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ABSTRACTS

PLENARY LECTURES

Monday, 29 April 2019

PL2 - Precision Nutrition

PL2.01

Precision nutrition

Shai, I.¹; Gepner, Y.¹; Shelef, I.¹; Schwarzfuchs, D.¹; Zelicha, H.¹; Tene, L.¹; Yaskolka Meir, A.¹; Tsaban, G.¹; Wolak, A.¹; Stumvoll, M.²; Blüher, M.²; Ceglarek, U.²; Dicker, D.¹; Rinott, E.¹; Kaplan, A.¹; Rudich, A.¹; Stampfer, M.³

¹Ben-Gurion University of the Negev, Beer-Sheva, Israel

²University of Leipzig, Leipzig, Germany

³Harvard University, Boston, MA

Background: We aimed to assess whether distinct lifestyle strategies can differentially affect specific body adipose depots.

Methods: We performed an 18-month RCT among 278 sedentary adults with abdominal obesity (75%) or dyslipidemia in an isolated workplace with a monitored provided lunch. Participants were randomized to isocaloric low-fat or Mediterranean/low-carbohydrate (MED/LC) diet+28 g walnuts/day with/without added moderate physical activity (PA; 80% aerobic; supervised/free gym membership). We followed VAT and dynamics of different fat depots (deep and superficial subcutaneous, liver, pericardial, muscle, pancreas, and renal sinus) by MRI.

Results: Of 278 participants (age = 48years, 89% men, BMI = 30.8 kg/m²), 86% completed the trial. The low-fat group preferentially decreased reported fat intake (-21.0% versus -11.5% for the MED/LC; P<0.001), and the MED/LC group decreased reported carbohydrate intake (-39.5% versus -21.3% for the low-fat group; P<0.001). The PA+ groups significantly increased the METs/week versus the PA- groups (19.0 versus 2.1; P = 0.009). Whereas final moderate weight loss was indifferent, exercise attenuated the waist circumference rebound with the greatest effect in the MED/LC+ group (P<0.05). VAT (-22%), intrahepatic (-29%), and intrapericardial (-11%) fats declines were higher than pancreatic and femur intermuscular fats (1% to 2%) loss. Independent of weight loss, PA+ with either diet had a significantly greater effect on decreasing VAT (mean-of-difference = -6.67 cm²; 95% CI = -14.8 to -0.45) compared with PA-. The MED/LC diet was superior to the low-fat diet in decreasing intrahepatic, intrapericardial, and pancreatic fats (P<0.05 for all). In contrast, renal sinus and femoral intermuscular fats were not differentially altered by lifestyle interventions but by weight loss per se. In multivariate models further adjusted for weight loss, losing VAT or intrahepatic fat was independently associated with improved lipid profile, losing deep subcutaneous adipose tissue with improved insulin sensitivity, and losing superficial subcutaneous adipose tissue remained neutral except for an association with decreased leptin.

Conclusion: Moderate weight loss alone inadequately reflects the significant lifestyle effects on atherogenic and diabetogenic fat depots. The MED/LC diet mobilizes specific ectopic fat depots, and exercise has an independent contribution to VAT loss. Fat depots exhibit diverse responsiveness and are differentially related to cardiometabolic markers. Distinct lifestyle protocols may uniquely induce fat mobilization from specific anatomic sites.

PL3 - What Is an Effective Treatment Outcome?

PL3.02

Children patient perspective: is obesity always a disease?

Ells, L. J.¹; Hudson, C. M.¹; Nnyanzi, L.¹; Hanchard, M.²; Adamson, A. J.³

¹School of health and social care, Teesside University, UK

²Health Choices, North Yorkshire County Council, Northallerton, UK

³Human Nutrition Research Centre, Newcastle University, Newcastle, UK

Childhood obesity is one of the serious public health concerns of the 21st century, yet effective treatment solutions remain elusive. Although adult obesity has for some time, been declared a disease by the WHO and American Medical Association, it remains unrecognised as a childhood disease in many countries. Classifying childhood obesity as a chronic disease is important from a public health perspective as it will help drive the development of prevention and treatment strategies, ensure health care policies and systems are responsive, and improve health care practitioner education. However, is this classification important to children and families?

Evidence has shown that obesity is often not viewed by families and children as a medical condition but rather a societal problem. Recent research has also demonstrated that whilst parents are aware their child is overweight, they are reluctant to label them as such. Although parents have been shown to disregard feedback on their child's weight status, as they deem health and happiness to be more important than weight, anthropometry remains the primary outcome measure of most treatment interventions.

The implications of the dissonance between the how health care practitioners, researchers and families view effective childhood obesity treatment will be discussed, alongside how improved awareness, training and new technology could be used to manage childhood obesity as a disease without the need for a label.

Tuesday, 30 April 2019

PL5 - Obesity as a Disease Process

PL5.01

Patient perspective: is obesity always a disease?

Sbraccia, P.

Department of Systems Medicine, University of Rome Tor Vergata, and Obesity Center, University Hospital Policlinico Tor Vergata, Rome, Italy.

Experts agree that obesity is a chronic disease; however, in many areas of medicine and among policymakers the belief that obesity is just a personal problem of bad choices is hard to dismiss.

The controversy around the issue of whether obesity is a disease goes back to almost 100 years ago; however, nowadays, while facing a devastating pandemic, we urge to take responsibility and move from philosophy to clinical action. In this regard, the 2013 decision of the American Medical Association goes in the right direction. The WOF define obesity of a chronic, relapsing, progressive disease. In its 2020 Impact Goals for cardiovascular health promotion and disease prevention, the American Heart Association defines ideal cardiovascular health to include a BMI <25.

OS8.03

Marketing, promotions and obesity: insights from British take-home food and drink shopping

Coker, T.¹; Saw, E.¹; Rumgay, H.²; Vohra, J.¹; Rosenberg, G.¹

¹Cancer Policy Research Centre, Cancer Research UK, London, United Kingdom

²Cancer Intelligence, Cancer Research UK, London, United Kingdom

Obesity is a national epidemic and the second leading cause of preventable cancer in the United Kingdom. The food and marketing environment is a large factor in this epidemic, and many agree that population-level policy change is needed to reduce the “obesogenic” environment and support people to make healthier choices. In 2018, the UK Government released the Childhood Obesity Plan Chapter 2, which proposed several such population-level measures.

This study demonstrates how household food and drink purchasing data is being used to inform and influence population-wide measures in the United Kingdom. The dataset, obtained from Kantar Worldpanel, include the food and drink purchases of 16,000 households over a 7-month period, as well as demographic, price promotion, and media consumption data, allowing us to identify links between behaviours and overall food/drink purchasing in a real-world setting.

It has been proposed that a restriction on price promotions on unhealthy food could support people into making healthier choices. Using the Kantar Worldpanel data we find that price promotions are prevalent in British take-home food and drink shopping, making up 29.2% of items. We also find that high promotional shoppers show higher prevalence of both overweight and obesity, and tend to show increased purchasing of discretionary food and drink categories which are typically high in fat, salt or sugar (HFSS), such as cakes, sugary drinks, crisps, ice creams, and puddings, at the cost of healthier categories such as fruit, vegetables, and non-sweetened yogurt. Together with a growing body of evidence around price promotions, these findings support the proposal that the UK government should restrict price promotions on unhealthy foods.

An additional proposal has been the restriction of marketing of HFSS foods to children through television and digital media. Whereas evidence showing the link between broadcast advertising and unhealthy eating and obesity is strong, the relationship between exposure to digital media and food consumption is relatively poorly understood. Here I discuss how we are using the Kantar Worldpanel data to identify links between digital media consumption, broadcast media consumption, obesity, and food and drink purchasing.

Use of household panel data such as that obtained from Kantar Worldpanel is useful in getting a real-world insight into purchasing behaviours. It has allowed us to provide evidence to support population-wide measures to help prevent obesity, and in future may allow us to monitor the effectiveness of these measures.

OS8.04

Food insecurity and its associations with psychological wellbeing, disordered eating and body image in Spanish adolescents

Shankar Krishnan, N.¹; Sánchez Carracedo, D.¹; Fornieles Deu, A.²

¹Departament de Psicologia Clínica i de la Salut, Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain

²Professor Serra Hünter, Departament de Psicobiologia i de Metodologia de les Ciències de la Salut, Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain

Introduction: Food insecurity is defined as “the limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways” (Anderson, 1990; USDA, 2017). There has been a rise in food insecurity since the economic crisis in 2007 thus affecting adolescent psychological and physical health. Previous research has indicated higher risk of psychological issues (Alaimo et al, 2001) and disordered eating (Neumark-Sztainer et al, 2011) in food insecure adolescents. However, there is lack of sufficient research on food insecurity and its associations in Spanish adolescents. As a result, the first objective of our study was to determine if food insecurity is associated with poor psychological wellbeing in Spanish adolescents. The second objective was to determine if food insecurity is associated with body dissatisfaction, disordered eating and poor dietary habits in Spanish adolescents. Differences in gender were examined for both objectives.

Methods: A cross-sectional study was conducted in a secondary school (grades 7-10) in Catalonia, Spain. The sample included adolescent boys and girls (n 426, 12-17 years). The ‘Spanish Child Food Security Survey Module’ (CFSSM-S, Shankar-Krishnan et al, 2018) and other validated questionnaires in Spanish were employed to assess psychological wellbeing, body image, disordered eating and dietary habits.

Results: ANOVA was used to investigate the association between food insecurity, gender and these variables. Socioeconomic status (SES), family affluence and weight status were added as adjustment variables to the models. There were no significant interactions between food security status and gender in any of the variables. The overall results indicate poor psychological wellbeing, greater body dissatisfaction and higher drive for thinness in food insecure participants and adolescent females. 18.3% of participants were found to be food insecure and 81.7% were food secure.

Conclusion: Food insecurity is a huge public health burden. This study is one of the first in Spain to examine its negative outcomes on adolescent health. Identifying and tackling food insecurity issues in adolescence could prevent severe psychological and physiological issues in future. The initial findings of this study could be of interest to researchers, psychologists and public health experts.