Title: Evaluating the Family Nutrition and Physical Activity (FNPA) Survey in Adolescents Preparing for Metabolic and Bariatric Surgery

Authors: Anna Berner, BS, Nina Crowley, PhD, RDN, LDN, Molly Mills, RDN, LDN, Sharlene Wedin, PsyD, Kelley Martin, MS, RDN, LDN, Lillian Christon, PhD

Objectives: Utilization of metabolic and bariatric surgery (MBS) in adolescents (<18 yo) is low, and preoperative evaluations are not standardized. This study aimed to determine the 'Family Nutrition and Physical Activity (FNPA) Survey' was related to characteristics of adolescents proceeding to surgery.

Design: Observational cross-sectional

Methods and Instruments: In this IRB-approved study, adolescents and caregivers completed psychosocial evaluations at a single center between 2017-2019 including the 20-item FNPA evaluating family obesogenic environments and health behaviors in 10 domains (eating habits, physical activity, screen time) with higher scores indicating healthier environments (range 20-80).

Results: Of 39 evaluated (M = 15.8 years, 62% female; BMI = 52), 22 were psychosocially 'cleared' after initial visit and 29 ultimately had MBS; those who had MBS did not differ from those who did not (n=10) on gender, age, BMI or FNPA score. A chi-square test of independence examining race and proceeding to surgery indicated that white patients (n=14) were significantly more likely to proceed to surgery (93%) than non-white patients (n=25; 60%; χ^2 (2, 39) = 4.785, p = .029)). BMI predicted a significant proportion of the variance (R^2 = .10) in FNPA scores (b = -.316, p = .05), with higher BMI associated with lower FNPA scores.

Conclusions: The FNPA can be used in an adolescent MBS-seeking patient population to assess obesogenic home environments; scores are distributed normally (M=49). Higher BMI is predictive of lower FNPA score, explaining 10% of the variance in FNPA. Future studies should evaluate post-surgical outcomes to determine clinical utility.