hyperinsulinemia in 81.8%, insulinresistancy according to results of HOMA-index – in 72.7%, increasing triglycerides level – in 40.9%, decreasing level of LPHD – in 77.3%, increasing level of LPLD in 45.6%. CRP was moderately elevated in 31.8%. Liver enzymes (ALT) were increased by 2–3 times in 40.9% obese children. Concentration of sVCAM-1 (1395.23 ± 264.73 ng/ml vs 847.44 ± 190.23 ng/ml; $p < 0.0001$) and VEGF-A (75.89 ± 54.79 pg/ml vs 6.22 ± 5.74 pg/ml; $p < 0.0001$) was higher in patients with obesity compare to the adolescents with the normal BMI.

Conclusions Obesity in adolescents characterized by significant metabolic disturbances with the development of insulin resistance in 81.8%, atherogenic dyslipidemia in 41%, low-grade inflammation in 31.8%, elevation of liver enzymes in 40.9% and increased level of endothelial dysfunction markers (sVCAM-1 level in obese teenagers exceeds level of teenagers with normal BMI more than 2 times, VEGF-A – more than 12 times).

GP218 GROWTH PATTERNS IN A PAEDIATRIC OUTPATIENT CLINIC AND ITS ASSOCIATION WITH CHILD EATING BEHAVIOURS AND PARENTAL FEEDING STYLE

¹Aisling Lee*, ²Louise Rattigan, ²Dara Gallagher, ²Hilary Greaney, ¹Laura Keaver. ¹Institute of technology Sligo, Sligo, Ireland; ²Sligo University Hospital, Sligo, Ireland

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Background Monitoring the growth pattern of children ensures they are growing at an optimal rate and allows clinical practitioners to detect an over/underweight status. Both can negatively impact a child's health status. In Ireland and in other countries the recognition of childhood obesity outside of medical professionals is poor. Dietary intake is one of the main components that impact a child's weight status. A child's set of eating behaviours is said to be influenced by parental feeding style which in turn impacts on the growth pattern of children.

Aim To determine; (1) the weight status of children aged 2–5 years attending Sligo University Hospital (SUH); (2) if parental feeding style was associated with this weight status and (3) if parents were able to correctly classify their own weight status and their child's and if this was associated with weight status or parental feeding style.

Method A cross-sectional study of children aged 2–5 years and their parents who presented at SUH Paediatric outpatient department between September and November 2018. Anthropometric measures were taken and a demographic and validated parental feeding style questionnaire were completed. Data was analysed using SPSS v24 and significance was set at $P < 0.05$.

Results Thirty-five parents and children were recruited. 80% of children were of a normal weight status. There was a significant difference between the actual child's weight status and the paternal perception of the child's weight status. Parents who were overweight/obese were statistically more likely to misperceive their child's weight status than parents who were normal weight. There was a trend towards parents who were concerned about their child becoming overweight or obese in the future misclassifying their child's weight status. The most frequently used feeding style in this study was encouragement feeding (80%). The weight status of the child didn't influence parental feeding style.

Discussion/Conclusion Interestingly, this cohort differs from national rates of childhood obesity. This work supports current literature that parents are poor at recognising an overweight/obese weight status in children aged 2–5 years. Interventions need to be implemented to increase parent's awareness of childhood overweight/obesity and improve their ability to correctly identify these.

GP219 PHYSICAL TRAINING AND NORMOBARIC HYPOXYTHERAPY IN THE REHABILITATION OF OBESE CHILDREN AND ADOLESCENTS

Aleksandra Mashanskaya, Lyubov Rychkova*, Olga Bugun, Anna Pogodina, Anastasiya Vlasenko. Scientific Centre for Family Health and Human Reproduction Problems, Irkutsk, Russian Federation

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The growing prevalence of childhood obesity, which is often associated with other cardiometabolic risk factors (CMR), has become a serious global public health problem. Among modifiable CMR, hypertension occupies a key position. However, there are only a few works on correction of CMR factors in children and adolescents. At the same time, early diagnosis and early management can contribute to rapid reduction of the main manifestations in this cohort.

The Aim To evaluate the effectiveness of combined aerobic exercises and normobaric hypoxotherapy (NHT) in rehabilitation program of adolescents with obesity.

Materials and methods We conducted a comparative study of two groups of overweight/obese adolescents, matched by sex, age, and clinical and biochemical characteristics in combination with hypertension ($n = 72$). Inclusion criteria: age 13–17 years, overweight (SDS BMI +1.0 to +2.0), or obesity (SDS BMI > 2), hypertension, verified by repeated office measurements and 24-hour ambulatory blood pressure monitoring (ABPM). Anthropometric measurements, 24 Hr ABPM, laboratory tests, heart rate variability, psychodiagnostic studies were conducted. Data were processed using statistical software 'Statistica 6.0'. Adolescents in both groups received combined diet and physical exercise therapy. Adolescents of the first group additionally underwent interval hypoxic training (IHT), according to our own method.

Results The inclusion of IHT into the complex therapy had additional benefits in the treatment of adolescents with overweight/obesity and comorbid hypertension. These advantages were characterized by a decrease in cardiovascular reactivity, which was manifested by a decrease in the vago-sympathetic interaction index with the formation of significant differences with the control group under orthostatic loading ($p = 0.04$). The introduction of IHT into the therapeutic complex is largely associated with a lower level of office SBP and DBP after the end of the course of treatment ($p = 0.03$; $t = 2.2$ for SBP and $p = 0.01$; $t = 2.6$ for DBP). The positive dynamics of the main components of the functional psychoemotional state was noted when interpreting State-Trait Anxiety Inventory ($p < 0.01$ when compared to the control group).

Conclusions An introduction to the complex rehabilitation of adolescents with obesity and arterial hypertension of NHT according to the proposed method will have additional benefits for patients with emotional disorders and increased cardiovascular reactivity.