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### IMPORTANCE OF APPROPRIATE NUTRITION IN PREVENTION OF OBESITY

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**Introduction:** Obesity is defined as a pathological accumulation of fat tissue in the body, and nutritional disorders in children are associated with the high risk of numerous health problems.

**The aim of the study:** To point out the complexity and importance of nutrition in the development of obesity in children aged 7, 9, 11 and 13 years.

**Material and methods:** Data on prevalence of obesity in childrens of 1<sup>st</sup> 3<sup>rd</sup> 5<sup>th</sup> and 7<sup>th</sup> class of primary schools in Novi Sad were obtained from health records, upon systematic examinations performed in the School Dispensary of the Health Center Novi Sad in the school year 2009./10. On the basis of anthropometric measurement of the body weight and height, body mass index (BMI) values were calculated. The nourishment status was calculated on the basis of referent values.

**Results:** Systematic examination included total 474 childrens - 230 girls and 227 boys. After completed systematic examination and analysis of the obtained data, we may point out the following results pertaining to the health status of children:

- Normal nourishment status was determined in 209 girls (44,09% ) and 213 boys (44,93 %)

- Overweight (obesity) was determined in 26 girls ( 12,44 % ) and 66 boys ( 30,98 % )

**Conclusion:** The obtained results suggest high incidence of obesity in both sexes, with higher rates in boys. Childhood obesity is determined by number of factors, such as genetic factors, dietary habits, physical activity, financial status, etc.

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### SERUM LEPTIN LEVELS ACCORDING TO GENDER IN OBESE CHILDREN

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Overall prevalence of obesity in children has increased over the world. Leptin plays an important

role in the pathogenesis of obesity. In obese persons leptin levels are higher than physiological concentration.

**The objective** of this study was to evaluate the relationship between leptin and gender in obese children.

**Material and method:** A prospective study was carried out in the 1st Pediatric Clinic from Targu-Mures between September and December 2005-2008; a lot of 86 children divided into two lots with similar age and sex structure: lot I with high BMI (17 girls, 24 boys) and lot II with low BMI (18 boys, 27 girls).

Leptin serum concentrations were measured and correlations between serum leptin and gender were examined by linear regression and Pearson product-moment correlation analyses.

**Results:** Comparing the values of serum leptin in girls with high BMI and low BMI, we observed that leptin is much higher in group with high BMI than in the group with low BMI, with a significant difference between the two groups ( $p < 0.01$ ); significant differences exist between leptin in girls with high BMI compared to leptin in boys with high BMI ( $p < 0,01$ ). In boys, with aging, leptin values approaching to those of adults, with a negative linear correlation between age and leptin regardless of BMI.

**Conclusion:** In boys, whether with high or low BMI, leptin values are similar and much lower compared to lots of girls. High leptin levels appear in all obese children with high BMI.

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### BÖRJESON - FORSSMAN - LEHMANN SYNDROME: A RARE BUT IMPORTANT CAUSE OF OBESITY

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**Background & aims:** Börjeson - Forssman - Lehmann Syndrome (BFLS) is a rare X-linked condition characterized by obesity and developmental delay. Only nineteen unrelated cases of BFLS, with

confirmed PHF6 mutations, have been reported since its first description in 1962. The phenotype is better characterized in males with moderate to severe developmental delay, microcephaly and hypogonadism. The phenotype of affected females ranges from normal through to developmental delay with obesity and hypothyroidism. Our aim is to report three cases of BFLS, describe the associated endocrine dysfunction and further delineate the female phenotype.

**Method:** Endocrine and genetic results were reviewed of three patients (2 female and 1 male) with a clinical diagnosis of BFLS.

**Results:** Confirmation of the diagnosis was established in one patient and is pending in the other two. All three have developmental delay. Patient 1 is an obese female (BMI 41 kg/m<sup>2</sup>) with genetically proven BFLS and pubertal delay, autoimmune hypothyroidism and hypercholesterolaemia. Patient 2 is an obese female (BMI 39kg/m<sup>2</sup>) with autoimmune hypothyroidism, hyperandrogenism and hypercholesterolaemia. Patient 3 is an obese male (BMI 30 kg/m<sup>2</sup>) with typical dysmorphic features and pubertal delay.

**Conclusion:** BFLS is an important condition to consider when reviewing patients with obesity and developmental delay. We suspect it is more prevalent than reported in the literature and may be missed particularly in females where the phenotype is poorly characterized. Endocrine abnormalities were seen in all of our patients. Because of the X-linked pattern of inheritance, diagnosis and genetic counselling are important.

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### ADVERSE EFFECTS OF EXCESSIVE TELEVISION VIEWING IN CHILDREN

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**Aim:**

1.To study the relationship between TV viewing and dietary and physical activity habits and

2.To correlate daily TV time with BMI and blood pressure.

**Methods:** 540 children (53% boys) aged 2-14 years (mean age 8.4 years) were included in this prospective study. Demographic data, anthropometric indexes, alimentary and physical activity patterns were recorded and blood pressure was measured. TV time was determined as hours per day dedicated to watching television.

**Results:** 46% of the sample spent >2h/day watching television, noticeably boys more than girls (51.4% vs. 40%, p=0.009). Daily TV time increased with age, with preschool-aged children reaching a mean time of 2.4h/day, elementary school-aged children 2.8h/day and adolescents 3.3h/day, respectively (p< 0.001). The existence of a TV set in the child's bedroom increased the likelihood of excessive viewing by 2.63 times (p< 0.001). Furthermore, children who spent more hours per day watching TV consumed larger quantities of high-calorie snacks (p< 0.001), soft beverages (p< 0.001), ready-made juices (p< 0.001) and fast food meals (p=0.003). Prolonged daily TV time was strongly correlated with increased BMI (p< 0.001) and more importantly with the presence of both prehypertension and hypertension (p=0.006). In contrast, low intensity exercise, such as walking short distances everyday, was associated with decreased TV watching (p< 0.001).

**Conclusion:** Extended TV viewing predisposes children to adopting unhealthy lifestyles. Implementing the AAP's guidelines which state that all children >2 years of age should limit screen time to < 2h/day might reduce its negative impacts on their health.

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### ESTIMATION OF BODY COMPOSITION IN CHILDREN AGED 4-7: BODY MASS INDEX, SKINFOLDS AND WAIST-TO-HEIGHT RATIO COMPARED TO THREE COMPONENT MODEL

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**Background & aims:** Field methods to estimate body composition in young children have limited reliability. The aim of our study was to examine the inter-relationship of three body composition