and CT scan findings. after combined therapy, 80% of children with delayed speech delay have very good response and improvement, 77% of children with delayed milestone and hypertonia, and 87% with delayed walking have positive clinical outcomes. Both sexes have equal response to combined therapy. Such findings were obtained as a result of early treatment and diagnosis of children with (CP). In addition, improvement in CT scan results was obtained. 84% of treated children have great improvement in their neuroimaging results from moderate/severe forms of brain atrophy to mild form of brain atrophy after being treated and followed up for 6 months- 1 year.

Conclusions The damaged brain sites based on CT scan results, showed progressive improvement in response to B12 and omega-3 fatty acids upon daily supplement throughout 6 months to one year. B12 vitamin and omega- 3 fatty acids are valuable therapy for children with various forms of cerebral palsy particularly when being linked. The greatest improvement in speech and motor development was significantly observed in about 32 patients (80%) of treated children with combined therapy. Others have less response to combine therapy as being presented and diagnosed beyond 1 year of age (16%)

P517 METABOLIC FEATURES OF ADOLESCENTS WITH OBESITY

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Introduction Over the last decades researchers discuss the interconnection between obesity and metabolic syndrome, the main manifestations of which include obesity, dyslipidemia, insulin resistance, and hypertension.

Aim To determine biochemical parameters in obese adolescents of Asian and Caucasian ethnicities, living in a rural area.

Materials and methods We investigated 200 adolescents with overweight and obesity aged 11–17 years: 43 Asian adolescents and 29 Caucasian adolescents. The control group comprised 128 adolescents with normal body weight in both ethnic groups. All adolescents were living in Buryatia (Russia). Overweight was diagnosed when body mass index (BMI) > 85 percentile, obesity – at BMI $\geq$ 95. Metabolic status was established by the spectrophotometric method. The following parameters were determined and analyzed: total cholesterol, high and low density lipoproteins fractions, triglycerides, fasting glucose and two-hour post-load glucose levels.

Results After comparison of biochemical parameters, we found changes in carbohydrate metabolism in obese adolescents. Glucose tolerance test showed significant differences between two-hour post-load glucose levels between groups with obesity and normal body weight (4.63 ± 0.62 mmol/L against 3.89 ± 0.62 mmol/L, respectively in Asian adolescents, $p = 0.000$ □ 4.48 ± 0.9 mmol/L against 3.89 ± 0.5 mmol/L, respectively in Caucasian adolescents, $p = 0.000$). We found significant differences between levels of this parameter among adolescents with obesity of Asian and Caucasian ethnicities (4.63 ± 0.62 mmol/L against 4.48 ± 0.9 mmol/L, respectively, $p = 0.006$). Mean group values of fat metabolism in adolescents with obesity were within normal values, however during a frequency analysis we detected changes: hypercholesteremia in 6.8% in

Asian adolescents and 4.6% in Caucasian adolescents. Hypertriglyceridemia was detected in 16.3% cases of Asians and 9.2% in the Caucasian group, $p=0.007$. Hypolipoproteinemia in obese adolescents was noticed in 6.7% of Asians (in Caucasian group –3.4%, $p = 0.569$).

Conclusions Therefore all metabolic changes, mentioned above, are more typical for the natives than for newcomer, namely, Caucasian people, which probably may be associated with food stereotypes and consuming food rich in animal fats. At the same time traditional food stereotypes in Asian ethnicities may contribute to adaptation to atherogenesis and development of resistance to atherosclerosis and diabetes mellitus, predominantly of the type 1.

P518 FUNCTIONAL DISORDERS OF THE COLON IN ADOLESCENTS WITH OBESITY: PSYCHOLOGICAL CHARACTERISTICS

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Adolescent obesity is a very serious problem of the 21 century. Approximately 86.5% of obese adolescents have functional disorders of the colon (FDC), among which the most prevalent disorder is irritable bowel syndrome (IBS) – 76.1%. One of the causes of FDC is a psychological state. Psychological problems, may develop into more serious conditions, such as severe depression, low self-esteem, anorexia nervosa, and bulimia nervosa.

Aim To determine psycho-emotional disorders in adolescents with obesity and FDC.

Materials and methods We examined 111 children with obesity (11–17 years), among them 64 girls and 47 boys, age 14.5 ± 2.0 , over a period 2016–2018. Depending on the presence of FDC in adolescents with obesity, the sample was divided in 3 groups: 1 group included 73 (65.8%) adolescents with obesity and IBS (diagnosed according to The Rome IV criteria), 2 group – 23 (20.7%) adolescents with obesity and other FDC, 3 group – 15 (13.5%) adolescents with obesity without FDC. We conducted a questionnaire survey on the psychoemotional state of adolescents (State-Trait Anxiety Inventory, Rosenberg's Faith in People scale, Beck Depression Inventory, EAT-26). Results were processed using software Statistica 10.0 for Windows. The difference was considered significant at $p < 0.05$.

Results EAT-26 did not show differences between groups on the following indicators: pursuance of leanness, bulimia, inefficiency, interoceptive incapacity. There were significant differences in the group with IBS ($p=0.000$) on discomfort with one's body, distrust in interpersonal relationships. Rosenberg's Faith in People scale did not show differences between groups ($p=1.2$). State-Trait Anxiety Inventory showed that state anxiety and trait anxiety are more pronounced in groups with IBS and other FDC. There is a significant difference between groups with IBS and other FDC and the group without FDC ($p=0.000$). Depression is significantly higher in the group with IBS ($p<0.001$) according to Beck Depression Inventory.

Conclusions We found maladaptive eating behavior (pursuance for leanness, bulimia, inefficiency, interoceptive incapability) in adolescents with obesity, regardless of FDC. We observed increased discomfort with the body, distrust in interpersonal

relationships in adolescents with obesity and FDC. Self-respect prevails in all adolescents. They can assess their strengths and weaknesses, they can agree they may be wrong, which does not let them accept that something is impossible to change, and quickly react and correct what is possible. State and trait anxiety is more pronounced in adolescents with obesity and FDC, and depressive symptoms are diagnosed in adolescents with IBS.

P519 PSYCHOLOGICAL INTERVENTIONS AND MOTIVATION FOR WEIGHT LOSS IN GIRLS WITH ANDROID OBESITY

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Background Android obesity in childhood is the most unfavorable for the lipid and carbohydrate metabolism disorders, formation of high blood pressure and diabetes. Adolescents with obesity have a low level of motivation to the weight loss. It reduces the effectiveness of obesity treatment. The aim of our study was to determine the changes in motivation and self-attitude after psychological counseling (including motivational interviewing) of girls with android exogenous constitutional obesity.

Methods The study included 43 girls with android exogenous constitutional obesity aged 13–17 years (age 15.5 ± 1.0 ; SDS BMI 2.8 ± 0.7 ; waist circumference 97.3 ± 1.7). Group 1 consisted of girls who were treated for the first time according to this disease ($N = 23$). Group 2 consisted of girls who were treated earlier but without positive effect ($N = 20$). Primary and final diagnostics were carried out using methods of 'Diagnostics of the motivational sphere of the adolescent's personality' (J. Newten) and «Methods of self-attitude research» (S. R. Panteleev). Psychological counseling (including motivational interviewing) was conducted in the intermediate stage of this research to achieve changes in motives for treatment.

Results At the beginning of the study in girls of both groups the most pronounced motivation was the motivation of achievement, but without significant difference between studied groups. According to the «Methods of self-attitude research» the scale of self-accusing is significantly more pronounced in group 2 ($t = 2.76$; $p < 0.05$). Diffidence, incredulity and restraint indicate that girls were feeling guilt for past failed attemptings of weight loss. After psychological interventions, we revealed a significant increase of motives of affiliations, support and self-development, without significant differences between the studied groups. All these indicators are focused on the process of treatment. Moreover, we found the stabilization of self-esteem, significant decrease in self-accusing ($t = 2.88$, $p < 0.01$) and an increase in self-acceptance ($t = 2.74$; $p < 0.01$).

Conclusion Psychological interventions are an important component of obesity treatment, they increase motivation for proper weight loss. Motivational interviewing and psychological correction are recommended at the initial stages of obesity treatment, especially in adolescents with android exogenous-constitutional obesity and previous unsuccessful treatment. Such an interdisciplinary approach will improve and retain the commitment to treatment.

P520 GROWTH PATTERNS IN A PAEDIATRIC OUTPATIENT CLINIC AT SLIGO UNIVERSITY HOSPITAL AND ITS ASSOCIATION WITH CHILD FOOD PREFERENCE AND PARENTAL PERCEPTION OF CHILD WEIGHT STATUS

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Background Limited research exists on the prevalence of childhood overweight and obesity at a regional level in Ireland. Child food preference and recognition of abnormal development are important in managing weight in children.

Aim Determine the prevalence of overweight and obesity amongst children 6 -15 year attending paediatric outpatient clinics at Sligo University Hospital (SUH). Determine the association between child food preference and weight. Identify if misclassification by parents of their own weight is associated with misclassification of the child's.

Method 52 parent child pairs were recruited over 4 weeks in a cross-sectional study at SUH. Weight and heights were measured in participants. Parents completed a survey that contained questions on weight status and interest in healthy lifestyle information. A validated 62-item food preference questionnaire was completed by children and adolescents. Statistical analysis was performed using SPSS v24. Significance was set at $p < 0.05$.

Results One quarter of children and adolescents were overweight or obese. A majority of the 25% of children with excess weight were obese. Obesity was more prevalent amongst girls and children above the age of nine. None of the children followed a vegetarian, vegan or pescatarian diet. A small number of children reported allergies (15.3%). Food preference did not differ significantly between the different food groups. A slight trend was observed in children having an increased preference for fruits, snacks and starches, however there was no significant association between child food preference and weight. No parent recognised their child was overweight or obese. Parents misclassification of their own weight was not significantly associated with misclassification of their child's weight.

Discussion/Conclusion Obesity is becoming more of an issue in Irish children. The prevalence of overweight and obesity in this cohort reflect that of national figures. The influence of child and adolescent food preference on weight appears non-significant, this might suggest that it is portion size that plays a more significant role in weight status at this age than food group. Parents struggle to recognise overweight and obesity in children and adolescent and at present this represents a barrier to addressing abnormal growth.

P521 LOW PHYSICAL ACTIVITY LEVELS AND HIGH SCREEN TIMES ARE ASSOCIATED WITH INCREASED WEIGHT AND ADVERSE BODY COMPOSITION AT 5 YEARS OF AGE: FINDINGS FROM THE ROLO KIDS STUDY

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Background Childhood obesity rates have reached epidemic proportions world-wide, identifying modifiable factors to