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Minimally adequate mental health care and latent classes of PTSD symptoms in female Iraq and Afghanistan veterans

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ABSTRACT

Female veterans of Operations Enduring and Iraqi Freedom, and Operation New Dawn (OEF/OIF/OND) represent a growing segment of Department of Veterans Affairs (VA) health care users. A retrospective analysis used national VA medical records to identify factors associated with female OEF/OIF/OND veterans' completion of minimally adequate care (MAC) for PTSD, defined as the completion of at least nine mental health outpatient visits within a 15-week period or at least twelve consecutive weeks of medication use. The sample included female OEF/OIF/OND veterans with PTSD who initiated VA health care between 2007–2013, and were seen in outpatient mental health (N=2183). Multivariable logistic regression models examined factors associated with completing MAC for PTSD, including PTSD symptom expression (represented by latent class analysis), sociodemographic, military, clinical, and VA access factors. Within one year of initiating mental health care, 48.3% of female veterans completed MAC. Race/ethnicity, age, PTSD symptom class, additional psychiatric diagnoses, and VA primary care use were significantly associated with completion of MAC for PTSD. Results suggest that veterans presenting for PTSD treatment should be comprehensively evaluated to identify factors associated with inadequate completion of care. Treatments that are tailored to PTSD symptom class may help to address potential barriers.

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1. Introduction

Among military personnel returning from Afghanistan (Operation Enduring Freedom [OEF]) and Iraq (Operation Iraqi Freedom [OIF] and Operation New Dawn [OND]), studies have consistently demonstrated a high prevalence of mental health disorders, including posttraumatic stress disorder (PTSD) (Hoge et al., 2004; Milliken et al., 2007; Seal et al., 2007; Tanielian and Jaycox, 2008; Hermann et al., 2012). Studies indicate that receiving early and adequate evidence-based treatment for PTSD can reduce symptoms and prevent chronic functional impairment (Foa et al., 2005; Monson et al., 2006; Difede et al., 2014; Gray et al., 2014; Maguen et al., 2014). Ongoing U.S. Department of Veterans Affairs (VA) expansion efforts to improve access to mental health care have included system-wide increases in the number of clinicians trained to administer multiple types of evidence-based psychotherapies for a number of mental health disorders (Mott et al., 2014). Effective evidence-based treatments for PTSD, including Cognitive Processing Therapy and Prolonged Exposure Therapy, have been disseminated throughout the VA and are available to veterans who present for care at most VA facilities (Hermann et al., 2012). However, multiple studies indicate that many newly returning veterans with PTSD do not access treatment, delay treatment, or do not complete a sufficient course of treatment (Seal et al., 2010; Lu et al., 2011), and the majority of patients with new diagnoses of PTSD do not receive psychotherapy (Mott et al., 2014).

The current study examined the possibility that patterns of PTSD symptom endorsement may be related to veterans' use of mental health services for PTSD. Latent class analysis (LCA) has been used in civilian and veteran samples to identify subgroups of individuals who share similar patterns of PTSD symptom endorsement. Previous studies have identified three (Breslau et al., 2005; Ayer et al., 2011; Steenkamp et al., 2012; Steuwe et al., 2012) or four (Geronazzo Alman et al., 2012; Au et al., 2013; Maguen et al., 2013; Rosellini et al., 2014) latent classes, often characterized by minimal/mild, intermediate, and severe PTSD symptoms. PTSD latent classes have also been distinguished by specific symptom elevations. For example, emotional numbing in PTSD has been associated with latent class membership. Breslau et al. (2005) reported that individuals in a pervasive disturbance symptom class reported higher levels of emotional numbing (Breslau et al., 2005),

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and individuals in two intermediate symptom classes were distinguished by high and low emotional numbing symptom levels in two recent studies of male and female Iraq and Afghanistan veterans (Maguen et al., 2013; Hebenstreit et al., 2014).

Although the latent structure of PTSD symptoms has been explored in several veteran samples, few studies have focused specifically on female veterans, whose PTSD symptom expression may vary from that of male veterans. Female veterans may be more likely than males to endorse concentration difficulties and distress related to reminders of a traumatic event, while male veterans may be more likely than females to endorse hypervigilance, emotional numbing, and nightmares (King et al., 2013). From a conceptual standpoint, although one study found that the emotional numbing model of PTSD (King et al., 1998) was superior to the dysphoria model (Simms et al., 2002) in male veterans, neither model was superior in female veterans (Hall et al., 2012). Given that the number of female VA patients increased from 159,000 to 360,000 between 2000 and 2012 and is expected to double again within the next 10 years, recent research and policy initiatives have focused on understanding gender differences in VHA utilization and access to care (Frayne and Mattocks, 2012). As the representation of female veterans within the VA continues to increase, it is important to examine the clinical presentation of PTSD symptoms within this population, as well as other factors that may relate to female veterans' completion of minimally adequate care for PTSD.

As defined by multiple prior studies, minimally adequate care (MAC) for PTSD refers to the completion of a minimum number of mental health visits within a one-year period (Seal et al., 2010; Lu et al., 2011; Spoont et al., 2010). Several factors have been associated with veterans' completion of MAC. For example, the presence of mental health comorbidity in those with PTSD and older patient age have been associated with increased likelihood of completing MAC for PTSD among OEF/OIF veterans (Seal et al., 2010). In keeping with prior studies as well as guidelines for evidence-based psychotherapies for PTSD, we defined MAC for PTSD as one or both of the following: completion of nine or more outpatient mental health visits (Foa et al., 2005; Monson et al., 2006; Lu et al., 2011) within any 15-week period (Seal et al., 2010); or at least twelve consecutive weeks of treatment with a medication endorsed by VA/DoD PTSD practice guidelines. These medications include selective serotonin reuptake inhibitors (SSRI; Wang et al., 2002; Seal et al., 2010; The Management of Post-Traumatic Stress Working Group, 2010), venlafaxine, and/or mirtazapine (The Management of Post-Traumatic Stress Working Group, 2010).

Our goal was to identify the association of PTSD symptom classes with completion of MAC for PTSD within the first year of mental health outpatient treatment. In addition to PTSD symptom class, the current study assessed the following factors as predictors of MAC for PTSD: (1) sociodemographic factors (e.g., age, race, ethnicity, marital status), (2) military service factors (e.g., branch of service, number of deployments), (3) access/temporal factors (e.g., distance to closest VA facility, type of nearest VA facility, frequency of primary care utilization, time from the end of most recent deployment to the onset of outpatient mental health services), and (4) clinical factors (e.g., number of comorbid mental health diagnoses, PTSD symptom class).

2. Methods

2.1. Study population

We examined administrative data from 2183 Iraq and Afghanistan female veterans who were new users of VA health care (after their most recent deployment), had an initial mental health outpatient visit (including integrated primary-mental health care) between October 1, 2007 and July 31, 2012, had a diagnosis of PTSD (309.81; International Classification of Diseases, Ninth Revision) that was recorded at two or more clinical encounters, completed the PTSD checklist (PCL) within 30 days of their first outpatient mental health visit, and had been in the VA system for at least one year by July 31, 2013. The study was approved by the Committee on Human Research, University of California, San Francisco and the Human Research Protection Program at the San Francisco VA Medical Center.

2.2. Data source

The VA OEF/OIF/OND Roster includes information on veterans' demographic characteristics as well as aspects of their military service, such as their rank and the branch of the military with which they served. The Roster was linked to two other national administrative databases: (1) the VA National Patient Care Database (NPCD) to obtain information on VA clinic visits, associated clinical diagnoses, and additional race/ethnicity data, and (2) the VA Corporate Data Warehouse (CDW) to obtain pharmacy data and PTSD checklist results.

The VA National Patient Care Database includes data from outpatient and inpatient visits to any of the approximately 150 VA hospitals and over 900 VA clinics nationwide. The electronic record includes the date of the visit, a code designating the type of visit, patient race and ethnicity, and the diagnosis(es) associated with the visit classified using the International Classification of Diseases, Ninth Revision Clinical Modification (ICD-9-CM) codes. Visits to mental health outpatient services were identified using clinic stop codes (Cohen et al., 2010; Seal et al., 2010; Maguen et al., 2012). Mental health outpatient services included visits to primary care-mental health integrated care clinics. Fee basis codes designated care rendered at non-VA facilities reimbursed by VA, but did not capture all non-VA care (e.g., privately insured). Data on the distance to and type of nearest VA medical facility based on each veteran's zip code (in Roster) were calculated by the VA Planning Systems Support Group. Medication use data and PTSD checklist screening results were extracted from the VA Corporate Data Warehouse (CDW), a national data repository comprising data from several Veterans Health Administration (VHA) clinical and administrative systems, including the Mental Health Assessment.

2.3. Study variables

Our primary outcome variable was the completion of MAC for PTSD. We applied broad thresholds to determine completion of MAC for PTSD in order to account for scheduling delays that may have prevented veterans from beginning and completing treatment, such as clinic availability, scheduling conflicts, and occasional missed appointments. We examined visits that occurred within the full calendar year following diagnosis, and allowed for the minimum nine mental health outpatient visits to take place within a 15-week period. We also included 12 consecutive weeks of medication use (including an SSRI, venlafaxine, or mirtazapine) in our definition of MAC for PTSD in order to account for veterans who preferred to use medication as an initial treatment approach. Because of a high degree of overlap with patients being prescribed medication and also receiving psychotherapy, we chose to include both in the definition of MAC rather than artificially separating them into two separate MAC variables.

This study used four distinct classes of PTSD that were identified in the current sample by Hebenstreit et. al (2014) using the seventeen symptoms from the PCL. These PTSD symptom classes were used as a predictor of completing MAC for PTSD, and