

## Poster

### 3061 — The Burden of Central Nervous System Polypharmacy in Iraq and Afghanistan Veterans: Prevalence and Associated Risks

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#### Objectives:

The increased use of central nervous system (CNS) acting medications has been associated with serious adverse outcomes such as overdose and suicide related behavior (SRB) in military personnel deployed in support of the wars in Iraq and Afghanistan. The extent and impact of prescribing multiple CNS drugs in this cohort has not been studied. The purpose of this study was to identify the burden of CNS polypharmacy in Iraq and Afghanistan Veterans (IAV), identify associated characteristics, and adverse outcomes.

#### Methods:

This cross-sectional observational study used national inpatient and outpatient data of IAV (N = 311,400) who received care from the Veterans Healthcare Administration (VA) during fiscal year 2011. CNS polypharmacy was defined as five or more CNS acting medications. Demographic and clinical characteristics associated with CNS medication use, overdose, and suicide related behavior (SRB) were identified and controlled for using logistic regression models.

#### Results:

27,273 (8.8%) of IAV had CNS polypharmacy; 561 (0.2%) had overdose, and 4229 (1.4%) had SRB. Those with only posttraumatic stress disorder (PTSD) (AOR 6.47, 99% CI 5.93-7.05), only depression (AOR 6.45, 99% CI 5.89-7.07), comorbid PTSD and depression (AOR 13.23, 99% CI 12.21-14.34), and comorbid traumatic brain injury, PTSD and depression (AOR 15.62, 99% CI 14.27-17.07) had the highest odds of CNS polypharmacy. After controlling for these comorbid conditions, CNS polypharmacy was significantly associated with drug overdose (AOR 4.07, 95% CI 3.13-5.30) and suicide related behavior (AOR 4.05, 95% CI 3.68-4.44).

#### Implications:

CNS polypharmacy was independently associated with drug overdose and suicide related behavior. These novel findings suggest that CNS polypharmacy may increase morbidity and mortality among this relatively young patient population of Veterans.

#### Impacts:

If CNS polypharmacy is causally related to risk, preventing the concomitant use of five or more CNS acting agents in the IAV population may reduce drug overdose by a factor of roughly 4.07 and SRB by a factor of roughly 4.05. The VA can leverage Clinical Data Warehouse capabilities to develop algorithms identifying individual Veterans at risk for drug overdose and suicide related behavior. These findings may lead to specific patient-centered interventions improving individual and facility-level outcomes for the Veterans healthcare system.