

# A current and future look at the status of obesity research

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### 3rd Annual Obesity Summit, London, UK, 14–16 April 2015

The 2015 Obesity Summit (14–16 April), London, UK, was attended by 140 delegates from around the world. The international representation reflected concern with obesity as a worldwide pandemic. Frontiers of current research on obesity in adults and children were presented. Recent research findings and advances in clinical practice were analyzed by international experts in discussion sessions. Presentations focused on educational strategies at micro and macro levels, encouragement of prevention through healthier lifestyles, and potential for treatment and prevention through individual and environmental changes. Common themes included the urgency to prevent and treat obesity given its prevalence, importance of cultural context for defining and addressing the problem, and the need for individualized multimodal approaches targeting genetic/physiological, parenting/family and community/social factors.

The 2015 Obesity Summit, sponsored and organized by Euroscicon, met from 14 to 16 April at the Cineworld in London (UK). Attended by 140 delegates from around the world, this was the third obesity summit of its kind since the inaugural conference in 2013. The representation at the event was impressively international, with delegates and speakers from Australia/New Zealand, Hong Kong, Iceland, Korea, the Near and Middle East, North and Central Africa, North and South America, the Russian Federation, Taiwan, Western and Eastern Europe. The nontraditional venue provided an informal and intimate setting for the exchange of information and ideas on this important topic. The international representation reflected the concern with obesity as a worldwide pandemic. The conference presented the frontiers of current research on childhood and adult obesity. Recent research findings and advances in clinical practice were presented and analyzed by international experts in discussion sessions. Presentations focused on the importance of educational strategies at micro and macro levels, the encouragement of prevention through healthier lifestyles, and the potential for treatment through individual and environmental change.

Day 1, which included presentations by world-renowned speakers from nine different countries, focused on the prediction and prevention of obesity. The conference kicked off with a comprehensive keynote presentation by chair Yael Latzer (University of Haifa, Israel) that covered the current status of the field. Latzer followed data on the increasing prevalence of obesity in adults and children with overviews of etiological factors including socioeconomic status, gender, culture, media and food advertising, parental attitudes and behaviors, and the role of sleep deprivation. Next, she addressed why interventions to date largely have been ineffective and presented ideas for primary, secondary, school-based and public-policy interventions. She concluded her talk with a clear

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message about the need for multidisciplinary, multimodal approaches and large-scale public health approaches. Her talk provoked interesting questions from the audience including a delegate from Africa who cautioned researchers not to overgeneralize from studies conducted in industrialized countries to other regions where food is scarce and hence causes for obesity may be different. Next Daniel Stein (Edmond and Lily Safra Children's Hospital, Israel) discussed the psychiatric, psychological and sociocultural parameters for overweight and obesity in childhood, and highlighted the complex relationships that exist between such factors. He emphasized that multiple bidirectional pathways may lead to psychological and social problems in children experiencing overweight and obesity. Following these keynote addresses by Latzer and Stein, both of which did an excellent job of setting the stage for the subsequent conference presentations, Sian Robinson (University of Southampton, UK) presented findings from an innovative study of a cohort of 3159 women from a large community sample who were followed longitudinally prior to pregnancy. Early life risk factors including excess gestational weight gain, smoking during pregnancy, low vitamin D status, no/short breastfeeding and maternal obesity were examined. Childhood adiposity increased fivefold with four or five risk factors at ages 4 and 6 years. Findings point to the need for very early intervention even before conception and prenatal prevention to ensure healthy weight and behaviors in young women who will become mothers. The morning rounded off with four 10-min oral presentations and a lively discussion session between the audience and panel of speakers.

The afternoon of day 1 began with an energetic talk by James Levine (Mayo Clinic and Arizona State University, AZ, USA), "Get up! Is your chair trying to kill you," arguing convincingly for NEAT – non-exercise activity thermogenesis – as a solution to obesity. Pedro González-Muniesa (University of Navarra, Pamplona, Spain) presented evidence for the efficacy of hypoxia in the treatment of obesity, and Sara Kirk (Dalhousie University, Halifax, Canada) presented qualitative data that highlighted the important, but often neglected issue of weight discrimination. Afternoon oral presentations showcased effective early interventions such as HENRY (Bryant *et al.*, University of Leeds, Leeds, UK). Assam El-Osta (Baker IDI Heart & Diabetes

Institute, Melbourne, Australia) provided the unique perspective that 'we are not just what we eat but also what our parents ate,' emphasizing the importance of the early metabolic environment in promoting obesity. The program also included posters on research and clinical topics ranging in diversity from perceived ideal size in the Seychelles region of Africa (Yepes *et al.*, Université de Lausanne, Switzerland) to obesity patterns in the Croatian Roma population (Škarić-Jurić *et al.*, Institute for Anthropological Research, Croatia). Poster prizes for innovation were awarded to Kim *et al.* (CHA University, Republic of Korea) for 'Sequencing of mRNA in epididymal adipose tissue reveals regulation of the transcriptome underpinning aberrations in glucose metabolism' and to Park *et al.* (CHA University School of Medicine, Republic of Korea) for 'Tissue-specific gene expression of diet-induced obese mouse in response to green tea and Taeumjowitang a Traditional Korean Medicine.' Chair Latzer summed up the day by concluding that we do not yet have a clear answer to how to prevent or treat obesity but we do know the family has a crucial role in preventing obesity in children, sedentary behavior and sugar consumption are important factors, and there is a strong interaction between environment and genes.

The theme of day 2 was treatment. Some highlights included a presentation by Edward Laskowski (Mayo Clinic, USA) emphasizing the importance of providing children with increased and varied opportunities for activity and simple free play. As an example, Project Play is a program created to produce 'athletes for life' where movement is encouraged as part of everyday living. Laskowski called on families to role model physical activity, schools to encourage it, communities to provide opportunities and national education to build a culture of daily movement. Igbo Onakpoya (University of Oxford, UK) followed with an original presentation summarizing 14 systematic reviews demonstrating that dietary supplements for weight loss do not work and can be hazardous to health. The message was clear: meaningful weight loss can only occur through dietary intake and exercise. Robert Pretlow (eHealth International, Seattle, USA) presented a unique perspective by providing evidence for the utility of the addiction model to treat obesity. His poster describing a smartphone app for the treatment of obesity using the addiction model won a poster award for the day.

The second poster prize was awarded to Moder and James (University of San Diego, USA) for 'Collective impact in action: San Diego County Childhood Obesity Initiative.' After an interactive discussion session between the audience and speakers, the afternoon continued with Dinesh Pashankar (Yale University, USA) highlighting the importance for physicians to address the higher rates of gastrointestinal disorders in children with obesity. Diane Berry (University of North Carolina at Chapel Hill, USA) presented promising findings from a two-phase intervention for overweight and obese second, third and fourth graders and their parents, delivered in partnership with 20 local schools. The comprehensive intervention focuses on increasing health behaviors (nutrition and exercise) and self efficacy around nutrition and exercise through the paradigm of social cognitive theory, parenting training, role modeling and knowledge building. The presentations of day 2 highlighted the importance of pursuing various lines of research – genetic, physiological, social and family environment – to identify etiological components and effective treatments for obesity.

Day 3, 'Psychology and Behavior,' began with Pouran Faghri (University of Connecticut, USA) presenting data from studies on correctional officers and nursing home employees, demonstrating high stress workplaces, characterized by high demand and low perceived control, contributing to increases in unhealthy eating, poor sleep quality, decreased self esteem and decrease in physical activity. Increased sedentariness of current jobs and workplace stress both can play a major role in obesity. Short oral presentations included cross-cultural and longitudinal research such as binge eating in the US Latinas (Cachelin *et al.*, University of North Carolina Charlotte, USA), BMI in children of mothers who smoke (Lev-Ari *et al.*, Ruppin Academic Center, Israel), and a birth-cohort study from New Zealand (McLeod *et al.*, University of Otago, New Zealand). A lively debate over whether obesity is ultimately evolutionarily advantageous occurred during the discussion session. Deborah Christie (UCLH, UK) presented an appreciated and unique perspective

with HELP, an adolescent-focused community-based multicomponent lifestyle program that did not produce clinically significant improvements in a recent randomized controlled trial. Christie emphasized the need for effective multidisciplinary interventions targeted at the appropriate groups. The audience noted the value for advancement in the field of reporting nonsignificant findings and approaches that do not work. Erik Aller (Maastricht, The Netherlands) described the CO-EUR Program, an intensive individualized 18-month multidisciplinary treatment program that has resulted in significant improvement in weight, BMI, waist circumference, blood pressure, triglycerides and plasma glucose, with promising maintenance at 3-year follow-up. Alexandra Johnstone (University of Aberdeen, UK) ended the day with data on factors associated with stress and obesity in shift workers and emergency responders.

This summit was a productive and information-packed event. The prominent themes across the 3 days were the urgency to effectively prevent and treat obesity in children and adults as an increasing worldwide health pandemic, the importance of cultural context for defining and addressing the problem, and the need for individualized multimodal approaches that target genetic/physiological, parenting/family and social (school, work environment, community) factors.

The 2016 Euroscicon Obesity Summit will take place from the 12 to 14 April 2016 [1].

#### Financial & competing interests disclosure

*The author has no relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript. This includes employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties.*

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#### Reference

- 1 2016 Euroscicon Obesity Summit. [www.regonline.co.uk/Obesity2016](http://www.regonline.co.uk/Obesity2016)