive outcome.

Misinformation and unreliable sources of nutrition information are confusing and sometimes detrimental to the infertile couple who are desperately seeking “the answer” for fertility.

Simple screening tools such as height, weight, Body Mass Index (BMI), Waist to Hip Ratio (WHR) and history of “dieting” can help predict relative risks and benefits during the infertility work-up. Recent evidence indicates that a BMI <20 or BMI>25 predicts a greater chance of infertility in both males and females. Research on obese women (BMI >35) reported less chance for getting pregnant and less success with IVF compared to women with lower BMIs. Canadian data gathered using a Nutrition Screening Form is reported on 300 female and 180 male infertility clients indicated a strong need for nutrition intervention and education of couples to improve their personal nutrition and help optimize fertility and chances for a positive outcome.

Two cases studies are discussed to illustrate an underweight and an overweight female patient. Details of nutrition assessment and practical recommendations will address energy balance, physical activity, stress, avoidance of major food groups and key nutrients, inappropriate use of supplements, fad diets, and management of Poly Cystic Ovary Syndrome (PCOS).

Appropriate referral to a Registered Dietitian should be offered to infertility clients on or before the initial work-up with the health care team. Nutrition counseling and education should be a high priority for both female and male infertility patients during the initial stages of the infertility “workup” since healthy lifestyle modifications can be cost-effective and also protect future health.

Although statistics show that the prevalence of male infertility is almost the same as females, few men are referred for nutrition counseling. Men need to be made more aware of the impact of lifestyle habits on overall health, wellness and fertility status. More research is needed in this area. Infertility specialists should encourage men to feel comfortable having a nutrition assessment and encourage couples to work together on improving simple “lifestyle basics” before or early in the infertility workup--not as a last resort.

References:

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Nutrition Resources:

Standard BMI Calculator: www.nhlbisupport.com/bmi/

Dietary Guidelines/Pyramid: www.mypyramid.gov/guidelines/index.html

Polycystic Ovary Syndrome Association: www.pcossupport.org/living/nutrition/tips

(ie. tips for working with a nutritionist; curb your carbohydrate cravings; Insulin resistance).

Understanding the Implications of the “New” Pediatric Concern: Type 2 Diabetes in Youth

Lorraine Weatherspoon, PhD, RD

Diabetes is clearly recognized as one of the most common and costly diseases in the world, with as many as half undiagnosed (Centers for Disease Control and Prevention (CDC), 2002). Of the two major classes of the disease, Type 1 and Type 2, the latter is the more predominant form of the disease (90%). The onset of Type 2 diabetes typically occurs primarily in older adults, whereas Type 1 diabetes typically occurs in children and young adults. However, T2DM in children and adolescents concomitant with the rising rates of obesity/overweight as referred to in youth, has recently emerged as a “newly recognized” pediatric epidemic towards which enhanced health-care efforts need be directed. While, ethnicity and obesity/overweight are significantly associated with T2DM in youth, of greater concern is the fact that if not identified early enough, or if it is not well controlled, the likelihood of devastating complications at a young age would be substantially increased.

Reported rates of prevalence and estimates vary based on ethnicity, but the Centers for Disease Control and Prevention (CDC) estimates that T2DM represents approximately 8-45% of all children and adolescents diagnosed with diabetes in large US pediatric centers (CDC, 2002). The limited data on the prevalence and incidence of T2DM and associated factors in children and adolescents, makes it difficult to identify and characterize the target population and plan interventions to better control diabetes in this age group. Associative factors such as being overweight or at risk for overweight, presence of acanthosis nigricans, insulin resistance, and a strong positive family history of diabetes might help identify & characterize this specific type of diabetes in youth (Pinhas-Hamiel et al., 1996; Pihoker et al., 1998; Fagot-Campagna et al., 2001). In addition, the precise risk and control-related factors as related to T2DM in children and adolescents are not fully understood. Such information is critical if efforts to facilitate the prevention or amelioration of the many debilitating complications of unidentified or uncontrolled diabetes in the pediatric population are to be adequately addressed by the health professional community.

Once diagnosed, careful monitoring and diligent patient compliance with treatment protocols are essential for disease management and a potentially longer healthier life. Lifestyle factors such as diet, exercise, medication compliance, regular medical assessments, and self-monitoring of blood glucose are critical components of diabetes care regardless of the type. Children are vulnerable to both physiological as well as other influences such as culture, family and economics, which can impact diagnosis as well as their ability to comply with recommendations. Therefore, appropriate screening and targeted interventions are critical for effective diabetes management in this vulnerable population. The focus of this proposal is to enhance the participants’ awareness, knowledge and understanding of this new and growing disease, and provide insight into our current evidence based understanding of diagnosis and treatment strategies.

References:

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Yes, You Can! Helping Patients Change Behavior

Mary Austin, MA, RD, CDE

Patients are often asked to change their behavior and adopt lifestyle changes in order to successfully manage a chronic condition such as diabetes. It is a common belief that, if a patient has enough of the right information or knowledge, which is also culturally appropriate, behavior change will occur. In this session the clinician's role in helping patients change behavior and communication techniques and skills to facilitate behavior change will be discussed.

References:

1. American Association of Diabetes Educators. Position Statement: Standards for outcomes measurement of diabetes self-management education. *The Diabetes Educator*, 29, #5, Sept-Oct, 804-816, 2003. (AADE-7™ reference)
2. Keller, V. & White, M. Choices and changes: A new model for influencing patient health behavior: *Journal of Clinical Outcomes Management*, 1997. 4 (6), 33-36.
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5. Rollnick S, Mason P, Butler C. (1999). *Health Behavior Change: A Guide for Practitioners*. Edinburgh, Churchill Livingstone.

Using Standardized Language to Document Nutrition Diagnosis and Interventions

Esther Myers, PhD, RD, FADA

The challenge in dietetics is keeping up with the current research and new practices and successfully incorporating it to improve daily practice. This presentation will provide practitioners an overview of the nutrition diagnostic terminology and results from current research, how to write PES (Problem, Etiology, and Signs & Symptoms) statements, how to select interventions based on etiologies included in the PES statement. Practitioners will be provided with cases and will have hands-on activity to write and evaluate PES statements. Some medical record documentation will be provided to demonstrate how this information is incorporated into nutrition progress notes.

References:

1. Evidence Analysis Library. Available at <http://www.adaevidencelibrary.com/default.cfm?auth=1>. Accessed January 5, 2006
2. Nutrition Diagnosis: A critical step in the Nutrition Care Process: Chicago, IL: American Dietetic Association; 2005

Nutrigenomics in Human Nutrition: An Overview

Michael Gibney, PhD

At the completion of the human genome sequencing, there was a belief that this sequencing would reveal some great secrets in human biology. Whereas it still undoubtedly has this potential, we now know that it is not the sequence that is paramount but rather the way in which this is regulated. We also now know that the signals from diet are far weaker than those of pharma and that therefore, some of the shortcomings of the gene expression technology become quite problematic for nutrition. Because we are generally limited to blood as the most available biofluid, our access to human DNA is limited to leucocytes. For that reason our ability to study how nutrients influence gene expression is limited and thus as regards the genome, the area of growth for human nutrition is in the area of single gene polymorphisms (SNPs) where common variation in gene sequence alters the ability of an individual to respond to a given diet. This has marked implications for clinical nutrition in so far as the future is likely to “personalise” nutrition therapies. Nonetheless, problems of agreeing acceptable standards of evidence of efficacy arise and need to be tackled. An area of truly enormous potential for human nutrition is metabolomics in which all or most of the small molecules in a biofluid are measured in an NMR or MS spectrum, and the “metabolic fingerprint” of the output is measured. In the future, we may see a totally new approach to assessing diet using the metabolomic profile as the ultimate biomarker. Finally, the skills of public health (community) nutrition must be aligned with this field and two areas will be addresses, analyzing dietary patterns at the meal level and applying population genetics to public health nutrition

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Treatment Approaches for Obesity

Rebecca Reeves, DrPH, RD, FADA

Investigators recognizing the importance of helping overweight or obese individuals to lose 5-10% of their weight are conducting trials on different nutritional approaches for weight loss. These nontraditional weight loss plans are usually based on an energy restricted diet with different foods introduced to replace meals, to increase the intake of certain foods, or to substitute certain foods for others.

This session will present various approaches for the treatment of obesity and overweight and their efficacy, safety and scientific basis. The approaches that will be covered include meal replacements, high protein diets, high calcium diets, and glycemic index. Discussion on whether these approaches should be incorporated into weight management counseling will deliberate based on the scientific evidence.

References:

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Recovery Nutrition for Athletes

Susie H. Langley, MS, RD

Nutrition for recovery, though challenging, is key to successful training, competition and injury prevention. Four important factors for recovery are: (1) replacement of muscle and liver glycogen; (2) repair of muscle fibers; (3) replenishment of fluids and electrolytes; and (4) adequate rest.

Athletes need simple, practical strategies for optimal recovery especially if they are exercising intensely and there is less than 8 hours before the next competition or training session. The general recommendation for post-exercise muscle and liver glycogen replacement is 1-1.5 g CHO/Kg BW immediately (15-30 minutes) post-exercise and again after two hours to take advantage of maximum glycogen replacement. Alternatively the athlete should aim for 7-10 g CHO/Kg BW/day depending on their sport. The amount of carbohydrate consumed is considered more important than adding large amounts of protein or individual amino acids when it comes to muscle glycogen synthesis. It is generally believed that consuming a small amount of protein with carbohydrate is probably more important for its role in repairing micro damage to muscle fibers than it is for muscle glycogen synthesis following intense exercise. Athletes who believe that a high protein diet or protein supplements containing no carbohydrate are best for recovery need to hear the facts from a qualified professional and become educated about practical alternatives for recovery from food sources. There still is no strong evidence to support the use glutamine for recovery. Despite product claims, eating a variety of lean meats, poultry, fish, eggs, dairy products, legumes, soy, nuts and seeds can supply plenty of this "conditionally essential" amino acid.

Athletes often are confused about the use of the Glycemic Index (G.I.) Foods with a high vs low G.I. have been shown to allow for faster post-exercise glycogen replacement, especially if there is not much time before the next training session or competitive event. There appears to be no difference between solid or liquid carbohydrate when it comes to glycogen replacement post-exercise. The same is true for eating several small meals/ snacks vs one large meal. However, individual athletes who experience loss of appetite post-exercise may feel more comfortable choosing several small snacks beginning immediately (first 30 minutes) post-exercise and after two hours. Getting adequate fluids and carbohydrate is the major focus. The post-event meal should be high in carbohydrate, moderate in protein and fat.

Post-exercise hydration with fluids and electrolytes is crucial. Athletes should be advised to follow a fluid schedule (position paper on "Nutrition and Athletic Performance" 2000) to meet individual and sport-specific needs in addition to the environment (temperature, humidity, heat, cold etc). Use of sport drinks, alcohol, caffeine, "high energy" drinks (ie. Red Bull) and ergogenic aids (ie. creatine) and their impact on training, competition and recovery will be briefly reviewed.

A case study featuring an elite junior tennis athlete will illustrate the risks associated with poor recovery and potential injuries when inappropriate advice is given by an unqualified "nutritionist". This case points to the need for reliable advice from a certified Sports Dietitian. A brief progress report on the "new" certification process for becoming a certified Sports Dietitian (American Dietetic Association, Commission on Registration) will close the session, followed by a question and answer period.

Just One More Bite...End of Life Nutrition and Hydration

Becky Dorner, RD, LD

Palliative care patients at the end of life may experience complex social, psychological, or physical complications that interfere with nutrient intake. Some patients simply cannot tolerate food and fluid, or have no desire to eat, which can be very difficult for loved ones to handle. The dietetics professional is often the first to intervene when nutrient intake declines, and is further challenged with the sometimes controversial role of recommending alternate forms of nutrition and hydration. When is it appropriate to recommend the placement a feeding tube or IV? What is the dietetics professional's role in the care of the dying patient? This presentation will provide practitioners with some direction in the complicated area of palliative care.

References:

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The Art and Science of Creating A Nutrition Story for the Media

Mary Easaw-John, BSc

Introduction

Nutrition knowledge has expanded through the years. An overwhelming volume of information constantly bombards the consumers with conflicting messages on food choices and diet related diseases. These conflicts challenge the dietitians to debunk some of the myths. As the public's interest in nutrition grows, the media's search for dietitian with stories and reports also grows. The important aspect is that as dietitians, we need to be confident when delivering nutritional information in the most interesting manner to the general consumers through the media. We need to pitch stories from different angles for creativity, establish rapport and develop productive working relationship with the media.

The humble beginnings: Getting into the media.

The National Heart Institute is a regional referral center with the latest technology for treatment of cardiovascular and thoracic diseases. The Dietetics and Food Services department promotes effective nutrition education on heart diseases and other nutrition issues. The first opportunity for the media story was to host a healthy cooking segment in the Malay language with a local television production company in 1995. The 30 segment program promoted local favorite recipes with healthier cooking methods and the use of local spices and herbs. It was a real challenge to cook, present in the local language and smile while facing the camera. After this programme was aired, the dietitians received many congratulatory notes and positive inputs that boosted the confidence of the dietitians on the newsworthy story. Since then, we have been invited regularly to share our knowledge in talk shows, write features for magazines and new articles for the local papers. With each media interviews, we build up our confidence, improved our creativity and achieved strong credibility.

The recent opportunities:

1. In October 2005, the National Radio Station, Traxx FM contacted us to educate the public on healthier lifestyles in English. Topics for the show were based on current nutrition issues. It will be aired on the 3rd Tuesdays of every month at 10.15 a.m. We based our creative talks on the calendar year according to the festivals, events and celebrations in Malaysia. The show is open for the listeners to phone in and ask questions.
2. In January 2006, there was a controversy over the eating habits of Malaysians who consumed local Indian Muslim foods (known as *Mamak* Food) which was rated as high in calorie and fats and rumoured to be a major cause of stroke in the country. The Indian Muslim Food outlets are opened 24 hours and many Malaysians enjoy all hour dining at these outlets. The local newspaper contacted us to provide credible, positive, newsworthy information about the pros and cons of *Mamak* foods and on issues assumed. This article appeared on the front page of the newspaper and we received many positive feedbacks.
3. Recently, the New Straits Times featured an article on the first Malaysian recipient for AODA, International Dietetic Network STAR Award. This was a double honor, being the first Asian, for this award recognizes leadership skills and for promoting nutrition and dietetics, locally and internationally as a country representative.

Conclusion

It is vital to develop good rapport and working relationships with the members of the media in the quest to educate the public. There is no such thing as good or bad food, but faulty eating habits. We need to inform consumers about alternative choices they can make while enjoying the pleasure of eating out and getting value for their money. The media is waiting eagerly for hot spicy nutri - news. The challenge is all yours!!!

References:

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2. Working with the media: A Handbook for members of the American Dietetic Association. Produced by ADA's Public Relations Team.
3. How to write letters to the media. Published by Accuracy in the Media. www.aim.org.
4. Advocacy Kit : Working with the Media Tools for Education Activists

Public Health Nutrition Policy & Interventions – A Global Perspective

Tatyana El-Kour, MS, RD

Public health nutrition efforts have great impact in preventing and greatly delaying disease. The purpose of this presentation is to provide a framework to address emerging public health nutrition issues to help nutrition professionals adopt proven, effective interventions in an attempt to establish comprehensive disease prevention and control programs in their corresponding communities. Provision of valid and reliable evidence on the effectiveness of public health nutrition policy and interventions is necessary to promote health and prevent disease through dietary and behavior change. Four key public health principles will be reinforced: primacy for prevention, dependence on science, quest for equity and social justice, and interdependence. As nutrition professionals, our priorities should be those where the science is mature enough to offer us hope of success when applied broadly; where the burden of disease is great; and, especially, where disparities across populations are cause of great concern. As the dietary practices of individuals have changed in the past 20 years, major challenges remain that mandate the development of effective evidence-based strategies to prevent and treat disease. The importance of policy-making is called upon to create policies and environments that support healthy eating and increased physical activity. Limited information is available about the best way to translate research findings into effective public health strategies. Thus, continued monitoring and evaluation of existing programs will be reinforced as well through examples of selected regions in the world.

References:

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2. American Public Health Organization (www.apha.org)
3. Centers for Disease Control and Prevention (www.cdc.gov)
4. American Association of Public Health Physicians (www.aaphp.org)
5. Society for Public Health Education (www.sophe.org)
6. Food and Agriculture Organization (www.fao.org)
7. World Bank (www.worldbank.org)
8. The United Nations Children's Fund (UNICEF) (www.unicef.org)
9. United Nations Educational, Scientific, and Cultural Organization (UNESCO) (www.unesco.org)
10. World Trade Organization (WTO) (www.wto.org)

Nutrition Strategies to Delay and Prevent Progression of Kidney Disease

Judith Beto, PhD, RD, FADA

Chronic kidney disease can be delayed or prevented when diagnosed in the early stages. This session will use problem-solving techniques to identify the stage of kidney failure (stages 1-5), assess nutritional needs, and calculate nutritional requirements. Participants will be able to modify general recommendations to specific needs for varying life stages (pediatric, adult, geriatric, end-of-life) and concomitant medical conditions such as diabetes. Educational and professional support resources will be discussed to provide an on-going linkage to clinical practice updates.

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Disorders of Lipid Metabolism Evidence-based Nutrition Practice Guideline

Judith Gilbride, PhD, RD, CDN, FADA

The process of developing an Evidence-Based Guides for Medical Nutrition Therapy of Hyperlipidemia was completed in 2005. The steps in the process and methodology for making decisions about the final recommendations, underlying conclusion statements and supporting evidence summaries are available to ADA members at www.ebg.adaevidencelibrary.com. Examples of the guidelines will be presented along with the extent evidence available, the algorithm in nutrition treatment of lipid disorders and plans for future Evidence-Based Guides and Toolkits to implement their use. The publication of the guide and its dissemination is an integral part of plans for getting the ADA Medical Nutrition Therapy recommendations on lipid metabolism disorders to all dietetic practitioners.

References:

1. Myers, Esther. "Systems for evaluating nutrition research for nutrition care guidelines: do they apply to population dietary guidelines?" *Journal of the American Dietetic Association*. December 2003; Volume 103, Issue 12, Supplement 1, Pages 34-41.
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POSTER ABSTRACTS

POSTER 1.2

TITLE: Effects of Using Low Sodium Seasoning Sauces on Blood Pressure Changes in Mildly Hypertensive People

AUTHORS: Wantanee, Kriengsinyos, Ph.D., RD, Weerawan, Limmanon, M.Sc.

TEXT: Reducing sodium intakes by limiting the use of table salt and seasoning sauces is recommended for hypertensive people. This study evaluated the effects of low sodium seasoning sauces on blood pressure levels. Eighteen mildly hypertensive men and women (25-56 yrs) were enrolled in the study. Baseline systolic and diastolic blood pressures for both sexes were 147.9 ± 12.4 mmHg and 96.6 ± 9.0 mmHg, respectively. A randomized crossover trial consisting of a 1-week run-in period, followed by two 4-week intervention periods, separated by a 1-week washout period was conducted. Diets with a normal sodium condiment (3494 ± 690 mg Na/day) and a low sodium condiment (2442 ± 517 mg Na/day) were used in this trial. Results showed that systolic (143.0 ± 15.9 mmHg) and diastolic (91.4 ± 11.1 mmHg) blood pressures were significantly decreased during the run-in period as compared to baseline. Further significant reductions in systolic blood pressure were observed among those on control (137.7 ± 18.0 mmHg) and on low sodium condiment (132.0 ± 17.0 mmHg) diets. A small decrease in diastolic blood pressure was observed among those on a low sodium condiment diet, but this was not statistically significant. Low sodium condiment diets were well accepted. No adverse effect of potassium status was seen in any subject. Potassium intake was increased from 2136 ± 542 mg/day in the control group to 3533 ± 501 mg/day in those on the low sodium condiment diet. These results suggest that reducing sodium intake by using low sodium seasoning sauces can assist people in managing their hypertension.

LEARNING OUTCOME: Participants will be able to appreciate the benefit of using low sodium condiments among hypertensive people.

FUNDING DISCLOSURE: This research was supported by Thai Health Promotion Foundation.

POSTER 1.3

TITLE: The Cardio-protective Effect of the Mediterranean Diet and Application of the Mediterranean Diet Scoring Technique to the Portfolio Eating Plan

AUTHORS: Colleen M Joice; RD, Karen G Lapsley PhD; Cyril W Kendall PhD; Dorothea A Faulkner RD, PhD; David Jenkins MD, PhD

TEXT: Introduction Primary and secondary Mediterranean diet intervention studies that include nuts, whole-meal bread, cereals and a variety of raw or cooked fresh or dried fruit and vegetables, legumes and olive oil demonstrate the efficacy of the Mediterranean Diet Plan (MDP) in reducing key cardiovascular risk factors when compared to a low fat American Heart Association type diet (1). The Mediterranean Diet Score (MDS) is a study specific gradient of adherence to the traditional Greek-Mediterranean dietary pattern; in various geographic regions a score ≥ 4 has been associated with positive health outcomes. In this study the MDS technique (2) was applied to the Portfolio Eating Plan (PEP), a plant food based dietary intervention strategy that combines numerous heart healthy components such as plant sterols, vegetable proteins, almonds, oats, barley, psyllium and vegetables like okra and eggplant, and results in cholesterol and C-reactive protein lowering of up to 30%. Clinical trials have shown that the PEP enhances the cholesterol lowering effect of a low saturated fat/cholesterol diet, equal to a starting dose of first generation statin drugs (3,4). **Methods** The MDS technique was applied to the dietary intake records of 43 hyperlipidemic subjects following the PEP. The median intakes of the respective food categories of the Greek MDP were used as cutoff criteria and compared to the mean intake of the subjects following the PEP, allowing for quantification of the PEP. **Results** Scoring of the PEP against the MDP results in a score of 7 out of a possible score of 8. **Conclusions** Quantifying the PEP with the MDS provides another confirmation of the health benefits of a predominantly plant based cardio-protective dietary strategy.

1. Vincent Baudry et al. 2005. Am J Clin. Nutr. 82 :964-71.
2. Trichopoulou et al. BMJ. 1995;311:1457-1460
- 3 Jenkins, DJA et al 2005. Am. J. Clin. Nutr. 81:380-7
4. Jenkins, DJA et al 2003. JAMA 290:502-510

LEARNING OUTCOME: Participants will be able to appreciate the cardio-protective effect of predominately plant based dietary strategies like the MDP and the PEP and understand how the Mediterranean Diet Scoring technique can be used to quantify the attributes of an eating pattern.

FUNDING DISCLOSURE: Almond Board of California

POSTER 1.4

TITLE: The Gene - Diet Attica Investigation on Childhood Obesity (GENDAI): Overview of the Study Design

AUTHORS: Constantina Papoutsakis, PhD, RD, Nikoleta V Vidra, MS, Ioanna Hatzopoulou, BS, Maria Tzirkalli, BS, Ioanna G. Kontele, Garifallia Kapravelou, Evagelia Evagelidaki, Vassiliki Manika, Ioannis Alexandrou, MD, Mary Yannakoulia, PhD, George V Dedoussis, PhD.

TEXT: There is limited evidence on the role of genetic and environmental factors in the etiology of childhood obesity, which is a major health problem worldwide. The Gene-Diet Attica Investigation on childhood obesity (GENDAI) evaluates the contributions and pivotal interactions of genetic, dietary and physical activity variables on children's overweight. Our objective is to describe the study rationale, sampling and survey methodology, data collection and analysis procedures. To date, 329 participants have been enrolled, and the final projected sample is 1000 fifth and sixth graders recruited from randomly selected elementary schools of Attica (10–12 years). Three separate encounters take place with students. These include (a) a recruitment session and 24-hour dietary and physical activity recall preparation; (b) a one-on-one interview for comprehensive data collection (physical exam, anthropometry and body composition, fasting blood sample, 24-hr dietary recall and physical activity recall, FFQ and questionnaires on food eating patterns, lifestyle, personal and family characteristics); (c) a telephone interview for a second dietary and physical activity recall. A surplus of 400 collected variables provide information on dietary intake and food patterns, anthropometry and body composition, personal and family health history, lifestyle habits of the present and past, socioeconomic status, as well as relevant blood, biochemical, hormonal measurements and obesity-related polymorphisms (TNF α -308 G>A, GAD -243A>G, SLC6A14 22510C>G, CRP -286C>T>A). In the present sample, BMI status differs ($P<0.0001$) between girls (24.5% overweight, 12.6% obese) and boys (33.6% overweight, 13.1% obese). Also, the overall high prevalence of overweight in the current population is concerning. Future reports will present findings and interactions from in-depth analysis of the GENDAI data.

LEARNING OUTCOME: To describe the steps in the planning and development of a comprehensive cross-sectional study investigating the interactions of diet and genes in childhood obesity.

FUNDING DISCLOSURE: Coca-Cola Hellas

POSTER 2.2

TITLE: Impact of a Non-Traditional, Family-Based Weight Management Program for Elementary School-Aged Students - Taking Them Where Nutrition and Fitness Decisions are Made

AUTHORS: MAI Dianne Helinski, MHPE, RD, LD; Marilou Castro, MS, RD, LD

TEXT: The purpose of this program was to evaluate the effectiveness of a nontraditional, family-based, kid-friendly 8-week lifestyle modification program targeted for elementary school students. The program design was based on the theoretical framework of the Health Belief Model. The sessions included learning activities devoted to nutrition education, introduction to fitness, and building a positive self-image. The traditional classroom-based, teacher-led approach was substituted with hands-on learning activities such as grocery store scavenger hunt, fitness center activities, dining out at a local restaurant, web-based Presidential Challenge Physical Activity Fitness Award Program, nutrition education games and weekly goal tracking through no-blame reward system. Pre-assessment questionnaires were completed at the initial session by parents regarding their child's (and family's) health history, dietary and activity habits, and self-image concepts. A post-assessment was completed at the last session to evaluate program effectiveness based on behavior changes rather than weight changes. Post-assessment questionnaires will be mailed to all enrollees as a six-month follow-up to evaluate long term behavior changes. Results: Fifteen participants were initially enrolled. Eleven participants completed the program resulting in a 27% attrition rate. Ninety one percent of the participants improved eating habits and food choices which included decreased sweetened beverage intake and increased fruit and vegetable consumption. Eighty two percent of participants improved exercise habits. Ninety one percent spent less time watching television. In conclusion, health educators could benefit from implementing similar programs at their sites. This program was successful in changing critical behaviors that increased the child's likelihood for improved weight management and self-image.

LEARNING OUTCOME: After listening to or reading the abstract presentation, the participant will be able to describe 3 components of a successful weight management program for elementary school aged children.

FUNDING DISCLOSURE: A grant from The U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM).

POSTER 2.4

TITLE: Evaluation of Nutrition Education Modules provided to Public Health Nurses in County Clare

AUTHORS: Anne C Griffin, PhD, RPHNutr and Carmel Quinn, BSc

TEXT: Public Health Nurses (PHNs) provide services in schools, health centers, day care, community centers and people's homes. Within these settings, PHNs are likely to meet a range of nutrition related disease. By request, nutrition education sessions focusing on appropriate referral to the Dietetic Clinical Service, Infant Feeding, Nutritional Screening, and Childhood Obesity in four health care centers in County Clare. The knowledge and awareness gained, use of tools provided and appropriate referral to clinical dietetics from these sessions was evaluated by a self-administered questionnaire among those who received education and those who did not. Twenty-seven out of 44 questionnaires were returned yielding a 61% response rate; 16 (59%) from those who had and 11 (41%) were from people who had not received nutrition education modules. PHNs scored higher knowledge and awareness than those who have not yet received nutrition education sessions. There was a 31% increase in the number of referrals from PHN's in the 5 months since the education sessions commenced compared to the previous 5 months. Of note, more of the PHNs (82%, n 13) who had received nutrition education sessions were more likely to recognise their role in educating the community in areas of nutrition as part of a multidisciplinary team compared to 55% (n 6) who have not received sessions. Of the PHN's who received nutrition education only one third (n 5) have not used any of the resources provided suggesting that, overall, they are viewed as useful teaching/reference aids.

LEARNING OUTCOME: The participant will be able to describe benefits provided by holding nutrition education sessions with key community health professionals who have the opportunity to promote nutritional health.

POSTER 2.5

TITLE: Special Olympics Healthy Athletes: Global Effort to Improve Health Outcomes

AUTHORS: Alice J. Lenihan, MPH, RD, LDN; Joan Medlen, RD; Mary Pittaway, MS; RD; Tatyana El-Kour, MS, RD; and Hilary Colgan, MSc, M.I.N.D.I.

TEXT: Background A 2000 Yale University study [1] concluded that individuals with mental retardation (MR) are susceptible to many of the same health conditions as individuals in the general population, but may experience more access and quality of care challenges than individuals without MR. The Special Olympics Healthy Athletes® Program (HP) provides Special Olympics Athletes screening, education and referrals to health care providers across a broad range of health program areas; including, dental, vision, physical therapy, podiatry, hearing, health promotion, and Med fest. **Activities** Nutrition is the cornerstone of the Health Promotion (HP) Program. Nutrition assessment and screening are key components of HP along with smoking avoidance, sun safety and physical activity. Key messages in nutrition include; 5 A Day, Water for Hydration, Bone Building Foods and general healthy eating habits. During the 2003 World Summer Games, dietitians from Ireland, the United States and Hong Kong screened and provided education to over 1000 athletes. Activities including joint development of a screening tool, and education materials and recruitment dietitian volunteers were a joint effort between the Dublin, Ireland, Games Organizing Committee and the Special Olympics, Inc, central office staff and consultants. Over 30 dietitians volunteered to work in the Health Promotion Program. **Outcomes** Screening results indicated that over 50 % of the athletes had a BMI greater than 24 and 20% had low bone density. Since 2003, over 50 dietitians from Asia, Central America, the Middle East, and the Caribbean have participated in the HP program, providing screening to over 25,000 athletes at over 128 events.

LEARNING OUTCOME: To discuss behavioral risk factors, nutrition education and the global opportunity to provide health promotion programming in the Special Olympics Program.

FUNDING DISCLOSURE: Special Olympics International and U.S. Centers for Disease Control, Health and Disabilities Grant.

[1] Horowitz, SM, Kerker, BD, Owens, PL, Zigler, E. The Health Status and Needs of Individuals With Mental Retardation. Yale University. December 2000.
<http://www.specialolympics.org/Special+Olympics+Public+Website/English/Initiatives/Research/Health+Status+report.htm> accessed March 2, 2006.

POSTER 3.1

TITLE: Professional Competence Assessment Examination (PCAE) of Pre-Clinical Human Nutrition and Dietetics Students

AUTHORS: Mary F Moloney, SRD,FINDI, Msc., Anthony C Kinsella, FIS, Msc., Aideen McKeivitt, PhD

TEXT: Objective: To develop a set of professional competence assessment tools, designed to evaluate core competency skills of pre-clinical dietetic students. **Methods:** Five tools were designed to assess clinical skills required in client management.(i) case study,(ii) diet and lifestyle history,(iii) anthropometry,(iv) nutrition care plan (v) diet/ lifestyle advice. The format of the PCAE simulates a realistic client case. Examination replicates standard outpatient consultation. Each of the 5 components (stations) examines level of attainment of the different clinical skills. Design: Two student groups participated: pre-intervention (n=88) and intervention (n=17). The intervention group had taken an additional intensive competency skills course. **Results:** All students passed the PCAE with overall marks ranging from 50% (pass) to 83%. Of twelve students who failed one or more assessment tools, all were from the pre-intervention group. Overall, when the two student groups were compared, an improvement in performance of weaker students in the intervention group was found. In both groups there was a strong tendency for students who attained higher results for the case study, diet and lifestyle history and diet/lifestyle advice components to attain a correspondingly higher PCAE total. **Conclusions:** The PCAE is a valuable tool in assessment of professional competence in pre-clinical dietetic students. Positive results on the use of the Objective Structured Clinical Examination (OSCE), at early stage medical training suggest the benefit of early use of the PCAE in undergraduate dietetic education for development of more effective practitioners.

LEARNING OUTCOME: The PCAE is a valuable tool in the assessment of professional competence in pre-clinical students.