## *Health Equity & Community Engagement*

45852

### Parenting stress predicts fast food intake in an urban community sample of overweight parents of toddlers*

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ABSTRACT IMPACT: The findings suggest that targeting parenting stress in combination with psychoeducation on nutrition and physical activity may have positive effects in improving healthy food choices such as reduction of fast food intake, which may in turn impact the health of toddlers and their families. OBJECTIVES/GOALS: Parent stress is associated with a myriad of unhealthy behaviors including overeating, decreased physical activity, which contribute to increased weight. Several programs have aimed to increase education of nutrition, but few have focused on parent stress to improve healthy food intake. The present study assessed parent stress and fast food intake. METHODS/STUDY POPULATION: Parents who have obesity and had a toddler in the age group of 2-5 years were enrolled for a preventive intervention study to assess the effect of a parent-based intervention to improve family health choices and reduce childhood obesity risk. The sample included 105 participants, mean age 34.80 (6.27) years old, mean body mass index (BMI) 35.51 kg/m2, 39.0% Non-Hispanic White, 20.0% Non-Hispanic Black, 22.9% multiracial, 12.4% Hispanic, and 5.7% other. Stress was assessed using the Perceived Stress Scale (PSS) to assess overall general stress and the Parenting Stress Index (PSI) to assess parent-specific stress. Chaos in the home and fast food intake were also assessed using self-report surveys. RESULTS/ANTICIPATED RESULTS: Preliminary results are based on available data as of October 2020, data collection and recruitment are still in progress. There was a significant correlation between fast food intake with PSS (r=.18, p=.04), chaos (r=.24, p=.02), and PSI (r=.25, p=.01). Using a hierarchical regression model, we entered home chaos in the first block which explained a significant amount of the variability (R2= .06, p=.04). PSS was entered in the second block, which was not significant (R2 change=.01, p=.50), and in the final block PSI was entered and was significant (R2 change=.13, p <.01). DISCUSSION/SIGNIFICANCE OF FINDINGS: The data indicate that parenting stress uniquely predicts fast food intake above and beyond what could be explained by home chaos and general perceived stress. Future analyses will assess a parent-based intervention targeting stress reduction to improve weight and health for the parent and their toddlers in order to reduce childhood obesity risk.

## *Mechanistic Basic to Clinical*

25487

### Timing and strength of hand grasp that are affected by abnormal coupling between arm muscles following stroke: A pilot study

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ABSTRACT IMPACT: Impaired neuromuscular control could lead to the failure in activation and deactivation of the target muscles in a timely manner, with the concurrence of activities of non-targeted muscles. OBJECTIVES/GOALS: Stroke leads to impaired capacity to manipulate objects with the hand in terms of timing and strength of grasp. The influence of abnormal coupling across more proximal arm muscles post stroke on the failure in normal functioning of finger flexor muscle activity is of interest to investigate. METHODS/STUDY POPULATION: We have recruited 12 participants with stroke hemiparesis in the sub-acute or chronic stage. Motor impairment of the arm was assessed using electromyography (EMG) and the Fugl-Meyer Upper Extremity (FMUE) assessment. Participants were requested to flex and relax the metacarpophalangeal (MCP) joints against motorized resistance in response to audible tones to determine timing and strength during flexion. They were asked to flex maximally, as quickly as possible, in response to the first of a pair of tones, and relax as quickly as possible after the second tone. Delays in initiation and termination were evaluated using EMG responses versus a predefined threshold. RESULTS/ANTICIPATED RESULTS: We anticipate greater delays in grasp initiation as well as in grasp termination in participants with a greater extent of abnormal coupling across more proximal muscles of the upper extremity in comparison to participants with a less extent, using the results of the FMUE assessment. Also it is expected that participants with a greater extent of the flexion synergy produce a less extent of force generation. The EMG results will show that activities of more proximal arm muscles precede the initiation of MCP flexion and their activity termination precedes that of MCP flexion, significantly more in participants with a greater extent of the flexion synergy. DISCUSSION/SIGNIFICANCE OF FINDINGS: The flexion synergy over the arm following stroke affects the timing and strength of hand grasp. Impaired neuromuscular control could lead to the failure in activation and deactivation of the target muscles in a timely manner, with the concurrence of activities of non-targeted muscles.

70740

### Impact of fundus pigmentation on retinal layer visibility on investigational bedside optical coherence tomography in preterm infants

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ABSTRACT IMPACT: This study helps translate investigational bedside optical coherence tomography into improved diagnosis and care of preterm infants at risk for retinopathy of prematurity. OBJECTIVES/GOALS: In retinopathy of prematurity screening, fundus photography may be of limited quality in eyes with dark fundus pigmentation (FP). The goal of this study was to evaluate the impact of FP on overall scan quality and retinal layer visibility on investigational bedside optical coherence tomography (OCT) in preterm infants. METHODS/STUDY POPULATION: We analyzed 846 OCT scans captured prospectively from 188 eyes of 94 preterm infants enrolled in the BabySTEPS study (NCT02887157). Trained ophthalmologists, masked to OCT findings, determined FP (blond, medium, or dark). Expert graders, masked to FP, evaluated OCT images for: 1) overall OCT quality (excellent, acceptable, poor, or unusable); and 2) all age-appropriate retinal layers visible (yes or no). To assess the association of FP with OCT quality (excellent/acceptable or poor/unusable) and retinal layer visibility, we performed multivariable logistic regression modeling, adjusting for

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