

**Methods:** This study is a retrospective cohort study, conducted by chart review of 50 patients with restrictive eating disorders enrolled in the Eating Disorder Day Treatment Program. We evaluated how patient demographic and clinical factors (e.g. diagnosis, disorder behaviors, age, gender, race, ethnicity, patient comorbidities, baseline RCADS and DERS scores) associate with patient outcomes (e.g. rate of weight change), and tested correlation between both RCADS and DERS scores and weight over time. We also performed a sub-analysis for weight change outcome among anorexia nervosa vs. atypical anorexia nervosa and avoidant restrictive food intake disorder types. Outcome variables include change in weight over time, length of stay, disposition (success: discharge to a lower level of care; unsuccessful: to a higher level of care), and changes in RCADS and DERS over admission to the program.

**Results:** The median weight change was 7.28 (IQR: 2.65-11.35) pounds weight gain with median BMI increase of 1.71, and the median length of stay was 39.50 days (IQR: 23.00-61.00). Both weekday phases (M-W and W-F) had statistically significantly greater estimated gains in weight than weekends ( $p < 0.0001$ ). The data indicate that most patients' weights follow a positive linear trend over time with some differences in slope. The first DERS median score was 2.71 (IQR: 1.86-3.33) and the last DERS median score was unchanged at 2.71 (IQR: 1.75-3.36). The first RCADS T-score was 53 (IQR: 40-68), and last RCADS T-score 49.5 (IQR: 38-67). These first and last scores are all in the subclinical range, and plots of DERS scores and RCADS scores indicate that survey results do not follow a clear path over time. For DERS and RCADS scores, there were several clinical and demographic correlates that had statistically significant interaction effects with time, however the effect sizes were small.

**Conclusions:** Weight outcomes showed that the Eating Disorder Day Treatment Program was successful in having most patients with a history of restrictive eating achieve good weight gain and increase in BMI, with greater increases in weight during the weekdays while receiving services. However, despite some small interactions between time and baseline variables, the DERS and RCADS scoring showed no statistically significant correlation with weight change or time during admission, and first and last scores of the DERS and RCADS were within normal range. Thus, our study did not demonstrate changes in emotional dysregulation or anxiety/depression during the course of admission, despite an overall upward trend in weight. Further research into the severity of these symptoms across treatment levels may suggest that cognitions and depression/anxiety change later in treatment than hypothesized.

**Sources of Support:** None.

## RESEARCH POSTER PRESENTATION II: EATING DISORDER/LGBTQ

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### CLINICAL CHARACTERISTICS OF SEXUAL MINORITY YOUTH HOSPITALIZED FOR AN EATING DISORDER

Anita V. Chaphekar, DO<sup>1</sup>, Paola Bojorquez-Ramirez<sup>2</sup>, Andrea K. Garber<sup>1</sup>, Kyle T. Ganson<sup>3</sup>, Vanessa I. Machen<sup>1</sup>, Sara M. Buckelew<sup>1</sup>, Jason M. Nagata<sup>1</sup>

<sup>1</sup>University of California, San Francisco; <sup>2</sup>Yale School of Public Health, Yale University; <sup>3</sup>Factor-Inwentash Faculty of Social Work, University of Toronto.

**Purpose:** Sexual minority youth (SMY) identify as, but not limited to, lesbian, gay, or bisexual. SMY are at increased risk for eating disorders which may lead to serious medical complications and death. It is important to understand characteristics of SMY with eating disorders to

inform optimal medical management and ensure health equity for this vulnerable population. The purpose of this study was to describe clinical characteristics among SMY admitted to an inpatient eating disorders program.

**Methods:** A retrospective chart review was conducted of 601 patients, aged 9 to 25 years, admitted to a large inpatient eating disorders program between May 2012 and August 2020. Those who did not have their sexual orientation listed in their electronic medical record (EMR) were excluded from the study ( $n=114$ ). Data including age, sex assigned at birth, sexual orientation, eating disorder diagnosis, percent median body mass index (% mBMI) at admission, and vital signs at admission was collected. In this study, SMY were defined as lesbian, gay, bisexual, queer, unsure/questioning, pansexual, and asexual. Fisher's exact, Chi square, and t-tests were conducted to examine potential differences in clinical characteristics between SMY and heterosexual youth.

**Results:** Among the sample of 487 patients, mean age was 15.6 years (SD 2.7), 83.4% ( $n=406$ ) were assigned female at birth, and 16.6% ( $n=81$ ) were assigned male at birth. SMY made up 21.1% ( $n=103$ ) of our sample. Among SMY, 73.8% were diagnosed with anorexia nervosa (includes restricting, binge/purge, and atypical subtypes) compared to 74.2% of heterosexual youth ( $p=0.87$ ). There was no difference in anorexia nervosa subtypes between groups ( $p=0.24$ ). Percent mBMI at admission of male SMY was 85.9 (SD 15.5) vs 86.3 (SD 14.3) in male heterosexual youth ( $p=0.93$ ). Percent mBMI in female SMY was 91.0 (SD 15.6) vs 87.0 (SD 13.0) in heterosexual females ( $p=0.013$ ). 19.4% SMY ( $n=20$ ) had a heart rate less than 50 beats per minute upon admission vs 27.3% ( $n=105$ ) of heterosexual youth ( $p=0.10$ ). 3.9% SMY ( $n=4$ ) had systolic blood pressure (SBP) less than 90 mmHg on admission vs 3.4% ( $n=13$ ) heterosexual youth ( $p=0.77$ ). There were no SMY that had diastolic blood pressure (DBP) less than 45 mmHg on admission vs 0.26% ( $n=1$ ) of heterosexual youth ( $p=1.00$ ). When stratified by sex assigned at birth, there was no difference in SMY males and heterosexual males in pulse less than 50 ( $p=0.72$ ) or SBP less than 90 ( $p=0.14$ ). There was no difference between female SMY and female heterosexuals in pulse less than 50 ( $p=0.13$ ), SBP less than 90 ( $p=1.00$ ), or DBP less than 45 ( $p=1.00$ ).

**Conclusions:** SMY females had a higher %mBMI on admission, however their vital sign abnormalities did not differ from heterosexual females. This suggests that although SMY females are admitted at a higher weight, they have equally severe vital sign instability as their heterosexual female peers and thus, should be monitored for additional medical complications.

**Sources of Support:** A.V.C. is funded by the Maternal and Child Health Leadership Education in Adolescent Health Training grant (T71MC00003). J.M.N was funded by the American Heart Association Career Development Award (CDA34760281) and the National Institutes of Health (K08HL159350-01).

## RESEARCH POSTER PRESENTATION II: EATING DISORDER

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### RENAL FUNCTION IN PATIENTS HOSPITALIZED WITH ANOREXIA NERVOSA UNDERGOING MEDICAL STABILIZATION: FINDINGS FROM THE STUDY OF REFEEDING TO OPTIMIZE INPATIENT GAINS (STRONG)

Amanda E. Downey, MD<sup>1</sup>, Jing Cheng, MD, PhD<sup>1</sup>, Sally H. Adams, PhD, RN<sup>1</sup>, Sara M. Buckelew, MD, MPH<sup>1</sup>, Cynthia J. Kapphahn, MD, MPH<sup>2</sup>, Vanessa I. Machen, MS, RD<sup>1</sup>, Neville H. Golden, MD<sup>2</sup>, Andrea K. Garber, PhD, RD<sup>1</sup>

<sup>1</sup>University of California, San Francisco; <sup>2</sup>Stanford University.

**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/1.73m<sup>2</sup>, suggesting renal impairment. %mBMI in those with GFR < 90 mL/min/1.73m<sup>2</sup> was 84.6 (.10) vs. 84.9 (.12) in those with GFR > 90 mL/min/1.73m<sup>2</sup> (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/1.73m<sup>2</sup> (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.

**Sources of Support:** National Institute Child Health & Human Development #R01HD082166; ClinicalTrials.gov Identifier NCT02488109.

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#### TESTOSTERONE LEVELS IN ADOLESCENT MALES HOSPITALIZED FOR MALNUTRITION

Madeleine C. Duarte<sup>1</sup>, Haley Baker<sup>1</sup>, Amy B. Middleman<sup>1</sup>

<sup>1</sup>University of Oklahoma.

**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/m<sup>2</sup>, %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.

**Sources of Support:** none.

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#### BMI CHANGES IN AN ADOLESCENT POPULATION DURING THE COVID-19 PANDEMIC LOCK-DOWN

Isabella Vallenilla, MD<sup>1</sup>, Thaina Rousseau-Pierre, DO<sup>2</sup>, Larissa Polanco<sup>2</sup>, Andres Rivera, MD<sup>1</sup>, Tania Lopez, MD<sup>2</sup>, Maria Pilar Gonzalez, MD<sup>2</sup>, Janet Siegel, DO<sup>2</sup>, Shreeya Parajuli, MD<sup>1</sup>

<sup>1</sup>Mount Sinai School of Medicine; <sup>2</sup>Elmhurst Hospital.

**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