

between 15–17-years old had stopped gender-affirming medications compared with 10.6% of patients who started GnRHa between 9–14-years, though this difference did not reach statistical significance. Insurance sponsor's rank (family income), birth-assigned sex, and the presence of mood disorders were not associated with cessation rates. Within 2 years of starting GnRHa, 83.2% (95%CI: 70.2 – 94.4%) of patients had started gender-affirming hormones; within 8 years of starting GnRHa, this number increased to 91.6% (95%CI 81.6 –100%). Younger patients had a greater delay in starting gender-affirming hormones. Insurance sponsor's rank, birth-assigned sex, and the presence of mood disorders were not associated with initiation of gender-affirming hormones.

Conclusions: Contrary to concerns, GnRHa use did not inevitably lead to use of gender-affirming hormones. One out of twelve TGD adolescents who started GnRHa to address gender dysphoria subsequently stopped treatment.

Sources of Support: None.

PLATFORM RESEARCH PRESENTATION III: INTERVENTION AND PREVENTION

19.

HIGHER CALORIE REFEEDING IN ATYPICAL ANOREXIA NERVOSA: SHORT-TERM OUTCOMES FROM THE STUDY OF REFEEDING TO OPTIMIZE INPATIENT GAINS (STRONG)

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Purpose: StRONG was a multicenter randomized clinical trial of refeeding in hospitalized adolescents and young adults with malnutrition secondary to anorexia nervosa (AN) and atypical anorexia nervosa (AAN) (ClinicalTrials.gov #NCT02488109). At end-of-treatment, higher calorie refeeding (HCR) was more efficacious and less costly than lower calorie refeeding (LCR). Here we compare efficacy of HCR in AAN vs. AN.

Methods: Participants were N=120, 12–24 yr-olds with > 60% median Body Mass Index (%mBMI) and medical instability. AAN was defined as %mBMI >85% at baseline. Meal-based HCR began 2000 calories/day (kcal/d) and advanced 200 kcal/d; LCR began 1400 kcal/d and advanced 200 kcal every other day (no tube feeding). Efficacy was defined as time to restore a 6-point Medical Stability Index (MSI): heart rate (HR) ≥ 45 bpm; systolic blood pressure (SBP) ≥ 90 mmHg, temperature ≥ 35.6° C, orthostatic increase in HR ≤ 35 bpm and decrease SBP ≤ 20 mmHg, and ≥ 75% median BMI (%mBMI). Main outcome was days to restore MSI, compared between groups with unpaired t-test. Exploratory moderator analyses examined the interaction between refeeding treatment and diagnosis on key outcomes (time to recover heart rate and weight gain). Weight gain was defined as change in %mBMI.

Results: Modified intention to treat analyses included N=111. Mean age was 16.5 (2.5) yrs, 43% had AAN. Upon admission, %mBMI was 95.2 (9) in AAN vs. 76.5 (5.9) in AN, p<.001. Upon discharge, %mBMI was 98.3 (8.9) in AAN vs. 82.2 (5.3) in AN, p<.001. MSI was restored fastest in patients with AN refed by HCR [7.1 (5.4) days], whereas

medical stability required three additional days to restore in patients with AAN [10.1 (5.3) days, p<0.01]. Diagnosis (AAN or AN) and treatment (HCR or LCR) interacted to weaken the effect of refeeding on HR recovery [B=3.76 (.572,6.95), p=0.021] and weight gain [B=0.39 (.006,0.72), p=0.021], which was 0.3% mBMI per day slower (p=0.005) and 2.6% mBMI less overall (p=0.009) in AAN than AN.

Conclusions: While HCR is more efficacious than LCR for refeeding in AN, it may contribute to underfeeding in AAN.

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

20.

IN AN ETHNICALLY/RACIALLY AND SOCIOECONOMICALLY DIVERSE SAMPLE OF ADOLESCENTS, DO WEIGHT STIGMA, FAMILY FUNCTIONING, AND PARENTING PRACTICES PREDICT DISORDERED EATING BEHAVIORS EIGHT YEARS LATER?

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Purpose: Weight stigma is a prevalent problem with concerning health consequences in young people. For example, studies in adolescents and young adults have consistently found that weight stigma is associated with higher prevalence of depressive symptoms, low self-esteem, body dissatisfaction, and disordered eating behaviors. Because of the crucial role of family members and the home environment for adolescent psychosocial development, it is important to understand the relationship between weight stigma and disordered eating behaviors within the familial context. The present study aimed to examine whether weight stigma, family functioning, and parenting practices during adolescence predict unhealthy weight control behaviors (UWCB) eight years later.

Methods: Ethnically/racially and socioeconomically diverse adolescents in this prospective cohort study were surveyed within local public schools in the Project EAT 2010–2018 study (mean age=14.4 years at baseline, N=1534). Adolescents self-reported on four weight stigma variables (hurtful weight-related comments from family, weight teasing from peers, weight teasing from family, and weight teasing from any source) and four family variables (family functioning, parental connection, parental monitoring, and parental psychological control). The outcome, UWCB (e.g. fasting, vomiting, laxative use), was self-reported by young adults eight years later. Logistic regression models estimated odds ratios (OR) and 95% confidence intervals (CI) of UWCB for four weight stigma predictors and four family predictors. Models were adjusted for sociodemographic characteristics, baseline UWCB, and baseline BMI percentile, and predictors were modeled separately.

Results: In analyses adjusted for sociodemographic characteristics, all weight stigma and family variables during adolescence longitudinally predicted significantly higher odds of UWCB eight years later. After additionally adjusting for baseline UWCB and baseline BMI percentile, two weight stigma variables (weight teasing from family [OR: 1.42, 95% CI: 1.08, 1.87] and hurtful weight-related comments from family [OR: 1.34, 95% CI: 1.06, 1.70]) and one family variable (poor family functioning [OR: 1.44, 95% CI: 1.14, 1.81]) remained significantly associated with subsequent UWCB.

Conclusions: Findings indicate that there are long-term consequences, across major development periods, of weight teasing from family, hurtful weight-related comments from family, and low family

functioning during adolescence on disordered eating behaviors. These results suggest that healthcare providers should educate adolescents and their family members about weight stigma, its harmful health consequences, and the vital role family members play both in creating a supportive home environment and in communication about weight-related health.

Sources of Support: This study was supported by grant numbers R01HL127077 and R35HL139853 from the National Heart, Lung, and Blood Institute (PI: Dianne Neumark-Sztainer). Laura Hooper's time was supported by the National Institutes of Health's National Center for Advancing.

21.

EFFECT OF GENDER AFFIRMING HORMONE THERAPY ON ATHLETIC PERFORMANCE: A FOUR YEAR FOLLOW UP STUDY

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Purpose: The effects of gender affirming hormone therapy (GAHT) on athletic performance past 24 months of treatment have not been quantifiably demonstrated. Identification of expected trends in performance is significant for transgender individuals' participation in competitive sport. World Athletics and the International Olympic Committee guidelines require female athletes to demonstrate testosterone levels of less than 5 -10 nmol/L respectively for 12 months preceding competition; only limited data have been gathered to demonstrate performance changes past this timeframe. Recent policy changes in the United States military allowing transgender members to serve presents an opportunity to evaluate longer term outcomes.

Methods: The Department of the Air Force uses a centralized clinical approach to gender transition. Air Force transgender patients were identified using the Air Force's multi-disciplinary care team database. GAHT initiation date was recorded, as well as comparison values for the Air Force Physical Fitness Test (PFT) components prior to and up to four years following GAHT initiation. Scores were categorized by year after GAHT initiation. The Air Force PFT performance measures are maximum number of push-ups and maximum number of sit-ups in 1 minute, and a 1.5 mile run time. Pre- and post-GAHT scores were compared by one-sample T-test to mean scores of Air Force wide cisgender averages for servicemembers aged 20-30 with $p < 0.05$.

Results: The sample included 374 patients, 146 transgender men and 228 transgender women with a mean age of 26 at GAHT initiation. Forty-three patients completed follow up to at least 36 months. Prior to GAHT, transgender males demonstrated better performance compared to cisgender females in push-ups, sit-ups, and run times ($p < 0.001$). Compared with cisgender males, they performed worse in all events ($p < 0.001$). Following initiation of GAHT, transgender men approached statistical equivalence with cisgender men in the sit up event at 1 year, while push-ups and run times took 3 years to equilibrate. Before GAHT, transgender females demonstrated worse performance in push-ups compared to cisgender males ($p < 0.001$) but were not significantly different in sit ups or run times. Compared with cisgender females, they demonstrated better performance in all events ($p < 0.001$). Following initiation of GAHT, transgender women performed significantly better than cisgender women at 1 year in all tested events ($p < 0.001$). Transwomen's performance approached

statistical equivalence with cisgender women at 2 years of GAHT in run times ($p = 0.07$), sit-ups at 3 years ($p = 0.34$), and were not equivalent in push-ups at the study's 4-year endpoint ($p = 0.02$).

Conclusions: In a sample of Air Force adult transgender patients, athletic performance measures change heterogeneously with respect to affirmed gender following GAHT. This highlights the need for continued study into transgender athletic performance and suggests that current guidelines may be incomplete.

Sources of Support: Roberts TA et al. Effect of gender affirming hormones on athletic performance in transwomen and transmen: implications for sporting organizations and legislators. *British Journal of Sports Medicine*, 2021 Wiik A et al. Muscle strength, size and composition.

22.

VACCINES FOR TEENS: ATTITUDES ACROSS THE PANDEMIC ON ROUTINE AND COVID-19 VACCINES

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Purpose: Given the increase in vaccine hesitancy, Unity Consortium surveyed adolescents and parents of adolescents across three time points during the Pandemic to evaluate factors associated with vaccine attitudes and acceptance of COVID-19 vaccines prior to its availability, after availability for adults, and after availability for adolescents ages 12+.

Methods: A third-party market research company conducted 15-minute, online surveys of teens ages 13-18 and parents/guardians of teens ages 13-18 from nationally representative panels. The surveys were conducted in three waves: 8/2020, 2/2021, and 6/2021. Waves 1, 2, and 3 included 300 teens each and 593/531/500 parents, respectively. The main topics included: experiences with COVID-19; ratings of importance of adolescent vaccines; and intentions regarding COVID-19 vaccination. Data were analyzed for differences across waves and demographic variables. Statistical analyses included frequencies and analysis of variance (ANOVA) and t-tests/z-tests.

Results: Parent ratings of the importance of teen vaccines were high across survey waves – 83-85% for Tdap, 80-84% for MenACWY/MenB and 74-78% for HPV. Ratings for COVID-19 ranged from 66-74%. Urban and suburban respondents showed stronger agreement than rural respondents with the importance of vaccines. The proportion of parents reporting concerns about vaccine safety rose from Wave 1 (52%) to Wave 2 (63%, $p < 0.05$). Over half of teens and approximately 50% of parents reported increasing concern across survey waves about vaccine safety due to what they have read on social media. By Wave 3, 56% of parents and 58% teens had received COVID-19 vaccine with pharmacy as the most common vaccination site. Self/family protection was consistently the leading motivation for getting the COVID-19 vaccine, and concern about side effects was the leading reason for not getting the vaccine, rising significantly across waves to approximately 6 in 10 of both parents and teens. Of parents whose teen was not yet vaccinated against COVID-19, 33% said they do not plan to do so. Within this group of parents, non-Hispanic (35% v. 26% Hispanic, $p < 0.05$) and rural (46% v. 26% urban, $p < 0.05$) parents were more likely to not vaccinate their teen. Demographic factors significantly associated with teens being vaccinated by Wave 3 included being from an urban community, Asian race, higher household income and living in the Northeast. Hispanic ethnicity and age of the