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Purpose: Renal impairment is an established medical complication in patients with malnutrition due to restrictive eating disorders. Electrolyte derangements, nephrolithiasis, acute kidney injury, and impaired osmoregulation are reported as renal complications. We sought to evaluate renal function in hospitalized adolescents and young adults (AYA) with Anorexia Nervosa (AN) and Atypical Anorexia Nervosa (AAN) undergoing medical stabilization.
Methods: This is a secondary analysis of data from the Study of Refeeding to Optimize Inpatient Gains (StRONG) trial, a multicenter randomized controlled trial comparing higher-calorie refeeding (HCR) versus lower-calorie refeeding (LCR) in 120 AYA hospitalized with medical instability secondary to AN or AAN. Vital sign measurements, weight [to calculate percent of median body mass index (%mBMI)], electrolytes, and fluid status were evaluated at baseline and daily. Renal function was quantified using daily creatinine measurement and calculation of the glomerular filtration rate (GFR) using the modified Schwartz equation. Unpaired t-tests compared group by GFR. Generalized mixed linear regression compared GFR over time by treatment arm (HCR versus LCR).
Results: Of the 111 participants who completed treatment protocol, mean (SD) age was 16.5 (2.5) years, and 33% had a baseline GFR less than 90 mL/min/1.73m2, suggesting renal impairment. %mBMI in those with GFR $<$ 90 mL/min/1.73m2 was 84.6 (.10) vs. 84.9 (.12) in those with GFR $>$ 90 mL/min/1.73m2 (p=.89). GFR improvement throughout hospitalization was significantly greater in those treated with higher calorie refeeding (p=.04), and in those admitted with GFR $<$ 90 mL/min/1.73m2 (p$<$.05).
Conclusions: Renal impairment is evident on admission in a significant number of AYA hospitalized with AN and AAN. Higher calorie refeeding led to greater improvement in GFR as compared to lower calorie refeeding, particularly for those with more significant renal impairment on admission. These findings support the efficacy of HCR in restoring medical stability and reversing negative consequences of malnutrition faster than LCR.
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TESTOSTERONE LEVELS IN ADOLESCENT MALES HOSPITALIZED FOR MALNUTRITION

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Purpose: Previous studies among malnourished disordered eating patients have shown differences in menstrual patterns between female patients with Avoidant Restrictive Food Intake Disorder (ARFID) and Anorexia Nervosa (AN), potentially related to the fat content of recently consumed food. Little has been written about testosterone levels and testosterone level recovery among malnourished males. The purpose of this study is to describe testosterone levels in adolescent males at both presentation and later in hospitalization for refeeding.
Methods: Patient data of all males admitted to a disordered eating unit at a children's hospital between January 2014 and December 2020 were reviewed. Of these, 40 males had a testosterone level drawn, of whom 16 had two or more testosterone levels recorded during a single inpatient stay. Data extracted during retrospective chart review included BMI on admission; %mean estimated BMI (MEBMI) was calculated per CDC growth charts. Additional data points collected included eating disorder (ED) diagnosis, sexual maturity rating (SMR) , demographic variables including age, and whether the patient had eaten "junk food" defined as fried foods, chips, pizza, traditional fast food, sugared soda, sweets or desserts in the reported diet history from the 24 hours prior to admission. Analysis included frequencies, determinations of normality for continuous variables, T-test or Wilcoxon-Mann-Whitney test (as appropriate), and robust regression.
Results: 34 male patients were included in the initial analysis. Their mean age was 16.3 years. 17 patients had a diagnosis of AN; 17 patients had a diagnosis of ARFID. The mean age (16.7 for ARFID, 15.9 years for AN) and median SMR (5, for the patients for whom it was available) were not significantly different between groups, nor were testosterone levels on admission to the hospital. Patients with ARFID (72.0%) had a lower %MEBMI (p=0.003) at presentation than those with AN (82.9%). Regression analysis using testosterone as the dependent variable and controlling for %mean estimated BMI did not show a significant association of ED diagnosis with initial testosterone level. The proportion of subjects reporting junk food consumption 24 hours before admission was not significantly different among those with ARFID (88%) and those with AN (69%). Among the 16 patients with more than one testosterone value, mean age was 15.8 years, median BMI was 15.3 kg/m2, %MEBMI was 77.9%, and median time to second measured testosterone value was 11.5 days (range of 3-30.5 days). Paired t-test showed significantly greater testosterone levels at the second evaluation than the first. The mean difference between testosterone levels 1 and 2 was 156 ng/dL (p=0.01).
Conclusions: Testosterone levels for malnourished adolescent males rebound quickly with refeeding. ED diagnosis and consumption of "junk food" do not appear to be independently associated with testosterone levels at admission.
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BMI CHANGES IN AN ADOLESCENT POPULATION DURING THE COVID-19 PANDEMIC LOCK-DOWN

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Purpose: The COVID-19 pandemic impacted behaviors associated with obesity, such as a decrease in physical activity, poor access to healthy food and consumption of sugary-drinks. Little is known on the effects of the pandemic on the weight of adolescents in the U.S, especially in urban settings. Our objective was to evaluate the Body Mass Index Percentile (BMIp) of adolescents 12-17 years old before and after the lockdown measures imposed with the COVID-19 pandemic. Furthermore, this study aims to determine if factors such as prior overweight/obesity, age, sex, and ethnicity were associated with changes.
Methods: We performed a cross-sectional retrospective review of patients seen in the Adolescent clinic of a community hospital in Queens, NY aged 12 to 17 years old, who had a BMI recorded during the pre-lockdown period(January-2019 to February-2020) and