was designed to include 40 US participants randomly assigned (3:1) to a TDF or placebo IVR. Twelve were randomized to TDF and five were assigned to the placebo group before the study was electively discontinued due to development of vaginal ulcerations in eight women in the TDF group. Acceptability data regarding TDF and placebo ring use was gathered via self-administered, computer-based questionnaires at the one- and three-month study visits. Participants were asked about overall attitudes and feelings regarding the TDF and placebo IVR, vaginal changes associated with ring use, and their experiences with ring use during menses and with sex. RESULTS/ANTICIPATED RESULTS: The mean age of participants was 30 years (range 18 - 42). Sixteen of 17 (94%) participants completed all study questions at both visits. When asked about ring likeability at one-month, 12 of 16 (75%) women reported overall liking the ring, including 5 of 8 (63%) who developed ulcerations. Vaginal changes described during ring use included 8 participants who indicated that the "vagina was wetter" and 2 who reported that the "vagina was drier." Additionally, 10 of 12 (83%) who had their period during the first month of the study were not bothered by ring use during menses, and 11 of 16 (69%) stated that the ring was not bothersome with use during sex. When asked at the three-month visit, most reported that they would prefer to wear the ring rather than use a condom during sex, however, condom use was low at baseline in this population. DISCUSSION/SIGNIFICANCE OF IMPACT: Despite unanticipated ulcers, the IVRs were acceptable, especially when used with menses and during sex. Regardless of the group assigned or vaginal changes experienced, and even amongst those who developed ulcerations, the women had positive attitudes towards the ring, which is promising for future use of vaginal rings as a method for HIV prevention.

4417

Association between Brain Volumes and Posttraumatic Stress Disorder in Intensive Care Unit Survivors

Jo Ellen Wilson[1], Kristina Stepanovic, Baxter Rogers, Amy Kiehl, E. "Wes" Ely, MD, MPH, and James Jackson
[1]Vanderbilt University Medical Center

OBJECTIVES/GOALS: To explore the severity of posttraumatic stress disorder (PTSD) symptoms in association with hippocampal and amygdala volumes in ICU survivors. We hypothesize that the severity of posttraumatic stress symptoms in ICU survivors is associated with lower volumes of both the hippocampus and amygdala. METHODS/STUDY POPULATION: Secondary analysis of the VISIONS study, a prospective sub-study of the BRAIN-ICU cohort, which included survivors of critical illness. Patients were screened for preexisting PTSD before discharge. The PTSD Checklist Specific (PCL-S) was used at 3 and 12 months to evaluate the ICU as a traumatic experience. A score of >30, indicated significant symptoms of PTSD. A Philips Achieva 3T MRI scanner was used to scan patients at both discharge and 3-month follow-up. To compare median brain volumes at discharge and 3 months for those with and without significant PTSD symptomatology (PCL-S ≥30) at 3 and 12 months, we used a Kruskal-Wallis (KW) equality-of-populations rank test. RESULTS/ANTICIPATED RESULTS: The median age for our sample was 58.5 (52.6, 63.7). One-third of the sample was female, and 90% were Caucasian. Fifty-seven percent of individuals (N = 12) had at least one prior mental health diagnosis, with two having a prior history of PTSD. One third of individuals experienced delirium during their critical illness. At 3-month follow up, there were three patients with PTSD symptomatology and one at 12-month follow up. Median brain volumes (hippocampus or amygdala) did not differ between individuals with or without PTSD symptomatology at either 3 or 12 months (p-values for all tests >0.05). DISCUSSION/SIGNIFICANCE OF IMPACT: Although our study did not reveal significant differences in brain volumes between PTSD patients and non-PTSD patients, sample size is a major limitation and larger scale studies should be undertaken to elucidate possible neurobiological markers of PTSD in ICU survivors. CONFLICT OF INTEREST DESCRIPTION: Dr. Wilson would like to acknowledge salary support from the Vanderbilt Faculty Research Scholars Program (1KL2TR002245), HL111111 and GM120484. Drs. Ely and Jackson as well as Mrs. Kiehl all receive funding for their time working on this investigation from AG035117 and HL111111. Dr. Ely would additionally like to acknowledge salary support from the Tennessee Valley Healthcare System Geriatric Research Education and Clinical Center (GRECC). Dr. Ely will also disclose additional funding for his time from AG027472 and having received honoraria from Orion and Hospira for CME activity; he does not hold stock or consultant relationships with those companies. The authors would like to acknowledge the following: this work was conducted in part using the resources of the Center for Computational Imaging at Vanderbilt University Institute of Imaging Science and the Advanced Computing Center for Research and Education at Vanderbilt University, Nashville, TN, and study data were collected and managed using REDCap electronic data capture tools hosted at Vanderbilt University.

4476

Association between socioeconomic status and comorbid conditions in a population of diabetes patients

Riza Li[1], Kevin Ndura[2], and Claudine Jurkovitz[2]
[1]University of Delaware: DE-CTR ACCEL; [2]Christiana Care Health System

OBJECTIVES/GOALS: To reduce hospitalizations, health care systems are studying ways of improving social determinants of health (SDoH) in patients with chronic disease such as diabetes (DM). Our goal was to better characterize the SDoH of a cohort of DM patients by using socio-economic information from census data. METHODS/STUDY POPULATION: Our study population included DM patients seen in primary care practices of a large health care system in 2013-2017. We integrated socio-economic status (SES) information from the American Factfinder to data extracted from the electronic health record (EHR). Addresses for the cohort were geocoded using ArcMap to obtain the census tract information for median income, poverty status, educational level, and supplemental food benefits using American Community Survey 5-Year estimates. We used multivariable logistic regression to calculate odds ratio (OR) and 95% confidence intervals [], with 3+ comorbidities as the dependent variable and demographic and SES variables as independent variables. RESULTS/ANTICIPATED RESULTS: Our study population included 13,782 patients: 53% were female, 65% white, 28% Black, 27% were on Medicare, 3% on Medicaid, median age was 60, 53% had 3+ comorbidities. Median income was $66,243, poverty level 6%, receiving food benefits 8%, no high school degree 8%, and bachelor's degree or higher 30%. After evaluating collinearity, our multivariable analysis showed that patients with 3+ comorbidities were more likely to have income < $52,000 (lower quartile) versus $84,001 (upper quartile), OR = 1.2 [1.0-1.4]; be female, OR = 1.6 [1.4-1.7]; divorced or widowed versus married, OR = 1.5 [1.3-1.7], 1.4 [1.3-1.6]; and be on Medicare, Medicaid or

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