individuals, PPV was lower among those completing vaccination (12% vs. 16% for incomplete vaccination; p = 0.04) and among those initiating vaccination at <21 years of age (9% vs 26% for 21+y; p<0.0001). DISCUSSION/SIGNIFICANCE OF IMPACT: Among a population with low HPV vaccine coverage, the decrease in dysplasia prevalence among vaccinated individuals is resulting in a subsequent decrease in PPV of cervical cytology, particularly in those initiating vaccination prior to 21 years of age and among those completing the series. Confirmation of these results will call for changes in screening strategies for vaccinated individuals. CONFLICT OF INTEREST DESCRIPTION: Acelity: Industry grant for an investigator-initiated industry-sponsored clinical trial. Tesaro: Site PI for industry-sponsored clinical trial. NOTE: Funding from the industries above are unrelated to the research presented in the abstract.

4100

Chronic Pain in Refugee Torture Survivors

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OBJECTIVES/GOALS: An estimated 87% of torture survivors, or 27 million people globally, suffer from chronic pain such as brachial plexopathy from upper extremity suspension or lumbosacral plexus injury from leg hyperextension. However, a vast majority of pain is undetected by evaluators due to a lack of diagnostic tools and confounding psychiatric illness. This diagnostic gap results in exclusive psychological treatment rather than multimodal therapies, substantially limiting rehabilitation, placing vulnerable individuals at higher risk of drug abuse, and increasing healthcare expenditures. We hypothesized that the novel application in torture survivors of a validated pain screen can supplement the UNIP and improve its sensitivity for pain from approximately 15% to 90%, as compared to the reference standard. METHODS/STUDY POPULATION: In this prospective, blind comparison to gold standard study, 25 patients who survived torture by World Medical Association definition first received the standard evaluation protocol for torture survivors (United Nations Istanbul Protocol, UNIP) by a trained evaluator, and subsequently received a validated pain screen (Brief Pain Inventory Short Form, BPISF) followed by a non-invasive examination by a pain specialist physician (reference standard). The primary outcome was the diagnostic and treatment capability of the standard protocol (index test) versus the validated pain screen (BPISF), as compared to the reference standard. RESULTS/ANTICIPATED RESULTS: Providers using only the UNIP detected and treated pain in a maximum of 16% of patients as compared to 85% of patients who were diagnosed with pain by the reference standard. When employed, the validated pain screen had a sensitivity of 100% [95% CI: 72% - 100%] and a negative predictive value of 100%, as compared to a sensitivity of 24% [95% CI: 8% - 50%] and negative predictive value of 19% by the index test. The difference in the sensitivity of the UNIP as compared to the BPISF was significant, with p <0.001. DISCUSSION/SIGNIFICANCE OF IMPACT : These data indicate that the current global standard assessment of torture survivors, the United Nations Istanbul Protocol, should be supplemented by the use of a validated pain screen to increase the accuracy of chronic pain diagnosis. This would change the standard medical assessment of 70.8 million people globally, a number that

continues to rise by nearly 45,000 people each day. ClinicalTrials.gov protocol number NCT03018782.

4220

Cognitive Function and Relationships with Intervention Dropout, Adherence and Weight Loss

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OBJECTIVES/GOALS: Greater cognitive function (CF) is associated with adherence to prescription medications, better program adherence and weight loss (WL) following bariatric surgery. The purpose of this study was to evaluate the association between baseline CF, intervention dropout, adherence and 3-month WL. METHODS/STUDY POPULATION: 107 ($M_{age} = 40.9$ yrs.), overweight/obese ($BMI = 35.6$ kg/m^2) men (N = 17) and women (N = 90) completed a 3-mo. WL intervention. Participants were asked to attend weekly behavioral sessions, comply with a reduced calorie diet and complete 100 min of moderate intensity physical activity (PA)/wk. CF tasks including Flanker (attention), Stroop (Executive control) and working memory, body weight and cardiovascular fitness (covariate) were assessed at baseline and 3-mos. Session attendance, adherence to PA and diet prescriptions and number of off-diet episodes were recorded weekly. RESULTS/ANTICIPATED RESULTS: Results indicated that attention was positively correlated with session attendance ($p = 0.016$), adherence to the diet ($p<0.01$) and PA ($p = 0.023$). Executive control was positively correlated with WL ($p = 0.042$). Working memory (two tasks) was also positively correlated with WL ($p = .017$ and $p = .025$). Analysis of variance (ANOVA) indicated that baseline attention ($p = .012$) was positively related to WL and negatively associated with drop out ($p<.05$). Hierarchical linear regression showed executive control ($p = .036$, $R^2 = .054$) and working memory ($p = .013$, $R^2 = .073$ and $p = .017$, $R^2 = .068$) were associated with WL when controlling for fitness. DISCUSSION/SIGNIFICANCE OF IMPACT: These results suggest that stronger baseline attention is associated with completion of a 3-mo. WL intervention. Executive control and working memory are associated with amount of WL achieved. Additional, larger and longer trials to assess the role of baseline CF on WL and evaluating the impact of interventions designed to improve CF on WL are indicated.

4392

Comparative Analysis of Vascular Hemodynamics in a Young Biracial Cohort

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OBJECTIVES/GOALS: We investigated hemodynamic measures in young black and white adults below the age of 50 years to identify mechanisms that may predispose blacks to more CVE. METHODS/STUDY POPULATION: We recruited 276 young blacks and white adults in Jackson, MS (mean age: 33±9 years; 70% women; 57% Black;). Participants had clinical and vascular tonometry parameters obtained. Vascular measures included carotid femoral pulse wave velocity, central and peripheral pulse pressure