according to the serum levels of LDL-C; Groups 1, 2, 3 consisted of hypolipidemic patients (n=61), normolipidemic patients (n=135) and hyperlipidemic patients (n=161), respectively. HOMA-IR above 3.42 was defined as IR.

Body mass index were not different among these groups ($p > 0.05$). The frequency of NAFLD was 44.5% in the entire study group and were 52%, 44.7% and 41.4% in the Groups 1, 2, 3, respectively. The frequency of NAFLD were not different among these three groups ($p > 0.05$). In NAFLD patients, HDL-C levels were lower than in patients without NAFLD ($p > 0.01$) and negatively correlated with ALT levels ($r = -0.1$, $p < 0.05$).

In patients with IR (n=172), the frequency of NAFLD and triglyceride levels were higher and HDL-C levels were lower than in patients without IR (n=178). The frequency of IR were not different among the Groups 1, 2 and 3 ($p > 0.05$).

It is found out that hypolipidemic obese patients, clinically not given much attention, have NAFLD at least as frequent as hyperlipidemic patients do. On the other hand, obese patients with IR and NAFLD have atherogenic profile; high triglyceride and low HDL-C levels. Low HDL-C levels may be related with also hepatosteatitis in the NAFLD. Therefore, abnormalities in lipid metabolism are significant contributors of obesity and associated co-morbidities.

P529

RECOGNITION OF OBESITY IN CHILDREN ATTENDING A PAEDIATRIC EMERGENCY DEPARTMENT (THE ROIC STUDY)

Jeanne Cloonan*, Emer Dwyer, Eimear Carlos, Ireti Farombi. *Our Lady of Lourdes Hospital, Drogheda, Ireland*

10.1136/archdischild-2019-epa.864

Background Childhood obesity is a global public health problem, linked to adult obesity and its associated co-morbidities. A study in a Paediatric Emergency Department in London in the BMJ in 2014 found a low recognition and referral rate for Paediatric Obesity.¹ However, no such studies have been performed to date in Ireland.

Aims To ascertain the incidence of obesity in patients attending our Paediatric Emergency Department.

To establish recognition of obesity by paediatric medical staff.

Methods This was a Prospective Study. Nursing staff were asked to measure heights along with weights at triage of children between 2 and 16 years of age, over a one week period. Inclusion criteria were paediatric medical patients, aged 2–16 yrs. Surgical/trauma patients, those who's height had not been documented and those who did not wait to be seen were excluded.

BMI centiles were calculated on all those meeting inclusion criteria. In those who plotted as overweight or obese, age, gender, presenting complaint, co-morbidities and nutritional history, if taken, were documented, along with whether the raised BMI was recognised/documentated by medical staff and if they received a referral for further follow-up.

Results A search of the Emergency Department IPMS system found 222 patients aged 2–16 years attended the Paediatric Emergency Department during the week of the study.

The ED charts of 149 patients who met criteria were reviewed. Heights were recorded in 61/149 (40%). BMI

centiles were plotted for those patients and 20/61 (33%) were found to be overweight or obese.

Of these patients, 10 were overweight (between 91st and 98th Centile) and 10 were obese (>98th Centile). 1/20 patients (5%) was noted to be obese and was referred to a dietician. 12(60%) were male and 8(40%) were female.

The most common presenting complaints were abdominal pain 4(20%) and chest pain 3 (15%).

5/20 (25%) had other documented co-morbidities.

Conclusions These results show a low recognition of paediatric obesity in the Emergency Department by paediatric medical staff.

These results also show a high incidence of obesity in our population however as only 40% of patients had heights measured the true incidence is difficult to determine.

These results support the need for further education of paediatric staff in the recognition of obesity and the development of guidelines and an appropriate referral pathway.

REFERENCE

1. Knight M, Booth C. Obesity management in a Paediatric Emergency Department. *BMJ Qual Improv Rep.* 2014;3(1):u203067.w1454.

P530

ASSOCIATIONS BETWEEN DISORDERED EATING ATTITUDES AND BEHAVIORS IN ADOLESCENTS WITH OBESITY AND DEPRESSION AND ANXIETY

¹Aslı Okbay Güneş*, ²Müjgan Alıkaşifoğlu, ³Ezgi Şen Demirdöğen, ⁴Ethem Erginöz, ⁵Türkay Demir, ⁶Oya Ercan. ¹Istanbul University-Cerrahpaşa, Department of Pediatrics, Istanbul, Turkey; ²Istanbul University-Cerrahpaşa, Department of Pediatrics, Division of Adolescent Medicine, Istanbul, Turkey; ³Istanbul University-Cerrahpaşa, Department of Child and Adolescent Mental Health and Diseases, Istanbul, Turkey; ⁴Istanbul University-Cerrahpaşa, Department of Public Health, Istanbul, Turkey; ⁵Istanbul University-Cerrahpaşa, Department of Pediatrics, Division of Adolescent Medicine and Endocrinology, Istanbul, Turkey

10.1136/archdischild-2019-epa.865

Objective The aim of this study was to determine whether there were any associations between disordered eating attitudes and behaviors and depression and anxiety among obese adolescents.

Methods A prospective cross-sectional study comprising 80 obese adolescents was performed from November 2013 to September 2014. Disordered eating attitudes were evaluated by the 'Eating Disorder Examination Questionnaire (EDE-Q)' and 'Dutch Eating Behavior Questionnaire(DEBQ)'. 'Eating Disorder Examination Questionnaire' contains four subscales that evaluate restraint, eating concerns, shape concerns, and weight concerns, and the items evaluate eating attitudes of the individual over the last four weeks. 'Dutch Eating Behavior Questionnaire' comprises three subscales which measure restrained eating, emotional eating, and external eating behaviors. Psychiatric examinations were performed for binge eating disorder (BED). Depression was evaluated by 'Children's Depression Inventory (CDI)', and anxiety was evaluated by the 'State-Trait Anxiety Inventory for Children'. Mann-Whitney U, Chi-Square and Pearson Correlation tests were used for statistical analysis.

Results Mean age of the subjects was 14.01 ± 1.59 years. Forty-six (57.5%) of the subjects were girls. Mean body mass index was found as 31.29 ± 3.06 kg/m². Twenty adolescents were found to have depression and 23 adolescents were found to have BED. There were significant associations between

DEBQ emotional eating score, EDE-Q eating concern score, EDE- shape concern score, EDE-Q weight concern score, EDE-Q total score and CDI score (>19) (p : 0,03; 0,02; 0,007; 0,01; 0,049 respectively). No significant association was found between BED and depression (CDI score >19). At Pearson's correlation test, positive correlations were found between DEBQ emotional eating score, DEBQ total score, EDE-Q eating concern score, EDE-Q shape concern score, EDE-Q weight concern score, EDE-Q total score and the STAI score ($p = 0.0001$). No significant association was found between BED and the STAI scores.

Conclusion In obese adolescents, disordered eating attitudes and behaviors could be associated with anxiety and depressive symptoms. Thus, all adolescents with obesity should be screened for their eating attitudes and behaviors and also for their emotional health.

P531 PREVALENCE OF OBESITY AMONG SCHOOLCHILDREN IN ST. PETERSBURG

Vera Gricinskaya, Valeria Novikova*, Margarita Gurova. *St. Petersburg State Pediatric University, St. Petersburg, Russian Federation*

10.1136/archdischild-2019-epa.866

Introduction The upward steady trend in the prevalence of obesity in the pediatric population during the last decades is a significant medical and social problem.

Objectives To study the prevalence of obesity among schoolchildren in St. Petersburg.

Methods Totally 6449 schoolchildren aged 6–17 years old had been enrolled in the cross-sectional study with the use of random sampling techniques. All investigated children were subdivided into 4 subgroup: I - 946 children 6–7 years old; II – 2092 children aged 8–11 years; III – 2925 children aged 12–15 лет; IV – 486 children aged 16–17 years old. We measured the length and weight of the body, waist circumference (WC), calculated body mass index (BMI). We diagnosed obesity if BMI value was above 95 percentile in accordance with the standards centile scale 'WHO Growth Reference 2007'. A visceral obesity was diagnosed when the WC exceeded more than 90 percentile according to the scale proposed by International Diabetes Federation (2007). Data was analyzed using the statistical package «STATISTICA v.7.0 ».

Results Obesity was diagnosed in 13.8% of schoolchildren. We have identified the following relationships between age, gender, and obesity. According to the gender, obesity was found to be more common among boys (15.8%) than girls (11.5%; $p < 0.001$). The difference is statistically significant in the I ($p < 0.001$), II ($p < 0.001$) and IV ($p = 0.01$) groups. In the third age group, the number of boys and girls with obesity was equal.

According to the age, boys with obesity in IV gr. were less than in I gr. (16.8%; $p = 0.004$), II gr. (17.4%; $p = 0.001$) and in III gr. (15.6%; $p = 0.007$). Similarly, obese girls in IV gr. were less (3.6%) than in I gr. (9.3%; $p = 0.004$), in II gr. (9.5%; $p = 0.002$) and especially in III gr. (15.1%); $p < 0.001$). The largest number of obese girls were detected in III group, compare to II and I groups ($p < 0.001$).

Waist circumference exceeding 90 percentile are defined in 2.7% of schoolchildren. The number of boys was greater (3.7%) than girls (1.7%; $p = 0.009$).

Conclusion We found a high prevalence of obesity among schoolchildren of the megalopolis - up to 13.8%.

P532 USE OF NEW TECHNOLOGIES FOR THE FOLLOW-UP IN ADOLESCENT OBESITY; MOBILE HEALTH INTERVENTION (MHI) A RANDOMIZED CONTROLLED TRIAL

Myriam Dabbas*, Geraldine Lepage, Emilie Boedoz, Adrien Charrat, Marion Consfroy, Yann Manh. *Hôpital Necker Enfants Malades, AP-HP, Paris, France*

10.1136/archdischild-2019-epa.867

Childhood obesity continues to be a key challenge in France. Our unit is facing in high demand with limited resources.

The purpose of this study is to evaluate the efficacy of distance follow-up on decreasing of body mass index compared to traditional management in obese adolescents.

Methods After a traditional intensive period consisting in a weekly family-based multidisciplinary intervention for two months, patients are randomized in the two arms, traditional (group 1) or distance follow-up (group 2).

Traditional follow up based on face-to-face multidisciplinary consultations every three months.

The distance monitoring based on a mobile application dedicated to food behaviour change and physical activity, with weekly self-monitoring' goal setting, physical activity and healthy eating support' and monthly weight assessment, more-over pre-programmed feedbacks 'motivational strategies' are included.

Only anonymous data were collected After one year of follow up, adolescents were evaluated for weight loss, compliance and quality of life, the two groups were compared.

All adolescents (more than 11 years) attending our unit for obesity care, were invited to be include the trial. Exclusion criteria were mental disability, syndromic obesity, bariatric surgery or no French speaking.

Results 91 adolescents (42 boys) were enrolled in this trial,

79 patients were randomized (14% loss of follow-up during the intensive care).

Mean age was 12.82 ± 1.3 years, mean of Body Mass Index (BMI) was 30.8 ± 4.08 corresponding to 3.94 ± 0.7 , Z- score BMI.

The loss of follow up at one year was 9% in the two groups (after 4 months on average).

The group '1' had a mean of 4 hours/patient/year of face to face visits while the group'2' had a mean of 0.5 hour/patient/year of distant chat.

After one year of follow-up the success rate (decreasing of BMI Z- score more than 0.5 points) was 21% in the group 1 and 30% in the group 2, 66.7% and 65% of adolescents stabilized their BMI Z-score in the two groups respectively.

Obesity is a chronic disease that needs a strong and long term follow-up; the addition of new technologies for distant monitoring can be helpful to promote healthy lifestyle in obese adolescents and can support them to have more autonomy and fewer appointments with professionals.

Nevertheless, despite an intensive program of care with a multidisciplinary dedicated team, the impact on weight loss still modest, and our future efforts must focus on improving individual results.