Association of posttraumatic stress disorder and incident cerebrovascular disease in a Veterans Administration population

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Background: Several studies have demonstrated that patients with posttraumatic stress disorder (PTSD) are more likely to develop and die from ischemic cardiovascular disease. Animal models suggest PTSD may have a similar effect on cerebral arteries, leading to increased risk of stroke, but this has not been well-studied in humans. Understanding the association of PTSD and cerebrovascular disease, a costly, debilitating disorder, is particularly important for healthcare systems such as the Department of Veterans Affairs (VA) that care for a large population of aging patients with PTSD. Therefore, we evaluated the association of PTSD and incident cerebrovascular disease in a large, national VA sample.

Methods: We used national Veterans Affairs electronic medical records to examine the association of PTSD and incident cerebrovascular disease diagnoses, restricting our analyses to patients aged 45 and over. We used data from 10/1/1996-9/30/2000 to identify 185,911 patients with a diagnosis of PTSD and 371,231 patients without a diagnosis of PTSD who were free of cerebrovascular disease diagnoses during this baseline period. We then used Cox proportional hazards models to evaluate the association of PTSD and incident cerebrovascular disease diagnoses during a follow-up period from 10/1/2000-3/31/2011. We used a previously validated ICD-9 coding algorithm to identify cerebrovascular disease from inpatient and outpatient records. We found a significant interaction with gender, and therefore examined men and women separately. We constructed hierarchical regression models serially adjusting for age, traditional cardiovascular risk factors (hypertension, tobacco use, diabetes, dyslipidemia, and obesity), and depression.

Results: The mean age of the overall study population was 61 years (62 for men and 59 for women). 43,393 (7.8\%) patients received a cerebrovascular disease diagnosis during follow-up. In unadjusted analyses, cerebrovascular disease was significantly more common among patients with PTSD (for men: 9.5\% in those with PTSD versus 7.4\% in those without PTSD, \textit{p}<.001; for women: 7.2\% in those with PTSD versus 2.2\% in those without PTSD, \textit{p}<.001). The association of PTSD and incident cerebrovascular disease remained significant after adjusting for traditional cardiovascular disease risk factors and depression (see Table). The magnitude of all associations was stronger in women than in men.

Conclusions: PTSD is prospectively associated with increased incident cerebrovascular disease diagnoses in VA patients, particularly in women, independent of traditional cardiovascular risk factors and depression. Future epidemiologic and neuroimaging studies should further explore this association as well as the gender differences. Though additional research is needed, our results highlight the potential adverse physical health consequences of PTSD.
Comorbid Depression and Substance Abuse in Safety-net Clients of Health and Community-based Agencies in Los Angeles: Clinical Needs and Service Use Patterns

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Background: Depression and substance use disorders (SUD) are common among low-income, minority adults who may receive services from health and other community-based sectors. Depending on the sector visited, this population may receive screening, treatment or referral for depression or substance use but rarely integrated services. Little is known about the level of comorbidity across a range of service sectors supporting safety-net clients or use of services for depression in the context of substance abuse comorbidity for clients across diverse community-based settings. This study describes clinical characteristics and service utilization for low-income, primarily African-American and Latino, adults with depression with and without comorbid substance abuse in under-resourced communities.

Methods: The study uses baseline data from Community Partners in Care (CPIC), a Community-Partnered Participatory Research initiative to improve depression services in two under-resourced communities in Los Angeles County: Hollywood-Metro and South Los Angeles. Clients were screened for depression (PHQ 8≥10) in primary care/public health (PC), mental health (MH), substance abuse (SA), and social services (SS), and other community-based settings such as churches and senior centers. Eligible depressed clients enrolled and completed a baseline survey (n=845). We conducted univariate and bivariate analyses to describe the sample and compare those with and without comorbid SA in clinical need and services utilization in the past six months.

Results: Across sectors, 48.5% (n=407) had co-morbid substance use disorder (SUD); most (n=323, 79.4%) were receiving SUD treatment, but less than half (46.0%) had health insurance. Most (73.8%) had family incomes below poverty levels with no significant difference by presence of co-morbid SUD. Clients with co-morbid SUD were more likely than those without to be in transitional housing (21.3% vs 3.8%, p<0.001) and had a higher rates of arrests (39.9% vs 7.3%, p<0.001), 12-month depressive disorder (73.5% vs 53.8%, p<0.001), post-traumatic stress disorder (57.8% vs 39.9%, p<0.001), and mania/psychosis (60.8% vs 27.7%, p<0.001). A greater proportion of clients with both depressive symptoms and SUD went to the ER for any health problems (59.1% vs 46.7%, p<0.001) and were significantly more likely to be admitted for an alcohol, drug, or emotional problem than those without SUD (23.0% vs 7.9%, p<0.001). Clients with both depressive symptoms and SUD had more MH specialty visits (70.4% vs 50.6%, p<0.001) and fewer PC visits (65.6% vs 74.9%, p=0.006) than those without SUD. Those with comorbid SUD received depression services during 67.9% of visits to outpatient MH clinics, 65.0% of visits to PC, 73.4% of visits to SA agencies, 56.6% of visits to SS agencies, 44.6% of visits to churches, and 19.0% of visits to senior centers.

Conclusions: Half of low-income minority adult clients across health and community-based agencies with depressive symptoms were found to have co-morbid SUD. These individuals have significant psychosocial stressors, including lack of housing, insurance and arrests. Depressed clients with co-morbid SUD utilized emergency, MH, and SS agencies at higher rates than those without SUD and had higher admission rates. The high prevalence of comorbid substance abuse across diverse agencies supporting safety net clients suggests that a community-wide approach may be needed to stabilize health and social outcomes for this vulnerable population.
Peer mentorship at a methadone maintenance treatment program: developing self-efficacy through Project GROW

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Background: Women with opioid dependence face many gender-specific challenges as they enter treatment, including poorer physical and mental health than their male counterparts, low self-efficacy, and, in the case of methadone maintenance, a highly structured and hierarchical system comprised of more male than female clients. The aim of this study was to evaluate the peer-mentoring arm of Project GROW (Giving Resources and Options to Women), an HIV prevention program serving women enrolled in methadone maintenance treatment programs (MMTP) in the South Bronx, an impoverished New York City neighborhood with high rates of HIV and substance use. The goal of the peer-mentoring program was to create a cadre of female peers who could help engage other women in treatment and HIV prevention activities. The purpose of this analysis was to assess how being a peer mentor might affect the women’s sense of self-efficacy, both inside and outside of the MMTP.

Methods: All current Project GROW peer mentors were invited to participate in a semi-structured interview. The interview included questions about the women’s understanding of peer mentorship, their perceptions of self-efficacy (how they viewed themselves and their future, and how they thought they were viewed by MMTP staff, other clients and family since becoming peers), their experience of methadone maintenance (both the idea and logistics of being on methadone), and their attitude toward and engagement in high-risk behavior. The interviews were audio-taped, transcribed, and analyzed using the principles of grounded theory.

Results: All ten current Project GROW peer mentors participated in the interviews. The women ranged in age from 40 to 60 years old, were African American or Latina, and attended a MMTP of the Albert Einstein College of Medicine's Division of Substance Abuse. The most prominent theme that featured in all of the interviews was the importance of peer mentorship in their lives. Central to all of the women’s self-definition was being a peer mentor. The women suggested that other clients and staff saw them as Project GROW peer mentors, rather than as clients and substance users. They defined their future around remaining peer mentors and continuing to help others both inside the MMTP and outside, among their family and friends. Contrary to our expectations, women did not share increased frustration with the logistics of methadone maintenance after becoming peers; instead, they were grateful for methadone, which had helped keep them substance-free, and more patient with the hierarchical structure of the MMTP.

Conclusions: Participation in a peer-mentoring program for women in methadone maintenance provided these women with an important identity as a peer mentor that superseded their identities as substance users and MMTP clients. This identity helped promote their self-efficacy to remain substance free, to continue treatment with methadone, to help other female substance users, and to participate more fully in their families’ lives. Training to become a peer mentor may have important benefits for women enrolled in a MMTP, with regard to both functional and substance use related outcomes.
The PHQ-2 Depression Screen Predicts All-Cause Mortality For Up to 2 Years Following Hospitalization with Heart Failure

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Background: The American Heart Association (AHA) Science Advisory recommends routine screening of cardiac patients for depression with the 2-item Patient Health Questionnaire-2 (PHQ-2). The PHQ-2 assesses for depression and anhedonia, the two cardinal DSM-IV symptoms of depression, and is considered positive if one or both items are endorsed. Reports suggest a positive PHQ-2 is associated with mortality at 1-year following hospitalization with heart failure (HF), but its longer term predictive effect is unknown. (Rollman BL et al., J Cardiac Failure, 2012) The objective of this report is to determine the long-term durability of the association between a positive PHQ-2 screen and all-cause mortality following hospitalization with HF.

Methods: 471 hospitalized HF patients with an ejection fraction (EF) < 40%, NYHA functional class II-IV symptoms, who were suspected of depression were screened with the PHQ-2 prior to discharge from 4 Pittsburgh-area hospitals (12/07 to 6/09). Sociodemographic, health-related quality of life (SF-12), and clinical information were collected at baseline. We used Kaplan-Meier analyses to calculate the annual incidence of all-cause mortality by PHQ-2 status with log-rank tests for statistical significance. Multivariate Cox models were used to generate hazard ratios (HR) by PHQ-2 status adjusting for differences in baseline covariates and known predictors of heart failure morbidity and mortality.

Results: At baseline, PHQ-2 positive patients (PHQ-2 (+); n=371), compared with PHQ-2 negative patients (PHQ-2 (-); n=100) were younger (age 65 vs. 70) and more likely to report lower levels of function (NYHA Class: 67% III-IV vs. 61% II) and health-related quality of life (mean SF-12 MCS: 44 vs. 59) (all p<0.005). We confirmed vital status on 99% (467/471) of our study cohort as of 6/30/12 (mean follow up: 34.9 months ± 17.6 months) and identified 198 deaths (42%). At both 1- and 2-years follow-up, significantly more PHQ-2 (+) vs. PHQ-2 (-) patients had died (Table), and the mortality risk associated with a positive PHQ-2 persisted even after adjustment for age, gender, EF, and other established predictors of HF mortality (1-year: HR: 3.19 (95% CI: 1.50-6.80); p=0.003; 2-year: HR: 2.01 (1.19-3.37); p= 0.009). However, this difference in mortality risk by PHQ-2 status disappeared by 3 years follow-up (3-year: HR: 1.36 (0.90-2.06); p=0.14; 4-year: HR: 1.44 (0.98-2.12); p=0.07).

Conclusions: A positive PHQ-2 depression screen is associated with significantly elevated mortality risk for up to 2 years following hospital discharge, even after adjustment for a variety of established predictors of HF mortality. While our findings support the AHA recommendation to screen cardiac patients for depression and confirm the negative impact of depression in patients with heart failure, well designed clinical trials remain necessary to determine whether depression treatment can reduce all-cause HF mortality.
Initiating buprenorphine maintenance for opiate-dependent hospitalized patients: A randomized controlled trial

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Background: Opioid agonist treatment (OAT) with methadone or buprenorphine has been shown to reduce mortality and morbidity in opioid-dependent persons; however, barriers exist to entering OAT. Lack of availability of office-based buprenorphine OAT and difficulty keeping outpatient appointments can impede entry into OAT. This study examined whether offering opiate-dependent persons hospitalized for medical conditions initiation and linkage to office-based buprenorphine OAT would facilitate entry to and increase engagement in buprenorphine OAT at 6 months post initial hospitalization.

Methods: A daily chart review of all hospital admissions and clinical interview by an addiction specialist nurse or physician identified opiate-dependent patients admitted to a general medical hospital and not currently in substance abuse treatment. Eligible (not alcohol dependent, no benzodiazepine misuse), and consenting patients were randomized to either a 5-day buprenorphine detoxification protocol (DETOX) or buprenorphine induction, intra-hospital dose stabilization, and post-discharge transition to maintenance buprenorphine OAT (LINKAGE) at an outpatient buprenorphine program affiliated with the hospital’s primary care clinic. Intention to treat outcomes at 6 months included entry into outpatient buprenorphine OAT, days receiving OAT, and OAT retention at 6-months. Data were collected via hospital electronic medical records and participant interviews at baseline, 1, 3, and 6 months. Opioid dependency was verified through the Structured Clinical Interview for DSM Disorders (SCID).

Results: Among 119 participants, the mean age was 40.1 (±11.8) years, 85 (71.4%) were male, 50 (42.0%) were non-Hispanic Caucasian, 35 (29.4%) were African-American, and 25 (21.0%) were Latino. LINKAGE and DETOX arms did not differ significantly (all p values > .4) on demographic characteristics. Compared to those in DETOX (n=58), participants randomized to LINKAGE (n=61) were significantly (χ² = 43.3, p < .001) more likely to enter buprenorphine OAT (73.8% vs. 13.8%) by 6-months. Among persons who entered buprenorphine OAT, mean buprenorphine treatment days were 93.2 (± 57.0) and 57.0 (± 56.7) in the LINKAGE (n=45) and DETOX (n=8) arms, respectively. Six months post enrollment, 2 (3%) of the DETOX group and 14 (23%) of the LINKAGE group were actively engaged in buprenorphine OAT (χ² = 9.7, p=0.002).

Conclusions: LINKAGE was able to enroll 74% of out-of-treatment, opiate-dependent hospitalized persons in buprenorphine OAT. Compared to standard inpatient detox, initiation of and linkage to buprenorphine treatment is an effective mean for engaging medically hospitalized patients who are not actively seeking care for their substance dependence in long-term addiction treatment. Integrating OAT into inpatient medical care is a promising avenue to reach persons with opioid dependence.
Screening and brief intervention for drug use in primary care: the ASPIRE randomized trial

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Background: The US Federal government has spent several hundred million dollars on training and implementation of alcohol and other drug screening and brief intervention (programs known as Screening, Brief Intervention, Referral and Treatment or SBIRT) in the past decade. However, the efficacy of universal screening and brief intervention (SBI) for drug use among primary care (PC) patients is unknown; consequently it is not recommended by professional organizations such as the US Preventive Services Task Force. This 3-arm randomized trial (the Assessing Screening Plus brief Intervention’s Resulting Efficacy to stop drug use (ASPIRE) study) tested the efficacy of two brief interventions (BIs) for drug use—a brief negotiated interview (BNI), and an adaptation of motivational interviewing (AMI)—compared to no BI in PC patients identified by screening.

Methods: We randomly assigned subjects identified by screening in PC with Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) drug specific scores of ≥4 to BNI, AMI or no BI. BNI was a 10-15 minute structured interview conducted by trained paraprofessional health educators. AMI was ≤45 minutes of MI and an optional booster conducted by trained doctoral psychology students. All subjects received a written list of substance abuse treatment and mutual help resources. Primary outcome was number of days use of the self-identified drug of most concern (DOMC) in the past 30 days as determined by validated calendar method at 6 months. A secondary outcome was number of days heavy use (2 or more times in a day) of the DOMC. Analyses were performed using negative binomial regression adjusted for baseline use, drug dependence, DOMC, and prior outpatient counseling.

Results: Of 876 eligible subjects, 528 (60%) were randomized. Subjects were 70% male, 69% black, with a mean age 41 years. DOMC was: marijuana 63%, opioid 17% (prescription opioid 11%), and cocaine 19%. ASSIST score was ≥27 (consistent with dependence) for 18%; 12% reported injection drug use (past 3 months), mean days DOMC use (of 30 days) was 14.4. At 6 months, 98% completed follow-up and mean days DOMC use was 14.0 (in the past 30 days). There were no significant effects of BNI or AMI on outcomes. For the primary outcome, mean adjusted days use of the DOMC at 6 months was 11.5 (no BI) vs. 11.2 (BNI) (incidence rate ratio (IRR) 0.97, 95% CI 0.77-1.22) and 12.1 (AMI)(IRR 1.05, 95% CI 0.84-1.32)(p=0.81 for both comparisons vs. no BI). There were also no significant effects of BNI or AMI on the secondary outcome, number of days heavy use of the DOMC. There were no significant effects on either outcome in analyses stratified by DOMC or ASSIST score.

Conclusions: In this trial of brief intervention (BI) among primary care patients identified by screening, BNI and AMI did not have efficacy for decreasing drug use. Future analyses will examine 6-week outcomes and additional 6-month outcomes including hair toxicological drug tests. If other trials yield consistent results, widespread implementation of drug screening and BI should be reconsidered, and research should focus on alternative ways to address drug use and consequences in primary care settings.

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