

# Obesity Facts

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# Obesity *Facts*

*The European Journal of Obesity*



**May 17-20 2017**  
Porto, Portugal

## **24th European Congress on Obesity**

Porto, Portugal, May 17–20, 2017

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## **ABSTRACTS**

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T4P13

### BMI-for-age at birth is associated with BMI-for-age in female children from 24 to 48 months old

*Amoroso, A.<sup>1</sup>;*

<sup>1</sup>Montepio Geral Associação Mutualista

**Introduction:** According to the who most recent statistics there were 42 million children from 0 to 5 years old overweight or obese in 2013 and these numbers could achieve 70 million by the year 2025. Most commonly these children will become overweight/obese adults in an increased risk to suffer from cardiovascular diseases, diabetes and cancer, among others. In the last three decades the Developmental Origins of Health and Disease (dohaD) paradigm has gathered evidences that early intervention is the best policy when it comes to promote health, and obesity is not an exception. In this study, the relation between bmi-for-age was measured at birth and compared with bmi-for age in children from 24 to 48 months old.

**Methods:** This study used body mass index-for-age (bmi-for-age), according to the who child growth standards. Data from length and weight at birth and height and weight at present data were extracted from 172 children who participated in the study Pro.Mo Saúde - Babies (2016). The association between bmi-for-age at birth and bmi-for-age at 24 to 48 months old was tested using anova and a Scheffe Post Hoc test and Chi-Square.

**Results:** anova showed a statistically significant positive relation between bmi-for-age at birth and bmi-for-age in 24 to 48 months old baby girls ( $p = 0.010$ ), but not for baby boys. Chi-Square also showed a statistically significant relation for baby girls ( $p = 0.034$ ), but not for boys.

**Conclusion:** The results are consentaneous with dohaD paradigm that states that health interventions should be considered as early as possible. It is needed to address obesity policies to gestational period and perhaps even previously. The sex differences obtained in this study need to be further investigated.

None Disclosed

Research relating to this abstract was funded by Montepio Geral – Associação Mutualista

T4P14

### Body composition in obese children

*Irina, L.<sup>1</sup>; Galina, O.<sup>1</sup>; Valeria, N.<sup>1</sup>; Anastasia, K.<sup>1</sup>*

<sup>1</sup>Federal Almazov North-West Medical Research Centre

**Objectives:** To investigate the fat and body cell mass (bcm) in children with excess body weight and obesity

**Methods:** We examined 150 teenagers aged 10 to 17 years suffering from excess body weight (body mass index from  $25,49 \pm 2,18$ ) and obesity (body mass index from  $30,47 \pm 4,61$ ). The control group included 30 teenagers with normal body mass index ( $19,45 \pm 2,18$ ). Bio-impedance analyzer «Diamant-aist» («Diamond», Russia) assessed body composition.

**Results:** In the control group, body fat percentage was 26% (in girls) and 14% (in boys). In the group of children with an excess weight of 33% and 27% respectively. In the group of obese children, the figure was 40% (in girls) and 37% (of boys),  $p < 0,001$ .

In the control group, body cell mass was 55% (in boys), 47% (in girls). In the group of children with excess body weight - 43% in girls, 47% in boys. In the group of children with obesity bcm was 41% (in boys), 38.5% in girls ( $p < 0.001$ )

**Conclusion:** In children with excess body weight and obesity grows as fat as bcm. However, the increase fat and bcm is not proportional. Increase of fat is more than 200%, and body cell mass no more than 34%. This fact can effect on the metabolic processes in the body.

T4P15

### Body fat percentage, nutritional and physical activity knowledge in adolescents

*Ferro-Lebres, V.<sup>1</sup>; Ribeiro, J.<sup>2</sup>; Silva, G.<sup>2</sup>; Moreira, P.<sup>3</sup>*

<sup>1</sup>Diagnostic and Therapeutic Technologies Department, School of Health Sciences - Polytechnic Institute of Braganza, Portugal, <sup>2</sup>Research Center In Physical Activity, Health And Leisure, Faculty Of Sports, University Of Porto, Portugal, <sup>3</sup>Faculty Of Nutrition And Food Sciences, University Of Porto, Portugal

**Introduction:** Knowledge enhancement has been referred as a mean to improve nutrition and physical activity, and reduce obesity. The objective of this work was to identify the difference of nutrition and physical activity knowledge according body fat and physical activity levels in adolescents.

**Methods:** A cross sectional study with 734 adolescents was designed. Body fat was measured using electric bio-impedance, physical activity data were objectively measured by accelerometer. Adolescents were divided in 2 physical activity groups: high and low physical activity; 2 body fat groups: normal fat and overfat and 4 groups resulted from the combination of body fat and physical activity. Nutrition and physical activity knowledge were assessed by questionnaires.

**Results:** Body fat percentage revealed that 30.8% of adolescents were overfat or obese, and daily moderate to vigorous physical activity was in average 47.9 (sd = 27.49) minutes. High physical activity adolescents presented higher physical activity knowledge ( $p = 0.044$ ) and the overfat/ low physical activity group scored the worse on experts' nutritional recommendations knowledge.

**Conclusion:** Knowledge is not the single factor in the obesity equation, but it seems essential to reduce overfat and obesity. Interventions that address several nutrition and physical activity determinants should be designed.

**Conflict of Interest:** None Disclosed

**Funding:** This work was supported by fct, grant number fcomp-01-0124-fed-er-028619 (fct: ptdc/dtp-des/1328/2012) and the Research Center supported by: uid/dtp/00617/2013

T4P16

### Body mass index profile in adolescents and its relation with weight concerns

*Pereira, A.<sup>1</sup>; Veiga-Branco, M.<sup>2</sup>; Pereira, E.<sup>3</sup>*

<sup>1</sup>Instituto Politécnico de Bragança, <sup>2</sup>Instituto Politécnico De Bragança, Paideia, <sup>3</sup>Universidade De Lisboa De Faculdade De Medicina

**Introduction:** The percentage of obese adolescents has increased during the past years, which as lead the World Health Organization to consider obesity as the main epidemic of the xxi century. However, adolescents are not immune to body image and weight concerns. This sensibility regarding weight might be an asset, allowing a healthy eating behaviour.

**Objectives:** Analyse the adolescent's body mass index (bmi); Evaluate the relation between the bmi and the weight concerns.

**Methods:** Restrictive, quantitative and transversal study. By gathering a simple random sample, and considering a sampling error of 3.5%, a sample of 600 adolescents (44% of the male sex and 56% of the female sex) with ages among 12–18 years old and attending the eb 2/3 Schools, High Schools and Professional Schools from Bragança, was studied. The bmi was determined through the calculation of the ration between the measure of the body mass in kilograms and the height in meters, squared (mass (kg)/height (m)<sup>2</sup>), and classified with the criteria established by the Centers for Disease Control and Prevention. For the collection of data regarding weight concerns, it was used a self-administered questionnaire adapted from Luciana Apetito et al (2010). For the statistics analysis, it was used the spss programme version 14.0 (2005) for Windows, Microsoft.

**Results:** 7,2% of boys and 5,7% of girls, in the age group 12–14 years old, and 15,9% and 10,1%, respectively, in the age group of 15–18 years old, had overweight/obesity. At a 5% significance level, it was demonstrated that the bmi was statistically dependent of the sex (et: 5.171; vp: 0,160) and

the age group (et: 1,900; vp: 0,593). Also, 61,2% of boys and 83,6% of girls stated that they worry about their weight. The concerns regards weight are statistically associated to the bmi observed (et:17,225; vp: 0,001)

**Conclusion:** The results showed that 23,1% of boys and 15,8% of girls have a bmi above the recommended amounts and, also, that it is statistically dependent of weight concerns. From this point of view, the interventions among young people must be multifaceted, never forgetting the elements that constitute the human being (psychological and biological).

**Keywords:** Adolescents, Body mass index, weight concerns

**Conflict of interests:** none

**Financing:** none

T4P17

### Body weight stabilization (plateau) as a treatment goal in adolescents with obesity

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<sup>1</sup>Institute of Nutrition, Pirogov Russian National Medical Research University,

<sup>2</sup>Institute Of Nutrition, <sup>3</sup>Pirogov Russian National Medical Research University

**Aim.** To examine the role of body weight stabilization as an obesity treatment goal in adolescents.

**Patients and Methods:** The prospective clinical intervention study included 120 adolescents with obesity (2 standard deviations above the who Growth Reference median). The median of initial age – 13 years old, girls – 62%. Examination included anthropometric and body composition measurements (bioelectrical impedance analysis), clinical and laboratory methods (plasma levels of lipids, fasting glucose levels and insulin resistance). Weight management program included diet and physical exercises during 2-weeks stay in a specialized inpatient department, regular visits to outpatient department; nutrition, physical activity, lifestyle and behavioral counseling for adolescents and parents. Follow-up period was 12 months. Weight stabilization was diagnosed when dynamic of body weight from initial was less than 0,05 body mass index standard deviation score (bmi sds) (1<sup>st</sup> group, n = 18), decrease/increase of weight were diagnosed when there were a decrease/increase of final weight (12 months visit) more than 0,05 sds bmi (2<sup>nd</sup> (n = 56) and 3<sup>rd</sup> groups (n = 46)).

**Results:** There was a decrease of rates of dyslipidemia (from 69 to 45%), impaired glucose tolerance (from 25 to 12,5%), non-alcoholic fatty liver disease (from 64 to 48%), hypertension (from 43 to 30%), and metabolic syndrome (idf, 2007) (from 25 to 14%) during 12 months weight management program in total group. Weight management program was well tolerated by adolescents in all groups. During 1-year of treatment 62% of adolescents did not increase their weight (1<sup>st</sup> and 2<sup>nd</sup> groups).

There were no differences between groups in age, gender, bmi, degree of obesity. Fat mass (kg) increased in the 2<sup>nd</sup> and decreased in the 3<sup>rd</sup> grp during one year of treatment (p < 0,01), without any significant dynamic in the 1<sup>st</sup> grp. But there were a decrease of the proportion of fat mass (%) from initial in the 1<sup>st</sup> and 2<sup>nd</sup> groups, and an increase in the 3<sup>rd</sup> group (p < 0,01). Skeletal muscle mass was increased in all three groups (p < 0,01), but in the 3<sup>rd</sup> group it increased more than in the 1<sup>st</sup> and the 2<sup>nd</sup> groups (p < 0,01), without any difference between 1<sup>st</sup> and 2<sup>nd</sup> groups (p > 0,05). Plasma levels of total cholesterol and high-density lipoproteins increased in all groups (p < 0,05). Plasma levels of triglycerides and glucose increased only in the 3<sup>rd</sup> group. (p < 0,05).

**Conclusion:** Body weight stabilization as a result of 12 months weight management program as well as decrease of body weight was accompanied by the decrease of the proportion of fat mass, and stable levels of triglycerides and glucose in adolescents with obesity. We suggest that body weight stabilization may be considered as an appropriate treatment goal in adolescents with obesity.

T4P19

### Breastfeeding and nutritional status in a population between 6 and 18 years old

*Sousa, B.<sup>1</sup>; Pinto, C.<sup>2</sup>; Oliveira, B.<sup>2</sup>; Almeida, M.<sup>2</sup>*

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**Introduction:** The increasing prevalence of overweight and obesity is a worldwide serious public health problem. Some studies have reported a protective effect of breastfeeding in prevention of future overweight or obesity, however others are inconclusive and influenced by confusing factors. The aim of this study is to evaluate the effect of breastfeeding on the nutritional status of a sample of children and adolescents between 6 and 18 years old (n = 6699), resident in the Autonomous Region of Madeira.

**Methods:** The data about the breastfeeding practice and duration, and clinical and parents data were collected retrospectively. Weight and height of children and adolescents were measured and Body Mass Index was calculated to determine their nutritional status, according to the International Obesity Task Force (iof) criteria.

**Results:** In this population, 84.4% were breastfed and the average of duration of breastfeeding was 5.9 (± 7.6) months. The exclusive breastfeeding was held in 63.0% of children/adolescents and the average duration was 2.3 (± 2.0) months. We found a prevalence of overweight and obesity of 37% (6–10 years-old), 38.8% (10–14 years-old) and 30.3% (14–18 years-old). It was found that breastfeeding was not significantly related to the nutritional status of the child/adolescent.

**Conclusion:** Therefore awareness campaigns for the parents about the nutritional health of their children should be strengthened.

**Conflict of Interest:** None

**Funding:** No Funding

T4P20

### Cafeteria diet intake in nursing rats alters mir-222 levels in breast milk

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**Introduction:** miRNAs are small endogenous non-coding rnas that regulate metabolic processes including adipocyte differentiation, glucose/insulin homeostasis, among others, and hence a deregulation of their pathways may be related to the pathogenesis of obesity. The objective of the present study was to investigate in nursing rats the impact of a cafeteria diet intake (cafeteria dams) in mir-222 levels in breast milk. mir-222 was selected for its potential relation with obesity. To discern the effects of the adiposity per se, breast milk from obese dams fed with cafeteria diet until one month before gestation (post-cafeteria dams) was also analysed.

**Methods:** Milk samples were collected from control, cafeteria and post-cafeteria dams at three time points of lactation (days 5, 10, and 15) and levels of mir-222 were determined. After weaning, pups from the different groups of dams were killed under feeding or after 12 h fasting conditions. The expression of key genes related to energy metabolism in white adipose tissue (wat) and liver were analysed.

**Results:** The levels of mir-222 were higher in breast milk of cafeteria dams, but not in post-cafeteria dams, compared to controls. After weaning, the expression levels of Prkaa1 (a possible target of miR-222) in the offspring of control dams were increased upon fasting conditions, both in liver and wat. Unlike controls, this increase was not observed in the offspring of cafeteria dams, which also presented an altered response to fed/fasting conditions in the expression of metabolic genes regulated by the ampk: