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10<sup>th</sup> International Conference on  
**Childhood Obesity and Nutrition**  
&  
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June 12-13, 2017 Rome, Italy

# Posters

*Childhood Obesity & Bariatric Surgery 2017*

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**Empowering youth to reduce sugar-sweetened beverage consumption through a place-based initiative**

Vanessa Salcedo<sup>1</sup>, Paulo R Pina<sup>2</sup> and Roberts Calpurnya<sup>3</sup>

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**Background:** Residents of underserved communities, especially Blacks and Latinos, are disproportionately targeted by big soda companies. Youth participation in place-based initiatives at worksites could prove useful in countering such marketing.

**Methods:** In 2015, 33 youth were participated a six-week summer employment program at an urban federally qualified health center (FQHC) assisted in the launch of the “Sugar Sweetened Beverage (SSB) Free Zone” at the FQHC. Through a train-the-trainer approach, youth received a formal education on SSBs; the youth created and implemented activities to educate and encourage staff along with patients to drink water and reduce their consumption of SSBs; in addition, the youth modeled positive SSB behavior throughout the health center.

**Results:** The youth were 16.5±2.0 years, 80.7% were female, 51.5% were Black, and 61.3% were Latino (n=31) showed that a greater proportion of youth correctly identified the sugar content of soda (57.6% to 87.1%; p-value=0.0087) and that SSBs were related to liver disease (57.6% to 90.3%; p-value 0.0030). The frequency of drinking Iced-T (54.5% to 29.0%; p-value=0.0389) decreased significantly. The proportion of youth motivated to consume water several times per day nearly tripled from 12.1% to 35.5% (p-value=0.0275) and nearly all youth considered drinking less SSBs next year (66.7% vs. 96.7%; p-value=0.0025).

**Conclusion:** Involvement in a healthy beverage worksite environment may improve youth knowledge of SSBs, decrease consumption of some SSBs, and increase consumption of water. A relatively short worksite place-based initiative may result in favorable healthy behavioral changes and intentions among youth.

**Biography**

Vanessa Salcedo completed her Medical Degree and Master's Degree in Public Health at George Washington University. After medical school, she became a Fulbright Scholar where she conducted research on the growing prevalence of childhood obesity in Spain. Subsequently, she completed her Residency in Pediatrics at Columbia University Medical Center. During Residency, she was selected as a New Century Scholar from the Academic Pediatric Association while also serving as Chair of the Council of Residents and Board Member of the National Hispanic Medical Association (NHMA). She is a community-academic Pediatrician at Union Community Health Center, a Federally Health Qualified Center in Bronx. She is an Assistant Professor of Pediatrics at City University of New York (CUNY) School of Medicine. Her research interest includes “Leading the development and implementation of childhood obesity prevention strategies specifically through healthy beverage initiatives”.

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**Intracranial lesions in children and adolescents with morbid obesity****Törel Ergür and Sevinç Odabaşı Güneş**  
Kırıkkale University, Turkey

**Background:** Intracranial lesions (ICL) may effect hypothalamo-hypophyseal axis and lead to some neuro-endocrinological dysfunctions (hyperphagia, sleep disorders and hormonal dysfunctions). There is very limited study about childhood obesity and ICL.

**Aim:** Purpose of this study is to evaluate the incidence of ICL and their role in clinical symptoms and etiology in cases with morbid obesity (MO), who has admitted to the pediatric endocrinology department with this complaint.

**Method:** 120 cases admitted to the pediatric endocrinology department with the complaint of MO in between 2002-2015 were included in this study. Detailed history and physical examination was performed, biochemical, hormonal parameters were evaluated. Contrast dynamic magnetic resonance imaging (CDMRI) was performed in order to visualize cranial pathologies.

**Results:** 16.6% of the patients had an ICL and 55% of these lesions were adenoma of the hypophysis. Prolactin levels were increased in the six patients but front hypophyseal hormone levels were in between normal range in the rest of the patients. Growth velocity of the patients was not affected.

**Conclusion:** In our study, incidence of ICL in children and adolescents with MO was much higher than normal population. It's an important finding that increment in body weight and body mass index appeared before clinical symptoms (especially decrement in growth velocity) in these cases. According to this data, we are of opinion that CDMRI is helpful in children with MO for early detection of the mass before it causes any clinical or neurological symptoms and prevention of future complications.

**Biography**

Törel Ergür is Director of Pediatric Endocrinology. Her research interests include "Obesity, subclinical hypothyroidism, short stature, disorders of puberty, polycystic ovary syndrome, and hyperandrogenism in adolescents". She completed her Under-graduation in Medicine at Cumhuriyet University, Faculty of Medicine, Turkey; Graduation in Pediatric Endocrinology at Ankara University, Faculty of Medicine, Turkey and; Master's degree in Pediatrics at Cumhuriyet University, Faculty of Medicine, Turkey. She is a member of Association of National Pediatrics, Association of Pediatric Endocrinology and Diabetes. She received International KIGS Award in 2010, Vienna, Austria.

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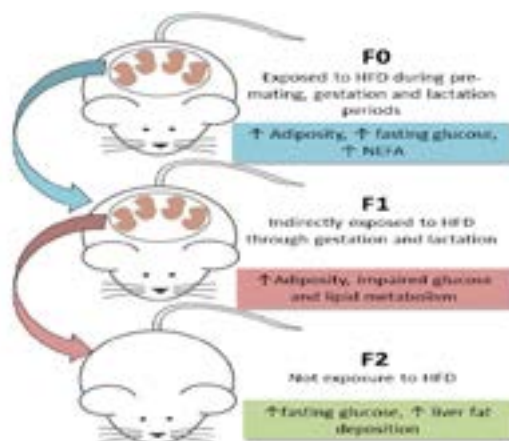
**Maternal obesity leads offspring to alterations in miRNA expression and metabolic phenotype and negatively impacts in glucose and lipid homeostasis of F2 generation**Lais Simino, Mancini M, Panzarin C, Fontana M F, Milanski M, Torsoni M A, Lgnacio-Souza L M and Torsoni A S  
State University of Campinas, Brazil

**Background & Aim:** Changes in nutritional status in embryonic development and lactation period, as an excessive caloric intake, may lead to a phenomenon known as metabolic programming. Moreover, recent studies have shown that maternal obesity can have transgenerational effects, affecting not only the F1 generation, but also future generations. These effects, transmitted across generations, can be triggered by epigenetics mechanisms, such as miRNA expression. The miRNA Let-7 is shown to be involved in glucose homeostasis and here, we aimed to evaluate its expression in the liver of F1 offspring from obese mothers and the impacts of its modulation to the F2 generation.

**Methods:** Female Swiss mice were fed with a HF or control diet for an adaptation period and through gestation and lactation. Weaned offspring received control diet until d28. Part of female offspring remained in control diet until mating to generate F2 offspring, which were weaned and received control diet until d28.

**Results:** After the adaptation period, F0 females that consumed a HFD were divided in two groups: Obese prone (OP) or obese resistant (OR), according to their weight gain. OP presented higher body weight, adiposity, serum glucose and NEFA than OR. Male and female offspring from OR and OP (OR-O and OP-O) showed an increase in body weight and adiposity at d28, but OP-O presented impaired glucose tolerance and insulin sensitivity, besides higher serum lipid biomarkers. F1 OP-O also had an overexpression in hepatic Let-7 and down-regulation of AMPK, a predicted mRNA target of this miRNA. F2 offspring showed no alteration in body weight and adiposity, but F2 OP-O presented higher fasting glucose as early as d0 and d28, and an elevated liver fat content.

**Conclusion:** Nutritional overload in critical periods of development leads offspring to epigenetic changes that may have transgenerational negative impacts.



**Figure 1:** Summary of the experimental design and results found in the present study.

**Biography**

Lais Simino is a Nutritionist and pursuing her PhD at State University of Campinas – UNICAMP. She belongs to the Obesity and Comorbidities Research Center (OCRC) and Laboratory of Metabolic Diseases, a laboratory that has been specializing in fetal programming research, especially triggered by maternal consumption of high fat diets.

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**The determination of the dietary interventions that lead to effective weight management in overweight and obese children and adolescents aged 5 -18 years old: A systematic review****Abrar Alshahrani, Amanda Avery and Carol Raff**  
University of Nottingham Sutton Bonington Campus, UK**Background:** The incidence of childhood obesity is increasing rapidly and has become a major public health concern. Diet plays an important role in the successful treatment and management of obesity. However, what is effective for practice is limited.**Aim:** Aim of the study is to determine the optimal long term evidence on the most effective dietary intervention/s which lead to successful weight management in overweight or obese children and adolescents aged 5 to 18 years.**Method:** Literature published in English language dated from 2005 until 2015 was searched using the following electronic databases: PubMed, ISI Web of Science, CINAHL, EMBASE, Cochrane Library and Dare.**Selection Criteria:** Studies assessed the efficacy of dietary interventions to treat or manage overweight conditions and obesity for the follow-up period of  $\geq 6$  months, in children aged 5 to 18 years who were defined as overweight or obese (overweight:  $\geq 85^{\text{th}}$  [ $\pm 1\text{SD}$ - $\leq \pm 2\text{SD}$ ] and obese:  $\geq 95^{\text{th}}$  [ $> +2\text{SD}$ ]) and studies reported BMI z scores or percentage of body fat as their primary outcome.**Data Collection:** The author and two reviewers searched the databases independently to identify studies for retrieval and assessed each article for inclusion. Cochrane risk of bias assessment tool was used to assess the methodological quality for each study by the author and two reviewers independently.**Results:** There were nine controlled studies that met the inclusion criteria. The interventions that include dietary components result in significant weight loss. Family based lifestyle interventions including the dietary component which focuses on encouraging healthy eating, increased fruit and vegetable intake in addition to physical activity and behavior therapy are useful elements for the treatment and management of childhood obesity.**Conclusions:** The results suggest that children in family based lifestyle modification interventions which included a dietary component, achieved significant weight change. However, specific details and adequate descriptions on the dietary interventions, diet-specific outcomes as well as the dietary adherence are needed to inform best practice.**Biography**

Abrar Alshahrani completed his BSc and MSc in Clinical Nutrition. Currently, he is a PhD student at University of Nottingham in Nutritional Science.

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**Strapless laparoscopic sleeve gastrectomy: Reasoning and technical insights****Matteo Catanzano**

Aberdeen Royal Infirmary, UK

**Introduction:** Laparoscopic sleeve gastrectomy (LSG) with staple line reinforcement (SLR) is a popular and safe treatment option for morbid obesity, yet its benefits remain inaccessible to many, especially in developing countries, due to the high cost of the equipment required.

**Objective:** The objective is to devise and describe a modified, strapless laparoscopic sleeve gastrectomy that is as safe as standard LSG with SLR, but costs less.

**Methods:** Analysis of the influence of technical adaptations on the outcome of LSG was performed in a case-series of 3 patients. The main modification adapted was performing the closure of the stomach strapless. The primary analysis was the occurrence of leak post-operation. The secondary analyses were: operative time, prolonged hospital stay, % excess weight loss at 6 months and 12 months.

**Results:** Median operative time and hospital stay were 132 min and 2 days. No post-op leaks were recorded. The median excess weight loss at 6 months was 39% and at 1 year 57.7%.

**Conclusion:** Strapless LSG is an affordable alternative to the standard LSG techniques, both in terms of financial costs and complications rate.

**Biography**

Matteo Catanzano has completed his MBChB from the University of Glasgow. Currently, he is pursuing his training as a part of the Bariatric Surgery team in the Aberdeen Royal Infirmary, UK.

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## Evaluation of nutritional status using anthropometric measurements in Turkish preschool children

Başak Koca Özer, Ayşegül Özdemir, Sibel Önal and Cansev Meşe  
Ankara University, Turkey

Anthropometric methods are frequently used in clinical and field surveys for determining nutritional status in children due to its practical usage. Upper arm anthropometry study is an important metric analysis of body composition and determination of nutritional status through the assessment of subcutaneous fat mass and muscle mass and evaluation of body fat and protein reserves. Present study was conducted on 896 (447 boys and 449 girls) preschool children between 3-6 years of age from Ankara belonging to different socio-economic backgrounds, to determine the nutritional status using anthropometric measurements. According to the International Biological Program, height, weight, upper arm circumference and triceps skin fold thickness measurements were taken. Body mass index (BMI) evaluated using z scores according to the World Health Organization (WHO) cut-off criteria, and the upper arm muscle area (AMA) and the upper arm fat area (AFA) were calculated. Results showed that height and weight were statistically different between sexes for earlier ages 3 and 4 years, and the difference between sexes were prominent at age 3 for AMA and at age 5 for AFA ( $p < 0.001$ ). Boys had higher values than girls in terms of muscle percentage, while girls were found to be more pronounced with the higher ratio of fat. However, tendency of being overweight and obesity was more prominent for boys, where stunted boys were also evident at ages 4 and 5. According to the present data, higher degree of sexual dimorphism can lead us to different practicing of child care in Turkish population and boys being more eco-sensitive.

### Biography

Başak Koca Özer completed her DSc degree from Kyoto University. She is a Physical Anthropology Professor at Ankara University, Faculty of Languages, History and Geography. She has been researching in areas related to anthropometry, secular changes, auxology, nutrition, health and well-being.

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**Implications of the relationship between high gestational weight gain and childhood obesity for health care professionals****Cynthia Murray**

Memorial University of Newfoundland, Canada

Babies born to pregnant women who exceed gestational weight gain guidelines are at greater risk of being large for gestational age (LGA) at birth. High gestational weight gain and LGA are associated with obesity in childhood and later in life. Prevalence rates of high gestational weight gain and childhood obesity are increasing in many countries worldwide. While gestational weight gain is complex and multifactorial, high weight gain in pregnancy is considered to be a modifiable risk factor for macrosomia. With a better understanding of pregnant women's perspectives of their experiences of high gestational weight gain, health care professionals could be more informed in their efforts to promote healthy gestational weight gains. The experience of over-gaining in pregnancy can involve confusion from the perspective of pregnant women who have had the experience. Pregnant women with high gestational weight gain have reported receiving mixed messages from their health care providers about their weight gain. Researchers have also found a lack of knowledge concerning the topics of healthy eating and weight gain among low-income overweight or obese pregnant women who were over-gaining. Furthermore, pregnant women report feeling ambivalent about gaining weight: they recognize the need to gain weight, yet they do not welcome the weight due to societal attitudes about weight and ideals of feminine beauty. In their efforts to promote healthy weight gains for pregnant women and their children, health care professionals need to be supportive and provide direct and clear messages to pregnant women about medical guidelines on healthy weight gain ranges.

**Biography**

Cynthia Murray completed her BN and MN at Memorial University of Newfoundland, Canada and PhD in Nursing at University of Alberta in Edmonton, Canada. She is an Associate Professor at Memorial University of Newfoundland, School of Nursing. Her areas of research include "Weight and health during pregnancy and childhood".

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**The association between low gestational weight gain and childhood obesity: Some pragmatic implications for health care professionals****Cynthia Murray**

Memorial University of Newfoundland, Canada

Research demonstrates a link between low maternal weight gain in pregnancy and small for gestational age (SGA) births. Babies who are SGA at birth have a higher risk for obesity in childhood. Approximately 20% of pregnant women are under-gain in pregnancy. Low gestational weight gain is recognized as a modifiable risk factor for SGA births, while it is also acknowledged that there is a multifactorial nature to maternal weight gain during pregnancy. Insights into pregnant women's perceptions of their low gestational weight gain experiences could assist health care professionals in working with pregnant women who are under-gaining. In qualitative studies, pregnant women or new mothers have downplayed or were not aware of the health implications of gaining outside of medical weight gain guidelines. From the viewpoint of pregnant women, qualitative data revealed that gestational weight gain was a neglected area of prenatal counseling by health care providers. Health care professionals ought to inform pregnant women about: the medical guidelines concerning recommended gestational weight gain ranges; and the health risks associated with gaining outside of the medical recommendations.

**Biography**

Cynthia Murray completed her BN and MN at Memorial University of Newfoundland, Canada and PhD in Nursing at University of Alberta in Edmonton, Canada. She is an Associate Professor at Memorial University of Newfoundland, School of Nursing. Her areas of research include "Weight and health during pregnancy and childhood".

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**No association between LEPR Q223R and plasma leptin level in Caucasian female adolescents**

Kseniia Dmitrievna levleva, Ekaterina A Sheneman, Tatyana A Bairova and Lubov V Rychkova  
SC FHHRP-Siberian Branch of the Russian Academy of Sciences, Russia

**Statement of the Problem:** The hormone leptin are involved in regulation of energy metabolism. Effect of the leptin carried out through binding to its receptor in target tissues. Many polymorphisms of LEPR gene were found out including Q223R (Gln223Arg). This polymorphism produces molecular changes in extracellular region of the LEPR. Several studies showed the association of polymorphism with obesity and leptin level in adult and adolescent samples. However, some studies showed no association.

**Methodology & Theoretical Orientation:** A total of 128 Caucasian female adolescents living in Eastern Siberia (Irkutsk city, Russia) were observed. 59 of them were included in control group (average age 15.72±0.93; SDS BMI 0.84±0.55) and 69 adolescents with overweight and obesity was in main group (average age 16.04±1.07; SDS BMI 2.52±0.72). Plasma leptin level (PLL) was determined using commercially available enzyme-linked immunosorbent assay (LEPTIN ELISA kit, DBC, Canada) with an absorbance microplate reader MultiSkan ELX808 (Biotek, USA). Genomic DNA was extracted from EDTA-treated whole blood by commercial kits (DNA-Sorb-B, AmpliSens, Russia). Genotyping LEPR Q223R was performed using polymerase chain reaction (Eppendorf Mastercycler Gradient PC, Germany) with electrophoresis detection. Statistical analysis was performed by soft "STATISTICA8.0".

**Findings:** The plasma leptin level was significantly higher in main group (50.57±16.06) than in control group (23.91±14.13) (p<0.001). G-allele frequency was 43.1% in control and 40% in main group (p=0.862). Comparisons of the meaning circulating leptin levels stratified by LEPR Q223R genotype showed in table 1. We didn't find significant differences of leptin level between carriers of AA, AG and GG genotypes in both groups.

**Conclusion & Significance:** Thus, The plasma leptin level is increased in female adolescent with overweight and obesity. There is no significant association of LEPR Q223R with plasma leptin level and obesity in Caucasian female adolescents living in Eastern Siberia.

Group	Leptin level (j)			P-value
	QQ (1)	QR (2)	RR (3)	
Control	21,99 ±15,61	22,7 ±8,27	28,05 ±16,07	P <sub>1,2</sub> =0,83 P <sub>1,3</sub> =0,47 P <sub>2,3</sub> =0,44
Overweight and obesity	53,30 ±25,40	47,63 ±26,48	50,57 ±33,67	P <sub>1,2</sub> =0,55 P <sub>1,3</sub> =0,78 P <sub>2,3</sub> =0,68

Table 1. Plasma leptin level stratified by LEPR Q223R genotype in studying groups

**Biography**

Kseniia Dmitrievna levleva finished the Faculty of Medical Biochemistry, Irkutsk State Medical University in 2014. In 2015, she got the certificate of Doctor of Laboratory. Now, she is a Post-graduate student in Scientific Centre for Family Health Problems and Human Reproduction. Her present study aims to "Examine the role of heredity in the development of obesity in adolescents living in Eastern Siberia".

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**Hypovitaminosis D in overweight/obese children, residents of a low-income community, on the Southeast of Brazil**

**Pollyanna Fernandes Patriota, Andrea Filgueiras, Maria Paula de Albuquerque and Ana Lydia Sawaya**  
Federal University of São Paulo, Brazil

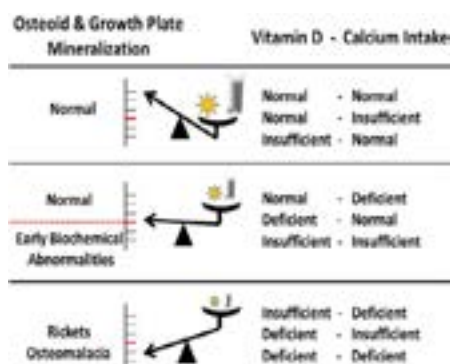
**Introduction:** The deficiency of micronutrients, including vitamin D, is frequent in several countries, regardless of the nutritional state; however, its magnitude is higher in overweight children. There are many evidences that overweight children and teenagers represent a vulnerable group to vitamin D deficiency. Besides that, the deficiency of vitamin D appears to be the biggest contributory factor to complications associated to obesity, such as insulin resistance and type-2 diabetes. Various studies have been demonstrated associations between deficiency of vitamin D and a variety of diseases, including diabetes mellitus, metabolic syndrome, cancer, cardiovascular diseases, multiple sclerosis and neuromuscular malfunction, causing nutritional rickets and osteomalacia, which have a major impact on health, growth and development of infants, children, and adolescents (Figure1).

**Aim:** The main aim of this study is to evaluate the prevalence of hypovitaminosis D and intervene by providing adequate supplementation.

**Methodology & Theoretical Orientation:** Serum dosages of 25-OHD3 and PTH (parathyroid hormone) were performed in 111 overweight/obese children on the month of March (summer) of 2016. All of the children that were detected with insufficiency (<29 ng/ml) received supplementation on the dosage of 50.000 UI of cholecalciferol/weekly, during six weeks.

**Results:** The prevalence of hypovitaminosis D in this group was of 60.36% (49.24% girls and 50.7% boys).

**Conclusion & Significance:** Hypovitaminosis D is elevated on the presented group, meeting other studies performed in various locations in Brazil and foreign countries. Dosages were performed in a period that coincided with the end of the summer. Supplementation was performed in a critical period to elevation of taxes of hypovitaminosis D (beginning of winter).



**Figure 1:** Biochemical disturbances in rickets pathogenesis based on a three-stage classification of vitamin D status (symbolized by the sun) and calcium intake (symbolized by a glass of milk).

**Biography**

Pollyanna Fernandes Patriota is a Nutritionist and Professor in the area of Public Health at Federal University. She is pursuing her PhD in Nutrition at Federal University of São Paulo. She has experience in teaching, research and extension in the areas of Nutrition and Public Health, Maternal and Child Health and Child Obesity.

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**The effect of the *FTO rs9939609* on anthropometrical measurements in female adolescents with overweight and obesity**

Tatyana Bairova, Ekaterina A Sheneman, Kseniia D Ievleva and Lubov V Rychkova  
Scientific center for family health and human reproduction problems, Russian Federation

**Statement of the Problem:** Among the causes of obesity an important role is played by the heredity. The *FTO* is one of the genes associated with obesity and body mass fat. And polymorphism *rs9939609* of this gene located in the first intron (the code is W=A/T) appears the most significant.

**Methodology & Theoretical Orientation:** The study included total of 128 Caucasian female adolescents (average age 15.86±1.02) living in Eastern Siberia (Irkutsk region, Russia). SDS BMI, % of body mass fat was measured. 59 girls were included in group with normal weight (SDS BMI 0.84±0.55) and 69 girls were included in group with overweight and obesity (SDS BMI 2.52±0.72). Genomic DNA was extracted from EDTA-treated whole blood by commercial kits (DNA-Sorb-B, AmpliSens, Russia). Genotyping of the *FTO rs9939609* was performed using polymerase chain reaction in real time with DT-Prime cycler (DNA-technology, Russia). Statistical analysis was performed by soft "STATISTICA8.0".

**Findings:** A-allele frequency was 40% in control group and 49% was in group with overweight and obesity (p=0.223). Comparisons of SDS BMI and percent of body mass fat stratified by *FTO rs9939609* genotypes are shown in table 1. We found the significant increase of SDS BMI in carriers of A-allele in group with overweight and obesity. There is no association in group with normal weight.

**Conclusion & Significance:** Thus, carrier of the A-allele of *FTO rs9939609* are associated with higher meaning of SDS BMI in female adolescents with overweight and obesity, living in Eastern Siberia.

Measurements	Genotypes			p-value
	AA (1)	AT (2)	TT (3)	
Control group (n=60)				
SDS BMI	0.78±0.58	0.85±0.55	0.93±0.52	0.681 <sup>1-2</sup> ; 0.499 <sup>1-3</sup> ; 0.603 <sup>2-3</sup>
% of body mass fat	35.96±3.66	33.22±14.5	31.06±8.10	0.633 <sup>1-2</sup> ; 0.195 <sup>1-3</sup> ; 0.460 <sup>2-3</sup>
Group with overweight and obesity (n=69)				
SDS BMI	2.82±0.60	2.45±0.66	2.36±0.84	0.023 <sup>1-2</sup> ; 0.047 <sup>1-3</sup> ; 0.559 <sup>2-3</sup>
% of body mass fat	44.43±12.86	44.90±5.06	42.43±6.10	0.483 <sup>1-2</sup> ; 0.085 <sup>1-3</sup> ; 0.232 <sup>2-3</sup>

Table 1. Comparisons of SDS BMI and percent of body mass fat stratified by *FTO rs9939609* genotypes

**Biography**

Tatyana Bairova completed her graduation at Tomsk Medical University as a pediatrician and; post-graduation at Scientific Centre for Family Health and Human Reproduction Problems (SC FHHRP, Irkutsk, Russian Federation) where she is a specialist and a researcher.

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**Overweight and obesity; barriers and facilitators: Literature review**

Lori Sanderson

Loma Linda University Children's Hospital, USA

Over 89% of children with type 2 diabetes were considered obese or overweight. Childhood obesity is associated with an increased risk of kidney disease and mortality of kidney disease. Patient education is not sufficient to motivate this population to increase their physical activity and healthy eating. Without identifying the barriers to successful weight loss or successful increase in physical activity and healthy eating, this population will remain stagnant. The purpose of this article is to identify the barriers of physical activity and healthy eating for patients with kidney disease or diabetes. A systemic literature review was conducted to identify the barriers of weight management for children and adolescents with kidney disease or diabetes. Upon identifying the barriers, the facilitators, which aim to improve health, can be established. Studies were found using PubMed, academic search premier, and the global internet. Search criteria included obesity rates, physical inactivity rates, unhealthy eating, risk factors for children to acquire diabetes or kidney disease, barriers to healthy eating, barriers to healthy eating and exercise. Although not all of the barriers were from research studies of patients with kidney disease or diabetes, there were multiple barriers which occurred in more than one study, which will be discussed later. Patient education alone isn't sufficient to increase physical activity and healthy eating. Investigators need to understand what prevents the population from increasing their physical activity and healthy eating, so that they can develop and test potential solutions (facilitators). More research is needed to identify barriers among specific populations such as children with diabetes or kidney disease, and to understand why many of the barriers differ among various populations. More research is also needed to identify and test facilitators to healthy eating and physical activity.

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**Maternal perception of weight status in young Irish children**Michelle Queally<sup>1</sup>, Patricia Kearney<sup>2</sup>, Janas Harrington<sup>2</sup> and Edel Doherty<sup>1</sup><sup>1</sup>JE Cairnes School of Business and Economics, Ireland<sup>2</sup>University College Cork, Ireland

**Statement of the Problem:** The childhood obesity epidemic requires a sense of urgency and new avenues for prevention focused on the first five years of life. Parental perception of early childhood weight is an important concept. Parents can shape early eating and physical activity patterns in their children. If parents are unable/unwilling to recognize that their child is at risk for overweight, they cannot intervene early to prevent further excess weight gain. Furthermore, if perception influences the use of parental feeding practices, particularly a perception that is incorrect, parents may inadvertently employ practices that facilitate the development of overweight/obesity in their child. Understanding parental weight perception within this age-group during a time that reveals great potential for obesity prevention is of great importance.

**Methodology & Theoretical Orientation:** Using the infant cohort data (wave 2 and 3) of the longitudinal growing up in Ireland (GUI) study, (children aged 3 and 5 respectively), we aim to examine firstly, if there is evidence of parental weight misclassification within this cohort. Next, the factors associated with the inaccuracy (if any) of parental perception of the child's weight are examined (e.g. parental education and younger parents). Finally, we observe if parental misclassification alters as the child gets older (that is from age three to age five). Estimating the marginal effects using probit models, the results indicate a notable lack of awareness in Irish mothers of overweight 3–5 year olds about their children's weight status, more so for mothers of three year olds (wave 2).

**Findings:** Across both waves, children whose mother is overweight or obese are more likely to misclassify their child's weight.

**Conclusion & Significance:** Before early childhood specific behavioral interventions can be developed and tested, additional research examining techniques to influence parental perception are needed.

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**Relationship and influence of body mass index and skin folds on some motor abilities in 14 year old students**Vullnet Ameti, Astrit Iseni, Shpresa Memishi and Isa Asllani  
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In this paper, the correlation and impact of the body mass index (BMI) and some skin folds in the success of some motor skills have been investigated. The purpose of this paper is to establish the correlation and impact between BMI and skin folds as a predictive system and motor skills as a criterion system. The survey was conducted in a sample of 170 male entities aged 14 years  $\pm$  6 months, primary school students at "Bajram Shabani" and "Naim Frashëri" - Kumanovo. A total of 9 variables were used in the research, including one variable for BMI body mass index estimation, 4 variables for evaluating skin folds and 4 variables for assessing the motor space. Variable for body mass assessment is 1. BMI (body mass index), variables for evaluation of skin folds are 4 as follows: 2. ATLKR (arm skin folds), 3. ATLPU (pulp skin folds), 4. ATLKOF (thigh skin folds), 5. ATLBAR (abdominal skin folds), and motor space variables 4 in total as follows: 6. MKLV (standing high jump), 7. MPV (standing five-step jump), 8. MKGJV (standing long jump), and 9. MTV (standing triple jump). Based on the results obtained from the correlation analysis we can conclude that: out of 9 variables, 5 of which for anthropometric space evaluation and 4 variables for motor skills assessment, low level correlation between variables: BMI and MKLV, with negative value of  $-.187^*$  and ATLPU and MKLV variables, with negative value of  $-.247^{**}$ , high-level correlations between variables ATLKRA and ATLKOF with positive value of  $.835^{**}$  and variables MPV and MTV, with positive value of  $.819^{**}$ . Based on the results obtained from the regressive analysis, whereas predictors there are 5 variables of anthropometric space, and as criterion there are 4 variables of the motor space, we can conclude that: between the predictive system and the criterion variable MKLV (standing high jump), there is a linkage of statistical significance, at a confidence level of 0,000. From the whole predictor system, the individual impact on motor ability has the variables: ATLKRA (arm skin folds), with a beta coefficient of  $-.621$  and a confidence level of 0,000, and ATLBAR (abdominal skin folds) beta coefficient of  $.347$  and confidence level of  $.004$ . Between the predictor system and the MPV criterion variable (standing five-step jump), there is a link of statistical significance, at a confidence level of 0,000. From the whole predictor system, individual impact on motor ability has the following variables: ATLKRA (arm skin folds), with a negative beta value of  $-.344$  and a confidence level of 0.024. Between the predictor system and the MKGJV criterion variable (standing long jump), there is a link of statistical significance, at a confidence level of 0,000. From the whole predictor system, the individual impact on motor ability has the following variables: ATLKRA (arm skin folds), with a negative beta coefficient value of  $-.492$  and a confidence level of 0,000. Between the prediction system and the MTV criterion variable (standing triple jump), there is a linkage of statistical significance at a confidence level of 0,000. From the whole predictor system, the individual impact on motor abilities has the variables: ATLKRA (arm skin folds), with a negative beta value of  $-.327$  and a confidence level of 0.022. From this research we can conclude that the motor skills in this case of jumps that express the explosive strength of the lower limbs have low BMI level and skin folds, while statistical influence in the motor variables have only the ATLKRA variables (arm skin folds) and in one case an ATLBAR variable (abdominal skin folds), from which we can conclude that to have good results in jumps we should have as little as possible adipose (fat) tissue in the abdomen and arms and the same adipose (fat) tissue should be replaced with pure muscle mass.

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**Laparoscopic wedge resection of gastrojejunostomy for weight recidivism after gastric bypass****Aly Elbahrawy**

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**Background & Aim:** Weight recidivism after Roux-en-Y gastric bypass (RYGB) is a common problem. Often, this weight loss failure or regain may be due to a wide gastrojejunostomy (GJ). We evaluated the feasibility and safety of a novel approach of laparoscopic wedge resection of gastrojejunostomy (LWGJ) for a wide stoma after RYGB associated with weight recidivism.

**Methods:** This is a single-center retrospective study of a prospectively-collected database. We analyzed outcomes of patients with weight recidivism after RYGB and a documented wide GJ (>2 cm) on imaging, who underwent LWGJ between 11/2013-05/2016.

**Results:** Nine patients underwent LWGJ for dilated stomas. All patients were female with a mean±SD age of 53±7 years. Mean interval between RYGB and LWGJ was 9±3 years. All cases were performed laparoscopically with no conversions. Mean operative time and hospital stay were 86±9 minutes and 1.2±0.4 days, respectively. The median (IQR) follow-up time was 14 (12-18) months. During follow-up, there were no deaths, postoperative complications or unplanned readmissions or reoperations. The mean and median (IQR) BMI before RYGB and LWGJ were 55.4±8.1 kg/m<sup>2</sup> and 56.1 (47.9-61.7) and 43.4±8.6 kg/m<sup>2</sup> and 42.1 (38.3-47.1), respectively. One year after LWGJ, mean and median (IQR) BMI significantly decreased to 34.9±7.3 kg/m<sup>2</sup> and 33.3 (31.7-35.0) corresponding to a mean %EWL of 64.6±19.9 (P<0.05).

**Conclusion:** LWGJ is safe and can lead to further weight loss in patients experiencing weight recidivism after RYGB with a wide GJ (>2 cm). Long-term follow-up is needed to determine the efficacy and durability of LWGJ and compare its outcomes with other endoscopic/surgical approaches for weight recidivism after RYGB with a documented wide GJ.

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**Gastric bypass surgery with exercise alters plasma microRNAs that predict improvements in cardiometabolic risk**Attila A Seyhan<sup>1,2,3</sup>, Yury O Nunez Lopez<sup>1</sup>, Paul M Coen<sup>1,2</sup> and Bret Goodpaster<sup>1,2</sup><sup>1</sup>Florida Hospital, USA<sup>2</sup>Sanford Burnham Prebys Medical Discovery Institute, USA<sup>3</sup>Massachusetts Institute of Technology, USA

**Statement of the Problem:** Roux-en-Y gastric bypass (RYGB) surgery improves insulin sensitivity (SI) and  $\beta$ -cell function in obese non-diabetic subjects. Exercise also improves SI and may be an effective adjunct therapy to RYGB surgery. However, the mechanisms by which exercise or weight loss improve peripheral SI after RYGB surgery are unclear. We hypothesized that microRNAs (miRNAs) mediate at least some of the regulatory processes driving such mechanisms. Consequently, this work aimed at profiling plasma miRNAs in participants of the Physical Activity Following Surgery Induced Weight Loss study (NCT00692367), to assess whether miRNA levels track with improvements in SI and cardiometabolic risk factors.

**Methodology & Theoretical Orientation:** Ninety-four (94) miRNAs implicated in metabolism were profiled in plasma samples from 22 severely obese subjects who were recruited 1-3 months after RYGB surgery and followed for 6 months of RYGB surgery-induced weight loss with (exercise program (EX), N=11) or without (CON, N=11) an exercise training intervention. The subjects were selected, considering a priori sample size calculations, among the participants in the parent study. Mixed-effect modeling for repeated measures and partial correlation analysis was implemented in the R environment for statistical analysis.

**Results:** Mirroring results in the parent trial, both groups experienced significant weight loss and improvements in cardiometabolic risk. In the CON group, weight loss significantly altered the pattern of circulating miR-7, miR-15a, miR-34a, miR-106a, miR-122 and miR-221. In the EX group, a distinct miRNA signature was altered: miR-15a, miR-34a, miR-122, miR-135b, miR-144, miR-149 and miR-206. Several miRNAs were significantly associated with improvements in acute insulin response, SI and other cardiometabolic risk factors.

**Conclusion & Significance:** These findings present novel insights into the RYGB surgery-induced molecular changes and the effects of mild exercise to facilitate and/or maintain the benefits of a comprehensive weight-loss intervention with concomitant improvements in cardiometabolic functions. Notably, we show a predictive value for miR-7, miR-15a, miR-106b and miR-135b.

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**The investigation of relation among inhibitory control according to the stimulus type, executive functions, impulsivity and eating style in obese profile****Gizem Gerdan**

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The main purpose of this study is to investigate whether or not the inhibitory control process of obese and lean participants changes according to the stimuli type. For this purpose, four blocks of go/no-go paradigm were designed to examine inhibition of prepotent response according to the different stimulus type. These are neutral stimuli go/no-go task; irrelevant stimuli go/no-go task, low calorie food go/no-go task and high calorie go/no-go task. With the conduction of 2 (group)x4 (stimulus type) mixed design ANOVA with repeated measures on the last factor; commission error, omission error, go signal reaction time and commission error reaction time were calculated as dependent measures. Another purpose of this study is to compare the two groups in terms of cognitive flexibility, conceptualization, interference, impulsivity and eating style. For this purpose, Wisconsin Card Sorting Task (WCST), Stroop Test TBAG Form, Barratt Impulsivity Scale (BIS-11) and Dutch Eating Behavior Questionnaire were used to assess these variables. The study sample was comprised of 51 exogenous obese and 46 lean participants who were between 21-49 year old and at least high school graduate. Parametric and nonparametric analyses were performed to the data set which was obtained properly according to the aim of study. According to the results, obese patients do not have a general inhibition deficit. Actually, the stimulus type is indicator of response inhibition process for obese patients. Results show that especially the response inhibition process in obese patients depends on whether the stimulus is food or not and it also depends on types of food (healthy low calorie food, unhealthy high calorie food). There were significant differences in WCST and Stroop Test TBAG Form scores between the two groups. The obese subjects performed significantly lower than the healthy controls. Moreover, the obese patients' impulsivity (motor, planning, and attention) and eating style (external, internal) scores were higher than the lean group. Response inhibition to the high calorie food, resistance to interference and cognitive flexibility scores were found to be statistically significant predictor of body mass index increase. Weight control or diet programs should consider these neuropsychological and psychological factors for getting long term success in weight regulation programs. The findings were discussed with regard to the related literature.

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**Post-surgical cliff after bariatric surgery: Accounts of patients and their health care professionals****Sandra Jumbe**

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**Statement of the problem:** The superiority of bariatric surgery for improving medical outcomes in severely obese individuals when compared to other weight loss interventions remains undisputed. However, knowledge about the psychological impact of the procedure on people's lives is limited. Recent systematic reviews have shown persisting disordered psychosocial wellbeing after surgery when compared to control groups, especially after long-term monitoring, suggesting need for psychological support and longer term postoperative research on psychological outcomes. Research literature infers limited understanding regarding the postoperative lived experience from the patient perspective. This may form a barrier in health professionals' understanding of this patient group's postoperative ongoing needs. This study aimed to capture patients and health professionals' accounts of the postoperative bariatric surgery experience, exploring concordance between the two groups to gauge awareness of patients' subsequent health needs.

**Methodology and theoretical orientation:** Ten individuals who had bariatric surgery two or more years ago and eight bariatric surgery practitioners were recruited within UK public hospital settings and individually interviewed by the researcher. The audio recorded interviews were transcribed and examined using thematic analysis.

**Findings:** Thematic analysis of the interviews elicited a key finding around 'postsurgical cliffs in patient care' within a heavily structured service. This permeated through three themes; (1) navigating health changes (2) contrasting perspectives and (3) perceived prejudice. Participants reported some unmet needs; namely psychological aftercare to facilitate adjustment following physical and psychological changes. Issues with excess skin, acceptance of non-obese self and perceived prejudice were prominent. Impact of differing views of success between patients and professionals on postoperative care within the service context was highlighted.

**Conclusion & Significance:** Bariatric surgery is a great catalyst for weight loss in severe obesity. However, lack of psychological aftercare may threaten weight loss outcomes over the longer term. Findings infer postoperative psychological support as a potential facilitator for optimising results. Recommendations from a health psychology perspective are given.

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**Single centre results after 588 laparoscopic Roux –en-Y gastric bypass and 57 laparoscopic gastric sleeve resections performed in Hungary between 2010 and 2017****Mohos Elemer, Tornai Gabor, Sandor Gabor, Mohos Petra and Nagy Tibor**  
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**Introduction:** The incidence of severe obesity and its comorbidities (diabetes mellitus type-2 DMT2, hypertension, chronic joint disease, etc.) is growing dramatically all over the world. At present the only long term and effective solution is the metabolic surgery.

**Patients & Methods:** 645 patients were operated on between 02/2010 and 02/2017. Preoperative data: Mean weight: 148 (92-231) kg, mean BMI: 46 (35-71) kg/m<sup>2</sup>, mean age 43 (17-70) years. 16% of the patients suffered from DMT2, 35% from hypertension and 21% from gastro-esophageal reflux. BMI above 40 kg/m<sup>2</sup> was indication for metabolic surgery (with DMT2 above 35 kg/m<sup>2</sup>). Laparoscopic Roux-en-Y gastric bypass was our first choice operation (588 cases), when it was technically impossible laparoscopic gastric sleeve resection (57 cases) was performed.

**Results: Postoperative data:** Mean weight loss: 51 kg, mean reduction in BMI: 17 kg/m<sup>2</sup>, mean extra weight loss: 85 %. 91 % of DMT2 and 74 % of hypertension were resolved. Inhospital mortality : 1 patient (0,2%; caused by gastrografin pneumonitis on the 5th postop. day). 4 patients (0,6 %) developed deep vein thrombosis, two of them were complicated with pulmonal embolism of mild clinical symptoms. In early postop. period 8 patients of us (1,2 %) were reoperated (2 patients had relaparoscopy because of intra-abdominal bleeding, 1 patient needed laparotomy due to bleeding from the Y anastomosis and another 5 jejunostomy). In the late postop. period 31 cases (5 %) of us had relaparoscopy and closure patients had relaparoscopy, suture and drainage indicated by leakage of the gastro- of Petersen's defect because of symptomatic Petersen's hernia. Five patients after sleeve resection were laparoscopically transformed to Roux Y gastric bypass as a consequences of weight regain.

**Conclusion:** Metabolic surgery is an effective and long term method for severe obesity, resulting efficient weight loss and resolution of the high proportion of co-morbidities. Our gold standard intervention is the laparoscopic Roux-en-Y gastric bypass. The high risk of the patients and the technically complex intervention can result different complications; that is why the correct patient selection, the regular control and performing the operations in high-volume centers are advised.

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**Dietary and exercise educational program for patients taking antipsychotic medications****Edna Aurelus**

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In adult patients who are taking antipsychotic medication with a serious side effect of weight gain, how does an educational program on healthy diet and exercise regimen compared to standard care be effective in preventing the increasing rates of overweight and obesity? Overweight and obesity are significant problems in patients being treated with antipsychotic medications. Obesity has reached epidemic proportions in the United States, affecting over 72 million adults. While individuals in the general population are at risk of physical conditions, such as metabolic syndrome, people with mental illness are at even higher risk. More than one-third or 35.7% of adults in the United States are obese (CDC, 2013). Obesity related conditions or metabolic syndrome includes cardiovascular diseases, diabetes and certain types of cancer are some of the leading cause of preventable death. An exhaustive search was completed analyzing the effectiveness of an educational program in reducing weight gain induce by antipsychotic medication. A 12-week program was designed for people who are prescribed a regimen of antipsychotic medicines. The program included guidelines for regular exercise and diet, along with a weekly 1-hour session of dietary and exercise education. A pre- and post-program questionnaire was administered to assess attitudes and behaviors about eating. Additionally health outcomes data on body mass index (BMI), weight and waist circumference were collected at baseline and monthly until the completion of the program. Patients taking antipsychotic medications need to be placed on a standard healthy diet in order to prevent any unwanted weight gain. In order to accomplish this goal, patients must be aware of the lifestyle modification needed to prevent such risk. Moderate exercise, avoidance of sedentary lifestyle and of poor nutrition is part of the treatment plan that providers should include when treating patients takes antipsychotic medication.

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**Fast food and children of the day****Jagadish Chandra Das**

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Fast food is considered as the type of food that can be served ready to eat fast. Fast food and junk food often is used interchangeably. Energy dense food with high sugar/fat/salt content and low nutrient value in terms of protein, fiber, vitamin and mineral is known as junk food. Taking of such food among children is not less. Approximately 56% students of a private university in Dhaka go to fast food restaurants at least once per week and 44% goes regularly ( $\geq 2$  times/week). Sponsorship of sports or other competitions with attractive gifts is important for first food sale. There are many contributing factors of such food consumption. Fast food is associated to many health hazards. Easy availability of healthy food with affordable prices along with its campaign, school midday-food programme and health education may improve dietary habit of children. Food related laws implementation along with regulation of fast food marketing may be important steps in controlling such food consumption among children.

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**Childhood obesity in Nigeria: Causes and suggestions for control****Oparaocha Evangeline Tochi**  
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Childhood obesity is fast becoming a global public health concern, not only because of increased BMI but majorly due to attendant health consequences. While it is expected that childhood obesity affects only developed, affluent countries, the current trend shows a gradually shift in dimension towards low income, developing countries like Nigeria. Although, causes of obesity differ intrinsically among nations, the health outcomes appear to be similar, which include, renal, cardiovascular, musculoskeletal, respiratory and neurological disorders, as well as psychological and emotional problems. Identified causes in Nigeria include among others, shift in lifestyle and behavior, medication, cultural beliefs, taboos, food habit and choices as well as genetic makeup of individuals. Suggested approaches towards control would include timely intervention, health education, lifestyle modification, shift in bogus beliefs and taboos, as well as change in food habit and food preferences. The roll of parents and the media in the control of childhood obesity will also be highlighted.

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**Diet quality and its association with weight status in adolescents****Parisa Keshani<sup>1</sup>, Shiva Faghih<sup>1</sup>, Moosa Salehi<sup>1</sup>, Maryam Bordbar<sup>2</sup> and Ayda Atefifar<sup>2</sup>**<sup>1</sup>Shiraz University of Medical Sciences, Iran<sup>2</sup>Islamic Azad University Sarvestan Branch, Iran

**Aim:** Diet quality in children has been associated with prevention of obesity during adulthood. The aim of this study was to examine diet quality and its association with weight status among Iranian adolescents.

**Methods:** The revised-children diet quality index (RC-DQI) was used to determine diet quality in a representative sample of 13 to 15 years old adolescents (n=480) selected by stratified sampling from four educational districts of Shiraz, Iran. Food intake was determined by a valid food frequency questionnaire. Overweight and obesity were defined as a body mass index (BMI) at or above the 85<sup>th</sup> and 95<sup>th</sup> percentile respectively, for adolescents of the same age and sex. All statistical analysis was conducted using SPSS 19 and food analyses were done using modified nutritionist four for Iranian food. Linear and logistic regressions were used to explore the relation between diet quality and its components or BMI. P-value less than 0.05 were considered statistically significant.

**Results:** The participants mean age was 14.7 years and 56% of students were girls. The overall prevalence of overweight and obesity was 16.16%. Mean RC-DQI score was 58 points (range 28 to 89). Diet quality scores were higher in girls (p=0.02) and were inversely associated with adolescents weight (p=0.01). Overweight and obesity was significantly associated with poor diet quality: OR of 1.54 (95 % CI 1.02 2.36). There was an inverse association between diet quality and sugar consumption (OR 0.65, 95% CI 0.59 to 0.72). Furthermore, diet quality score was positively associated with dairy products (OR 1.40, 95% CI 1.04 to 2.17), fruits (OR 1.75, 95% CI 1.16 to 2.73), and vegetables (OR 1.55, 95% CI 1.02 to 2.36).

**Conclusion:** There is an association between diet quality and obesity in adolescents. Childhood obesity might be prevented if diet quality based on dietary guidelines has been improved among adolescents.

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**Promoting effective school policies for childhood obesity prevention in Lebanon through advocacy, citizen engagement and knowledge translation**

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**Background & Aim:** Child overweight & obesity (COO) in Lebanon has reached alarming levels of 34.8% and 13.2% respectively. With one of the highest percentages in the Eastern Mediterranean region, COO in Lebanon increased by approximately two folds in the past decade, without policies for prevention, despite mounting evidence of their effectiveness. This study examines the use of citizen engagement, advocacy and knowledge translation (KT) tools and platform in the uptake of research evidence on effective school policies in COB prevention.

**Methods:** The following work was conducted and evaluated: Development of a policy brief for effective school policies for COO prevention in Lebanon; Citizen Consultation (CC) meetings using innovative data visualization (IDV); a national Policy Dialogue (PD) and; implementation of an advocacy framework.

**Results:** The policy brief: Synthesizing high quality international and local evidence along with key informant interviews resulted in identifying three major effective elements for a comprehensive school policy solution. The CC and PD: Those elements were discussed in both dialogues for consensus and identifying key implementation considerations using IDVs. Furthermore, the participants in the CC thought that it can affect decision makers (70%) allow joint decision making (70%) and almost all wanted to be involved in further advocacy efforts. The advocacy framework: A framework was developed and piloted over the course of the implementation of the policy elements.

**Conclusion:** School policies for COO prevention are effective but require using an integrated KT approach to bring a change in policy and practice. That entails engaging citizens in the decision-making and implementing evidence-informed advocacy strategies and coalitions to influence actions along with using KT tools and platforms. Citizen engagement strategies empower citizens to be involved in the decision-making process and in enhancing accountability and advocacy in health policy. Study findings will inform similar work in other countries.

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**Indicators for success of obesity reduction programs in adolescents; body composition and body mass index: Evaluation of a school-based health promotion project in Iran after 12 weeks of intervention**

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**Background & Aim:** Obesity in adolescence is a primary risk factor for obesity in adulthood. The objective of this study was the assessment of the effect of a comprehensive lifestyle intervention on different anthropometric indices in 12 to 16 year old boy adolescents.

**Methods:** 96 adolescent boys of two schools of district five of Tehran have participated in this study. The schools were randomly assigned as intervention school (n=53) and control school (n=43). The height and weight of students were measured with a calibrated tape line and digital scale respectively and their BMI were calculated. The amounts of body fat percent (BF) and body muscle (BM) percent were determined by Bio Impedance Analyzer (BIA) considering the age, gender and height of students at baseline and after intervention. The intervention was implemented in the intervention school, according to the Ottawa charter principles.

**Results:** 12 weeks of intervention decreased body fat percent in the intervention group in comparison with the control group (decreased by 1.81% in the intervention group and increased by 0.39% in the control group,  $P < 0.01$ ). But weight, BMI and BM did not change significantly.

**Conclusion:** The result of this study showed that the implementation of comprehensive intervention in obese adolescents may improve the body composition, although these changes may not be reflected in BMI. It's possible that BMI is not a good indicator in assessment of the success of obesity management intervention.

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**Maternal alcohol and tobacco consumption and the association with their 9-14 year old children's body mass index**Rejane Figueiredo<sup>1</sup>, Eva Roos<sup>1,2</sup>, Johan G Eriksson<sup>1,2,3</sup>, Sabina Simola-Ström<sup>1</sup> and Elisabete Weiderpass<sup>1,4,5,6</sup><sup>1</sup>Folkhälsan Research Center, Finland<sup>2</sup>University of Helsinki, Finland<sup>3</sup>Helsinki University Hospital, Finland<sup>4</sup>Karolinska Institute, Sweden<sup>5</sup>Cancer Registry of Norway, Norway<sup>6</sup>University of Tromsø, Norway

**Aim:** Little is known about impact of maternal alcohol and tobacco consumption on adolescents' body size. The purpose of this study was to evaluate whether maternal alcohol or tobacco consumption is associated with their children's body size in adolescence, assessed by Body Mass Index (BMI).

**Methods:** This study was conducted in subjects recruited into the Finnish Health in Teens cohort (Fin-HIT) between 2011 and 2014. A total of 4,525 subjects aged between 9 and 14 years and their mothers or female adults responsible for the children were analyzed. Relative risks (RR) and 95% confidence intervals (CI) were estimated using multinomial logistic regression.

**Results:** Most children were normal weight (74.5%), 10.6% were underweight and 14.9% were overweight or obese. Among mothers, 50.6% were never smokers, 35.7% were former smokers, and 13.7% were current smokers. Alcohol consumption was classified by Alcohol Use Disorders Identification Test (AUDIT), 12.7% were abstainers (score=0), 65.0% were low-moderate drinkers (scores 1-4) and 22.3% were harmful drinkers (scores≥5). There were statistically significant associations between currently smoking mothers and children's overweight (RR=1.36; 95% CI: 1.05-1.75). There was an inverse association between maternal former smoking and children's underweight (RR=0.70; CI: 0.56-0.87) compared to never smoker mothers. Among children in puberty, abstainer mothers were more likely to have underweight children compared to low-moderate mothers (RR=1.57; 95% CI: 1.03-2.41).

**Conclusion:** Current smoker mothers were associated with children's overweight and former-smoker mothers were inversely associated with the children's underweight. Being an abstainer mother was associated with the children's underweight in puberty stage. If other studies confirm these results, public health interventions aiming at healthy weight of adolescents should target the whole family, not only the adolescents themselves.

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**The prevalence of overweight and obesity among adolescents in public and private school in two senatorial districts of Osun State, Nigeria**

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Obesity is the most serious long term health problem; currently, adolescents are facing and its prevalence is increasing worldwide including developing countries. Cross sectional study was carried out among adolescents of 11-19 year old in both public and private school in urban area of the state. The data was collected using pretest self-administered questionnaire; anthropometric measurement was also used to examine their nutritional status. Obesity status were determined using BMI cut off point, the overweight was found to be 3.06% among female and 0.6% among male whereas prevalence of obesity was 0.46% in female and not among male. 62.6% had snack daily, fruit consumption pattern was low 0.6% and 43.7% spent 4-5 hours watching television daily after school. Positive association exists between the lifestyle and nutritional status of the respondents. Education effort to improve nutrition knowledge can be incorporated into course curriculum and focus on various components within the system when implementing preventive measure on obesity.

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**Neuromindfulness: An opportunity to recover neurocognitive deficits in childhood obesity; correspondences between dysfunctions and neurocognitive recovery of the default network****Rosa Calvo Sagardoy and M Victoria Paz Domingo**  
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**Statement of the Problem:** Childhood obesity rates have risen dramatically over the past few decades and accordingly, scientific research and healthcare professionals are increasing their interest about this global problem. Obesity has been linked to poorer neurocognitive functioning in adults, much less is known about this relationship in children and adolescents.

**Aim:** The purpose of this study is to describe how neuromindfulness works through default network as a possibility not only to recover neurocognitive deficits but facilitate an eating based on internal cues in people who suffer from obesity.

**Methodology & Theoretical Orientation:** This is a descriptive qualitative research in which recent scientific literature toward neuromindfulness networks and obesity was reviewed.

**Findings:** Obesity is associated to dysfunctional connectivity within brain regions linked to interoception (insula), emotional memory (middle temporal gyrus) and cognitive control (dorsolateral prefrontal cortex). The global brain connectivity in obese patients is consistently decreased in the prefrontal cortex, insula, amygdala and caudate nucleus, and increased in brain regions belonging to the dorsal attention network. People who practice mindfulness show cortical thickness increased in insula and amygdala-prefrontal cortex integration. The default mode network has been implicated in awareness and it improves with mindfulness and overlap with some brain structures affected in obesity.

**Conclusion & Significance:** There is a correspondence between default mode network and brain regions affected in obese patients. Mindfulness techniques could be a possibility not only to help obesity adult patients but would prevent these deficits if obese children practice meditation. Neuromindfulness represent a promising approach to obese children given that the recovery of these neurocognitive deficits could facilitate the development of an eating based on internal cues of hunger and satiety which regulate body weight naturally.

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## JOINT EVENT

10<sup>th</sup> International Conference on **Childhood Obesity and Nutrition**  
&  
2<sup>nd</sup> International Conference on **Metabolic and Bariatric Surgery**

June 12-13, 2017 Rome, Italy

**General and central obesity is associated with snack quality in primary school children in Shiraz****Shiva Faghieh** and **Saeed Ghobadi**  
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**Statement of the Problem:** Increasing prevalence of childhood obesity has been associated in part to diet quality. This study examined the relationship between body composition and nutritional quality of the meals, in primary school children in Shiraz (Iran).

**Methodology & Theoretical Orientation:** This cross-sectional study was done on 431 primary school student (219 boys and 212 girls) aged between 6 and 10 years. Using standard methods anthropometric indices including weight, height, body fat and waist circumference (WC) were measured and body mass index (BMI) was calculated. Also, three 24-h dietary records (two weekdays and one weekend) were taken. The linear regression test was used to determine relationship between percent of energy intake of macronutrients in each meal with body composition. Data were analyzed using SPSS version 19.

**Findings:** The mean age of participants was  $7.8 \pm 1.03$  years and the mean BMI was  $16.03 \pm 2.71$  kg/m<sup>2</sup>. Results showed that WC was inversely associated with the percentage of energy intake from breakfast ( $\beta = -2.04$ ; CI: -4, 0.002) but it was not significant anymore after adjustment for total energy intake. Also, the percentage of energy intake from fat content of snacks were significantly associated with BMI ( $\beta = 1.47$ ; CI: 0.36, 2.59), and WC ( $\beta = 0.43$ ; CI: 0.02, 0.85) even after adjusting for total energy intake. There were no associations between other meals quality and body composition indices.

**Conclusion & Significance:** Our study showed that snacks quality but no other meals were associated with WC and BMI, and having fatty snacks was related to central and abdominal obesity among children.

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**Obesity as a metabolic disorder regulated by insulin: Childhood obesity largely free from insulin resistance would be treated easily by carbohydrate restriction****Song Jae Lee**<sup>1</sup> and **Sang Won Shin**<sup>2</sup>  
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**Statement of the Problem:** Most previous researches on obesity are based on the premise that obesity is simply caused by imbalance between calorie intake and expenditure and thereby, metabolism involved in obesity is almost ignored. As a result, we have no consensus yet on the cause of the obesity.

**Methodology & Theoretical Orientation:** We have reviewed the basics of the metabolism and physiology behind the fat accumulation in the fed state and fat mobilization in the fasted state in healthy individuals without any sign of insulin resistance—most children would be metabolically healthy.

**Findings:** The postprandial hyperglycemia and subsequent postprandial hyperinsulinemia induced when relying on CRD would enhance fat accumulation in the fed state. Postprandial hyperinsulinemia would then transition to basal hyperinsulinemia—a relatively low level of insulin in the fasted state—and not only inhibit lipolysis, lowering the level of plasma acids, but also suppress hepatic glucose production (HGP), lowering the level of plasma glucose. The enhanced fat accumulation in the fed state combined with limited lipolysis in the fasted state would lead to net weight gain. Furthermore, the low level of plasma fatty acids and glucose—the energy fuel—in the fasted state is likely to induce intense hunger and physiological weakness, which are in turn likely to induce overfeeding and physical inactivity, respectively, leading to positive energy balance and eventual obesity.

**Conclusion & Significance:** Obesity is a metabolic disorder proceeding in the physiological condition of hyperglycemia and subsequent hyperinsulinemia induced when relying on CRD. Healthy obesity exhibiting no sign of insulin resistance yet, frequently observed in children would be treated relatively by carbohydrate restriction or more specifically by reliance on fat rich diet (FRD).

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**Childhood obesity and nutrition in children age in Bulgaria**Svetoslav Handjiev<sup>1</sup> and Teodora Handjieva-Darlenska<sup>2</sup><sup>1</sup>Bulgaria. Bulgarian Association for the Study of Obesity and Related Diseases (BASORD), Bulgaria<sup>2</sup>Medical University-Sofia, Bulgaria

In the last decades childhood obesity is growing progressively worldwide. According to WHO Bulgaria is on the fifth place of childhood obesity among 53 member countries in Europe. Furthermore, according to the National survey on nutrition in the population above 1-years old obesity in boys below 5 years was 7.1% in 2014 in comparison with 3.3% in the same age in 2004. There is a positive trend towards a slight decrease in obesity levels in girls below 5 years with 2.7% in 2014 compared to 5.4% in 2004. However, the data presented on October 9th 2016, the World Obesity Day, showed that in Bulgaria 230 000 school-age children are expected to be overweight or obese by 2025. Obesity puts our children health in danger. By 2025 as many as 8 000 will have impaired glucose tolerance, 2 000 will have type 2 diabetes, 18 000 will have high blood pressure, 25 000 will have first stage fatty liver disease. The reasons of these striking numbers are clear: a sedentary lifestyle and a poor nutrition. Data show that there is an increase in the consumption of sugar-containing food and beverages, in salt, very early beginning of alcohol consumption, low intake of yoghurt and fish in school-age children in Bulgaria. The European project EPHE (EPODE for the promotion of healthy equity) demonstrated that Bulgarian children between 6-9 years old consume more fruit and vegetables compared to the Netherlands, Belgium, and France. On the other hand, Bulgarian children spend approximately 26 hour weekly screen time compared to the children in the Netherlands with 14.5 hours. Since 2013 BASORD organizes annually 1-week "School for health – for children, parents and teachers" with promotion of healthy lifestyle, incl. increased physical activity and good nutrition habits. This initiative is one of the few in this field. Bulgaria doesn't have a working state programme for prevention of childhood overweight and obesity.

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**Anthropometric measurements, skinfold thicknesses and blood pressure: Differences among normal weight, overweight and obese school going girls**

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The purpose of this study was to see the differences in normal weight, overweight and obese school going girls between the age of 10 years, 11 years and 12 years as far as blood pressure and anthropometric measurements skin fold measurements are concerned. The study subjects were normal weight, overweight and obese female children of randomly selected schools in Mumbai city. They were 10-12 years old (n=450). Anthropometric measurements including standing height, body weight, waist circumference, hip circumference, waist to hip ratio, subscapular and triceps skinfold thickness measurements as well as blood pressure parameters were taken. The results suggest that the mean values of standing height of normal weight girls of all age groups (10 years, 11 years and 12 years) were higher compared with the mean values of overweight and obese girls. Despite this, the mean values of all the other anthropometric measurements including body weight, BMI, MUAC relaxed, waist circumference, hip circumference and WHR as well as skin fold measurements and blood pressure parameters of normal weight girls were lower compared with the mean values of overweight and obese girls. The study concluded that there is a vast difference between the school going female children between 10 years, 11 years and 12 years of age as far as anthropometric measurements, SFT measurements and blood pressure parameters are concerned. From a public health perspective, present study emphasizes the importance of primary prevention of overweight from early childhood with continuation of health promotion activities throughout the course of life.

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