JOINT EVENT



12th International Conferences on Childhood Obesity and Nutrition

& 3rd World Congress on

Diabetes and Obesity

March 18-19, 2019 | Rome, Italy

Scientific Tracks & Abstracts Day 1

Childhood Obesity & Diabetes Conference 2019

SESSIONS

Childhood Obesity | Food addiction | New Directions in Obesity Treatment | Diabetes Mellitus

Chair: Nilly Shams, Alexandria University School of Medicine, Egypt Co-Chair: Cigdem Bozkir, Namık Kemal University, Turkey

SESSION INTRODUCTION

- Title: Association of intimate partner violence and poor child growth in a group of one year children Fatemeh Abdollahi, Mazandaran University of Medical Sciences, Iran
- Title: Prevalence of iron deficiency anemia and its effect on diet therapy in overweight and obese women Cigdem Bozkir, Namık Kemal University, Turkey
- Title: Benefits of exercise in taking control of diabetes mellitus and reducing the threats of cardiovascular diseases Mahesh B. Borhade, Person Memorial Hospital, USA
- Title: Traditional nutritional practices of postnatal women in Iran Fatemeh Abdollahi, Mazandaran University of Medical Sciences, Iran
- Title: Behavioral weight loss interventions, state of the science Nilly Shams, Alexandria University School of Medicine, Egypt



Day-1



3rd World Congress on Diabetes and Obesity

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Association of intimate partner violence and poor child growth in a group of one year children

Fatemeh Abdollahi

Mazandaran University of Medical Sciences, Iran

B oth intimate partner violence (IPV) and childhood obesity are growing public health epidemic. The role of adverse psychological exposures of IPV on obesity risk in children is poorly investigated. This study examine the impact of IPV on obesity risk in one year children. The present study investigate body mass index of 550 one year children whose mothers referring urban and rural areas' primary health care centers in Qonbad Kavos city and answered to World Health Organization IPV questionnaire, Perceived Stress Scale (PSS-14) and socio-economic, obstetrics and demographic characteristics related questions. BMI Z-Score is categorized in three grade: normal ($1\leq z<-2$), over weight ($1\leq z<2$), obese (≥ 2). The prevalence of obesity/overweight is reported. Data is analyzed using logistic regression models and munn-whitney to determine the association between IPV and obesity, stunting and wasting. At about 7.8% of children was overweight/obese according to BMI Z-Score. Moreover, a small number of children was found to be wasting and stunting (0.7% and 1.8% respectively). The prevalenc of physical, emotional and sexual IPV were 4.7%, 97.9% and 2.6% respectively. After adjusting for a rang of characteristics, there was found no significant diference between BMI Z-Score, stunting and wasting in children in two groups of women exposed to IPV and not. The prevalence of obesity/overweight, stunting and wasting in this group of children was low. Considering high prevalence of IPV, more attention is need to follow up this group of women to prevent subsequent consequences.

Biography

Fatemeh Abdollahi has completed her PhD from University Putra Malaysia, School of Medicine and Health Sciences. She is the Faculty member and Researcher in Mazandaran University of Medical Sciences. She is Head of Public Health Department and Director of Health Sciences Research Center, Addiction institute in Mazandaran University of Medical Sciences. She has published more than 30 papers in index journals on the *Maternal and Child Health*.

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Prevalence of iron deficiency anemia and its effect on diet therapy in overweight and obese women

Cigdem Bozkir Namık Kemal University, Turkey

Statement of the Problem: Anemia and obesity are defined as a public health problem by World Health Organization (WHO). It is reported that obesity and iron deficiency are related to each other. A multifactorial etiology has been reported, including decreased bioavailability of iron, its association with body weight and reduced iron absorption due to excessive adipose tissue. It has been reported that increased adipose tissue causes iron deficiency by decreasing iron absorption in women and children. The aims of this research are: detecting to prevalence of iron deficiency anemia (IDA) on overweight and obese women and on the effect of IDA on dietary treatment.

Methodology: The research group consisted of overweight (Body Mass Index (BMI)=25-29.9 kg/m²) and obese women (BMI \geq 30 kg/m²) who applied to Malatya Public Health Directorate Wellness Center. Overweight and obese women who accept to participate in the study were given medical nutrition (diet) treatment. The study group was followed up for 3 months within the scope of diet therapy program.

Findings: The prevalence of IDA was 61.7% in obese women and 38.3% in overweight women. It was observed that the frequency of IDA increased as the BMI level increased but the difference was not statistically significant. The total weight loss of women was examined as percentage, it was determined that those without anemia lost 13.68% of their body weight and 11.96% of those with anemia (p<0.05).

Conclusion & Significance: IDA was determined in 29.2% of women. At the end of 3 months, it was observed that the weight percentages of those without anemia were higher. IDA is thought to slow down the weight loss process due to its possible effects on metabolism. Therefore, the treatment of obesity and the lack of micronutrients such as anemia require a holistic approach.

Recent publications:

- 1. Bozkir C, Ozer A and Pehlivan E (2016) Prevalence of obesity and affecting factors in physically disabled adults living in the city centre of Malatya, BMJ Open 6(9):e010289.
- 2. Tekin C, Bozkir C, Karakas N and Gunes G (2016) The relation between the body perceptions and eating habits of the students in Inonu University. Journal of Turgut Ozal Medical Center 24(1):1-9.
- 3. Bozkir C, Tekin Ç, Mete B, Nacar E and Ozer A (2015) Communication Skills, Empathic Tendencies and Affecting Factors of Assistant Physicians in Inonu University Faculty of Medicine, Medicine Science Journal 4(3):2473-87.
- 4. Tekin C, Bozkir C, Sazak Y, Ozer A (2014) Family Physicians Working in the City Center of Malatya, Family Health Staff, Family Medicine Practices, Job Satisfaction Levels and Influencing Factors, Firat Medical Derg / Firat Med J; 19 (3): 135-139

Biography

Cigdem Bozkir has completed her PhD from Inonu University, Turkey and now she is the Assistant Professor of Namık Kemal University, Turkey. She has publications on nutrition and public health. She has participated as a speaker in many training sessions on nutrition, obesity, diabetes and other chronic diseases.

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Benefits of exercise in taking control of diabetes mellitus and reducing the threats of cardiovascular diseases

Mahesh B. Borhade Person Memorial Hospital, USA

Diabetes mellitus leads to macro vascular and micro vascular complications, resulting in life-threatening conditions. Exercise is considered an important therapeutic regimen for diabetes mellitus. Exercise in diabetic patients promotes cardiovascular benefits by reducing cardiovascular risk and mortality, assists with weight management, and it improves glycemic control. The increased tissue sensitivity to insulin produces a beneficial effect on glycemic control. Maintenance of the exercise program in patients with type 2 diabetes is an important goal because it is associated with long-term cardiovascular benefits and reduced mortality. Inter- professional team approach is crucial for Long term compliance of patients for exercise regimen. Primary care physicians and nursing professional, diabetes educators caring for patients play an important role in educating these patients of the importance of exercise regimen as a therapeutic option for the disease management. There have been studies which suggested simple behavioral counseling by clinicians and nurse educators during routine clinic visits gave encouraging results for increasing compliance, although long-term follow-up is needed. Exercise regimens are difficult to maintain for more than 3 months due to intense nature of the programs requiring extra visits for special classes. In a 10-year study of 255 patients with diabetes enrolled in a diabetes education program emphasizing exercise, the rate of compliance fell from 80% for 6 weeks to less than 50% for 3 months. The compliance rate further dropped to less than 20% at 1 year. A coordinated inter professional approach with educators working with clinicians will help to maximize compliance.

Biography

Mahesh Borhade MC, CHCQM-PHYADV is an American Board of Internal Medicine certified and certified by American Board of Quality Assurance & Utilization Review Physicians in Healthcare Quality & Management. He serves as a Medical Director at Person Memorial Hospital, Medical Director at Extended Care Unit a Nursing Home and as a Director for Utilization Review for Person Memorial Hospital, Roxboro NC, USA. He has extensive experience in acute inpatient and outpatient medical care for geriatric population with chronic medical comorbidities. He has been actively working in academics and research activities. He serves as a centific reviewer, editorial member, expert panel for population studies projects. He has worked as an Organizing Committee for international conferences before. His areas of interests are Endocrinology, Hypertension, Diabetes, Cardiovascular Disease, Public Health and Healthcare Quality and Management.

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Traditional nutritional practices of postnatal women in Iran

Fatemeh Abdollahi Mazandaran University of Medical Sciences, Iran

Nutrition has an important role in restore women' health during postnatal period. Much of the woman's behavior during theis period including nutritional practice is strongly influenced by her cultural background. This study was conducted to determine the traditional nutritional practices (TNP) among the postnatal women in Gonbad Kavous city, Northern Iran. In a descriptive study, the data was collected from 305 women between Aug to Oct 2014. Women attending primary health centers in rural and urban areas were recruited using randomized sampling method. A questionnaire on socio-demographic and TNP during postnatal period was administrated to the sample. Yes and no answers were summed up to calculate the total score ranging from 0 to 8. Data was analyzed using descriptive analysis and chi-square test. The total number of traditional practices ranged from 2 to 8 with the mean being 6.46±1.42. Majority of the women have eaten plenty of hot drink (95.1%), have avoided eating spicy food (87.2%), have eaten plenty of sweaty fatty food (85.6%), have eaten red sugar (Ghezel Shekar) (76.1%), have eaten Bulmagh (Oil+ Suger+Rice powder) (73.1%) and have avoided eating red meat (61.3%). There was no significant difference between TNP and socio-demographic characteristics. TNP was quite high among postnatal women in this study. As information on safety of these practices is limited, health care practitioner should be aware of such practices and asked mothers about it.

Biography

Fatemeh Abdollahi has completed her PhD from University Putra Malaysia School of Medicine and Health Sciences. She is the Faculty Member and Researcher in Mazandaran University of Medical Sciences. She is Head of Public Health Department and Director of Health Sciences Research Center, Addiction Institute in Mazandaran University of Medical Sciences. She has published more than 30 papers in index journals on the *Maternal and Child Health*.

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Behavioral weight loss interventions, state of the science

Nilly Shams Alexandria University School of Medicine, Egypt

The optimal management of overweight and obesity starts with a combination of diet, exercise, and behavioral modification. Behavioral treatment of obesity is a standard part of most treatment programs. The goal of this approach is to help patients make long-term changes in their eating behavior. A principal determinant of weight loss appears to be the degree of adherence to the program. Thus, patient preference is an important consideration when recommending any behavioral weight loss program. Let's close the loop and apply behavioral modification for long term maintenance of weight loss.

Biography

Nilly Shams has completed her PhD from High Institute of Public Health, Alexandria University and Nutrition and Public Health Masters Alexandria University School of Medicine. She is the Vice President of Clinical Nutrition Department Elite Hospital. She is the President of the Egyptian Nutrition and Health Coaching Association. She had her Health Coaching Certificate from Institute of Integrative Nutrition, USA.

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Day-1

SESSIONS

Childhood Obesity | Food addiction | New Directions in Obesity Treatment | Diabetes Mellitus

Chair: Angelo Michele Carella, T. Masselli-Mascia" Hospital, San Severo (Foggia) - Italy **Co-Chair: Cigdem Bozkir,** Namık Kemal University, Turkey

SESSION INTRODUCTION

- Title: Association of post-partum depression and child health problems Fatemeh Abdollahi, Mazandaran University of Medical Sciences, Iran
- Title: GPR40 as a template for the development of new insulin secretagogues with wound healing properties Gabriele Carullo, University of Calabria, Italy





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Association of post-partum depression and child health problems

Fatemeh Abdollahi Mazandaran University of Medical Sciences, Iran

There is evidence of the harmful effects of post-partum depression (PPD) on children's health in developed nations. There is no long-term follow-up study on this relationship in a developing nation. This study aimd to investigate the health problems of four-year-old children born from post-partum depressed women. In a longitudinal study design (2009), 1,801 pregnant women attending primary health centers of Mazandaran province provided selfreports of depression from two to twelve postpartum weeks using Edinburgh Postnatal Depression Scale (EPDS). Approximately four years later, the women experiencing PPD and twice as the ones who did not experienced this state were considered as case (N=204) and control (N=467) groups. The association between maternal depression at different times and health problems reported on the child were analyzed using two sample t-test, and chi-square test. There was no significant difference between the baseline characteristics of post-partum depressed and nondepressed women. The women with post-partum depression only or both depression post-partum and four years after delivery were less likely breast feed their baby compared with the ones without depression (18.79±6.99, 18.01±7.75 and 19.66±5.64, 19.58±5.82 months respectively). The women with PPD only and current depression as well as both PPD and current depression had more likely child with acute and chronic diseases and their child used more daily medication four years after birth than the baby of depressive symptoms free women. These complications rate was highly significant in the children whose mothers have experienced both PPD and current depression. These results highlight this fact that early and late exposure to maternal depression led to children with more difficulties. Screening of maternal depression early after giving birth is recommended.

Biography

Fatemeh Abdollahi has completed her PhD from University Putra Malaysia School of Medicine and Health Sciences. She is the Faculty Member and Researcher in Mazandaran University of Medical Sciences. She is Head of Public Health Department and Director of Health Sciences Research Center, Addiction Institute in Mazandaran University of Medical Sciences. She has published more than 30 papers in index journals on the *Maternal and Child Health*.

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GPR40 as a template for the development of new insulin secretagogues with wound healing properties

Gabriele Carullo University of Calabria, Italy

ree Fatty Acid Receptors, belonging to GPCRs family, are emerging as new targets to treat diabetes or related disorders, representing a versatile family of receptors, activated by fatty acids contained in vegetable oils. In this context, extra-virgin olive oil is a "natural anti-diabetic agent", favoring GLP-1 secretion from pancreas. Its principal component, olive oil is the endogenous ligand of FFAR1/GPR40. This receptor is highly expressed in pancreatic β -cells, where its activation promotes insulin secretion. Starting from oleic acid, which is able to promote glucose-stimulated insulin secretion (GSIS) at lipo-toxic doses, new hybrid derivatives of oleic acid with quercetin were designed and synthesized. 2-(2,2-diphenylbenzo[d][1,3]dioxol-5-yl)-5,7-dihydroxy-4-oxo-4H-chromen-3-yl oleate (AV1) was synthesized in order to prevent C3-OH auto-oxidation of quercetin and obtained in good yield. Docking simulations demonstrated that AV1 could be accommodated within the long transmembrane crevice of the receptor. These data suggested for the first time that this binding site could recognize exogenous ligands. AV1 was able to evocate insulin release (EC50=5 μ M) by both pancreatic islets and in vitro β -cells system (INS-1 832-13). Furthermore, Quercetin-3-oleate (AV2) was synthesized through a green synthesis and was able to favor GSIS at higher concentrations than AV1 (EC50=21µM). Functional assays, conducted by using DC260126 as known antagonist, demonstrated that AV1 is a full GPR40 agonist, whilst AV2 is a partial agonist. AV2 was also assayed for its wound healing properties in HaCaT cell line (stably expressing GPR40). AV2 was able to promote wound healing at very low concentration (10 nM), enhancing the production of TGF-β. Moreover, in THP-1 monocytes, AV2 was able to promote IL-6 production, not affecting IL-1 β or TNF- α . These data confirmed that AV2 could be used as a suitable tool in the management of Type 2 Diabetes Mellitus, limiting lipotoxicity due to excessive GPR40 activation and especially in diabetic foot ulcer.

Biography

Gabriele Carullo has his expertise in green chemistry and development of hybrid compounds for the development of interesting pharmacological tools. In particular, he is developing new polyphenols-fatty acids hybrids as new GPR40/GPR120 ligands in order to treat type 2 diabetes and its comorbidities. In addition, he works on the development of new antihypertensive agents starting from flavonoids as a surge of KCa1.1 and Cav1.2 channel modulators. His pharmacological research is also devoted to the production of new functional foods, for the treatment of hypertension and diabetes, starting from flow asses.

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Video Presentations

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Glucose toxicity: The worldwide problem and the all-natural solution

John F. Burd Lysulin, Inc., USA

Glucose toxicity is an epidemic problem leading to the insulin resistance and the development of obesity, prediabetes and Type 2 diabetes in both children and adults. In addition to poor health and early death, this is costing our healthcare systems a fortune to treat diabetes and its complications. Glucose is not a passive bystander in our bloodstream but is a toxic and reactive compound. Glucose reacts with all of the proteins in our body forming Glycated Proteins. These glycated proteins progress to become what is known as Advanced Glycation End-products Advanced Glycation End-products or AGEs. These AGEs are known to be the culprits in the disease complications associated with diabetes including kidney failure, blindness, amputations and cardiovascular disease. Protein glycation is also be the cause of insulin resistance. Insulin resistance not only leads to high blood glucose levels in our bloodstream, but also leads to insulin depletion. When this happens, we may have to resort to injection of insulin in an attempt to keep our blood glucose levels in the normal range. There is now an all-natural solution to the glucose toxicity problem. In over 20 years of R&D and clinical studies, nutritional supplements have been proven to combat glucose toxicity. Three important supplements having this ability are the Lysine, zinc and vitamin C. Combining these three important supplements into one tablet makes a powerful weapon to combat glucose toxicity and protein glycation. This weapon is Lysulin[®]. Unlike the available prescription drugs for type 2 diabetes which are directed at the symptoms of diabetes (high blood glucose), Lysulin is the first product directed at the problem, which is glucose toxicity and protein glycation. Clinical studies have proven that Lysulin lowers HbA1c better than the vast majority of prescription drugs. Current therapy for type 2 diabetes and the history of studies proving the effectiveness of Lysulin will be presented along with recent data from double blind placebo controlled studies with Lysulin.

Biography

John F. Burd is Founder & CEO of Lysulin, Inc, and has launched an all-natural, scientifically proven nutraceutical product proven to improve the health of people with diabetes. He was also the cofounder of Sabur Technology, Inc., developing a new non-invasive continuous glucose monitoring technology. Prior to Sabur, He was a General Partner of Windamere Venture Partners. He was previously President & CEO of DexCom, now the leader in continuing glucose monitoring for people with diabetes. He has authored over 40 publications and holds 35 patents. He graduated from Purdue University with a B.S. in Biochemistry, and earned an M.S. and Ph.D., also in Biochemistry, from the University of Wisconsin. In 2010, he was inducted into the American Association of Clinical Chemistry Hall of Fame and received the Ullman Prize for innovation in clinical chemistry.

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From weight management via diabetes control to cardiovascular risk reduction

Gerald C. Hsu eclaire MD Foundation, USA

Introduction: Since 1997, the author has been diagnosed with obesity, type 2 diabetes (T2D), hypertension, hyperlipidemia, and suffered five cardiac episodes. He spent 20,000 hours since 2010 to study and research his chronic diseases in order to save his own life. This abstract tells his story.

Method: He created a math-physical medicine approach, instead of using the traditional biochemical method, to conduct his research. Initially, he defined inter-relationships among 11 categories and 500 elements of a human metabolism system. He collected and processed 1.5 million data of his lifestyle details and medical conditions. Furthermore, utilizing physics, mathematics, engineering modeling, and artificial intelligence (AI), he developed four prediction models with 99% accuracy, including weight, fasting plasma glucose, post prandial glucose, and hemoglobin A1C. Finally, he developed a risk probability calculation model of having heart attack or stroke.

Results: From the period of 2013-2018, he has reduced his weight from 220 lbs. to 167 lbs., waistline from 44" to 32", and BMI from 33.1 (obese) to 24.7 (normal). Based on his acquired knowledge, he developed AI-based prediction tools to reduce his average glucose value from 279 mg/dL to 116 mg/dL, A1C from 10% to 6.5%. Since 2016, his hypertension and hyperlipidemia are no longer health concerns along with dropping his cardiovascular risk from 74% to 31%.

Conclusion: Over eight years, the author was able to control his weight and T2D along with greatly reducing his cardiovascular risk. In addition to his willpower and persistence, his diligence in acquiring medical knowledge from reading hundreds of textbooks and medical papers has assisted him. More importantly, his knowledge from other disciplines in mathematics, physics, engineering, statistics, computer science, and technology have provided him the necessary tools.

Biography

Gerald C. Hsu received an honorable PhD in mathematics and majored in engineering at MIT. He attended different universities over 17 years and studied seven academic disciplines. He has spent 20,000 hours in T2D research. First, he studied six metabolic diseases and food nutrition during 2010-2013, then conducted research during 2014-2018. His approach is "math-physics and quantitative medicine" based on mathematics, physics, engineering modeling, signal processing, computer science, big data analytics, statistics, machine learning, and Al. His main focus is on preventive medicine using prediction tools. He believes that the better the prediction, the more control you have.

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Young Research Forum

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Concurrent prebiotic supplement reverses hyperinsulinemia induced by early-life pulsed antibiotic in rats

Klancic T¹, Wong J¹, Choo A C¹, Nettleton J E¹, Chleilat F¹, Laforest-Lapointe I¹ and Reimer R A^{1,2} ¹University of Calgary, Canada ²Cumming School of Medicine, University of Calgary, Canada

Background: Early life exposure to antibiotics increases risk of obesity. Prebiotics improve metabolic health and reduce fat mass. Our aim was to examine if early postnatal prebiotic supplementation when co-administered with antibiotic can reduce obesity risk in metabolically challenged offspring.

Methods: 10 week old female Sprague-Dawley rats (n=20) were mated and their pups were cross-fostered when 19 days old. Dams with their litters were randomized to: 1)control [C], 2)antibiotic [A] (azithromycin; dose 10mg/kg/ day), 3)prebiotic [P] (10% oligofructose (OFS) oral suspension/diet), 4)antibiotic+prebiotic [A+P] and 5)lean conrol [LC]. The first pulse of antibiotics/prebiotics was administered before weaning from d19-21 of life through a feeding dropper. Animals were weaned onto a high fat high sugar diet (HFS), with prebiotic groups (P and AP) containing 10% OFS in their diet. Prebiotic groups remained on the diet until the last pulse of antibiotics. The second and third pulse of antibiotic were given d29-31 and d38-40, respectively. Body weight was assessed weekly, fecal samples were collected repeatedly and tissues and blood were collected at sacrifice (wk7 and wk10). Insulin tolerance test (ITT) was performed wk9 of life.

Results: Males and females given antibiotics(A) had higher body weight than any other group; in females (A) higher fasting glucose, insulin and leptin was detected after the third pulse of antibiotics (wk7) when compared to P and AP group and ITT revealed insulin resistance compared to other groups. Similarly, males were insulin resistant compared to P and AP groups, with higher fasting insulin levels. Calculation of homeostatic model assessment of insulin resistance (HOMA-IR) confirmed insulin resistance in males and females. Longitudinal microbiota and hypothalamic/hepatic gene expression analysis is ongoing.

Conclusion: Therapeutic doses of antibiotic administered to rats mirrored the concentration commonly used for human children for an acute infection. Antibiotics increased body weights, impaired insulin production and insulin sensitivity, but the effects were reversed with prebiotic co-administration.

Biography

Klancic T has completed her BSc in Scotland, she pursued her MSc in Nutrition and Biomedicine in Germany. In 2015 she joined Dr. Reimer's laboratory in Calgary, where she is currently completing her PhD in Nutrition, Metabolism and Genetics. Her goal is to become an expert in the application of nutrition and metabolism to obesity, and conduct research on novel methods of improving maternal and child metabolic health.

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Modification of inflammation with probiotic intake in obese children

Marie Gombert University of Valencia, Spain

Introduction: Low grade inflammation is one of the main characteristic associated to obesity, and participates to the development of numerous comorbidities. The gut microbiota has been evidenced to interact with the host metabolic and inflammatory condition. We investigated the effect of an alimentary supplementation of *Bifidobacterium pseudocatenulatum* CECT 7765 on different elements of obese children health: gut microbiota global composition, inflammatory cytokines and cardiometabolic risk factors.

Methods: The study included 48 obese children with insulin resistance. They received dietary recommendations and a capsule of probiotic (10 CFU) or placebo daily for 13 weeks. Clinical, biochemical and gut microbiome measurement were made at baseline and at the end of the intervention.

Results: All children displayed body mass index (BMI) improvement consecutive to the intervention. Probiotic intake impacted gut microbiota, increasing the proportion of Rikenellaceae family, particularly the *Alistipes genus*. Regarding metabolic and inflammatory parameters, the children who received the probiotic displayed significant decrease in circulating high-sensitive C-reactive protein (P=0.026), and monocyte chemoattractant protein-1 (P=0.032) and an increase in high-density lipoprotein cholesterol (P=0.035) and omentin-1 (P=0.023) in comparison with the children who received the placebo.

Conclusion: The positive impact of the intervention on the BMI of all children reveals the benefits provided by the dietary changes. By complementing this intervention with the intake of *B. pseudocatenulatum* CECT 7765, a modification of the gut microbiota has been obtained, with an increase of bacterial groups associated to lean phenotypes. In parallel, those children displayed a greater improvement on inflammatory status and metabolic health. Our results suggest that modulation of gut microbiota with probiotic to be an effective tool to ameliorate obesity-related alterations in children.

Biography

Marie Gombert has completed her Bachelor degree in Biochemistry from the University of La Rochelle (France) and a Master degree in Digestive Health and Nutrition from the University of Toulouse, France. She is currently studying childhood obesity, in particular the relationship between circadian rhythms and metabolism, during her PhD in the laboratory of pediatrics of the University of Valencia, Spain. She is co-author of three reviews related to the topic of her PhD.

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Alteration in melatonin profile associated to metabolic impairment in childhood obesity

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Introduction: Circadian rhythms are the changes in biological processes occurring on a daily base, among them, the reactions involved in the metabolic homeostasis. Melatonin is the main circadian hormone, with increased levels at night. Impairment in circadian rhythms is evidenced by altered melatonin expression, and in adult age, this condition is associated to metabolic dysregulations.

Methods: One group of obese children and a control group were constituted based on their BMI percentile for age and sex. The variations of the main circadian hormone, melatonin are assessed in saliva by immunoassay. Blood sample is collected for basal biochemistry, complemented with leptin and omentin quantification by immunoassay with Luminex technology. Life habits are assessed by self-reported questionnaires. Preliminary results on 14 patients (7 obese and 7 controls).

Results: The children from the obese group displayed poorer metabolic characteristic and increased inflammation markers: C-reactive protein, Gamma-glutamayl transferase, albumin are altered. In the control group, melatonin in saliva increased during the evening (+20.46±16.1), whereas in the obese group, the melatonin profile was altered and globally decreased (-3.05±28.4).

Conclusion: In conclusion obesity seems to be associated with circadian rhythm impairment even at a young age. The continuation of this study, in association with other studies investigating circadian rhythms and health during childhood will facilitate the development of life habits prevention campaigns, adapted to the children physiology and development.

Biography

Martin-Carbonell V is currently pursuing her PhD in Physiology from University of Valencia. She has completed University degree of Nutrition from Valencia University and Master degree in Pediatric Nutrition from Granada University. She has received best abstract in the International Health Days, Granada 2017. Title "Libro de Résumenes-Book of abstracts I Jornadas Internacionales de Actualización del Conocimiento Ciencias de la Salud" ISBN: 978-84-15450-26-9. She got her abstract certificate for Shorter sleep associated with higher energy intake-Preobe study in 9TM Biannual Early nutrition Project Meeting, Granada, May 2016. She has volunteered in the 42nd Annual Conference of the International Society for Pediatric and Adolescent Diabetes, Valencia in 2016.

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