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Psychiatry Research

journal homepage: www.elsevier.com/locate/psychres

Prevalence and features of generalized anxiety disorder in Department of Veteran Affairs primary care settings [☆]



Melissa E. Milanak ^{a,*}, Daniel F. Gros ^{a,b}, Kathryn M. Magruder ^{a,b},
Olga Brawman-Mintzer ^{a,b}, B. Christopher Frueh ^{c,d}

^a Medical University of South Carolina, Charleston, SC, United States

^b Ralph H. Johnson Veterans Affairs Medical Center, Charleston, SC, United States

^c Department of Psychology, University of Hawai'i, Hilo, HI, United States

^d The Menninger Clinic, Houston, TX, United States

ARTICLE INFO

Article history:

Received 28 September 2012

Received in revised form

24 March 2013

Accepted 26 March 2013

Keywords:

Posttraumatic stress disorder

Veterans

Comorbidity

Healthcare utilization

ABSTRACT

Generalized anxiety disorder (GAD) is a highly prevalent distressing condition for individuals in both community and community primary care settings. However, despite the high prevalence of GAD identified in epidemiological studies, little is known about GAD and its related symptoms and impairments in veteran populations. The present study investigated the prevalence, comorbidity, physical and mental health impairment, and healthcare utilization of veteran participants with GAD, as well as comparing symptoms of GAD and posttraumatic stress disorder (PTSD). Veterans ($N=884$) participated in a cross-sectional investigation in primary care clinics in four Veteran Affairs Medical Centers (VAMCs) and completed diagnostic interviews and self-report questionnaires; a chart review was conducted to assess their VAMC healthcare utilization. A large number of participants (12%) met diagnostic criteria for GAD, reporting significantly worse emotional health, pain, and general health, in addition to increased mental healthcare utilization and antidepressant medications. In addition, GAD was found in 40% of participants with PTSD, resulting in more severe symptoms and impairment than in patients with GAD alone. These findings provide evidence of high prevalence and severe impairment associated with GAD in veterans and highlight the need for improved recognition, assessment, and treatments for GAD.

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1. Introduction

Generalized anxiety disorder (GAD), an anxiety disorder characterized by persistent and uncontrollable anxiety and worry, is associated with high financial costs and primary care utilization (Marsland et al., 1976; Greenberg et al., 1999; Roemer et al., 2002; Kroenke et al., 2007). GAD also results in significant impairment, including increased problems in occupational (e.g., frequency of absence and work productivity), social (e.g., social network and family), and physical health (e.g., chest pain and irritable bowel syndrome) functioning (Wittchen and Hoyer, 2001; Roemer et al., 2002). The prevalence of GAD has been found in 1.6–3.5% of

individuals in community samples (Roemer et al., 2002). However, GAD has been shown to be found in 7.6% of patients in civilian primary care settings, suggesting a possible link between the symptoms of GAD and increased utilization of health care (Kessler et al., 2005; Kroenke et al., 2007).

Interestingly, little is known regarding the prevalence of GAD in veteran primary care settings. In general, the few studies examining GAD in combat veteran populations have found elevated rates of GAD, with 9.7% of Vietnam veterans and up to 15% of Iraq and Afghanistan veterans reporting symptoms consistent with GAD (Hoge et al., 2004; Phillips et al., 2009). Although dated, similar findings have been demonstrated in non-combat veterans (Jordan et al., 1991). Together, these findings suggest that veterans may be at greater risk for developing GAD.

Given the high rates of GAD among veteran samples, it is surprising that very little research has specifically focused on this disorder in Department of Veteran Affairs (DVA) primary care clinics. Rather, researchers have often grouped anxiety disorders together, with posttraumatic stress disorder (PTSD) as the rare exception (Seal et al., 2007). In fact, the DVA has developed and required PTSD specific screening in DVA primary care settings

* Correspondence to: Medical University of South Carolina, National Crime Victims Center, 67 President Street, Charleston, SC 29403, United States.
Tel.: +1 843 792 8209; fax: +1 843 792 3388.

E-mail address: milanak@musc.edu (M.E. Milanak).

[☆]The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States government. There were no conflicts of interest related to this project or its authors.

(Calhoun et al., 2010). However, due in part to the limited understanding of its prevalence and severity in DVA settings, no such screenings exist for GAD, potentially leaving large numbers of veterans without needed treatments. GAD and PTSD differ in terms of the trigger of the anxiety as well as the type of symptoms. More specifically, PTSD is characterized by symptoms of severe re-experiencing, avoidance, numbing, and arousal symptoms associated with a specific traumatic event (e.g., combat, assault, rape). In contrast, the symptoms of GAD are characterized by constant, uncontrollable worry and arousal symptoms associated with a wide-range of typically non-traumatic stressors (e.g., paying bills, work performance, physical health). Within the small literature that does exist in veterans, GAD has been shown to be significantly related to higher rates of mortality (e.g., cardiovascular disease), divorce/separation, smoking, alcohol consumption, lower household income, and physical illness (Hoge et al., 2004; Phillips et al., 2009). Together, the significant distress, impairment, and cost associated with GAD in civilian samples, and the higher prevalence of GAD among combat and non-combat veterans, suggest that more understanding is needed regarding the presentation of GAD in DVA primary care settings, in addition to comparing GAD to better understood and studied psychiatric disorders in veterans, such as PTSD.

The present study utilized a large sample of veterans from a cross-sectional study in primary care clinics in four Veteran Affairs Medical Centers (VAMC) to investigate prevalence, impairment, comorbidity, and healthcare utilization of veterans with GAD (Magruder et al., 2004, 2005). The study contained two research goals and related comparisons. The first research goal sought to investigate the diagnosis and related symptoms of GAD in veterans. To address this goal, veterans with and without GAD were compared to examine differences in mental health profile and healthcare utilization. It was hypothesized that individuals with GAD would report more severe impairments in physical health, mental health, and social functioning in addition to increased healthcare utilization. The second research goal sought to investigate the comparative symptoms and influence of comorbidity in veterans with diagnoses of GAD and/or PTSD. To address this goal, veterans with GAD *but not PTSD* (entitled GAD-only) and PTSD *but not GAD* (entitled PTSD-only) were examined as well as comorbid GAD and PTSD (Seal et al., 2007). Comorbidity for the purposes of this paper refers to individuals meeting diagnostic criteria for both GAD and PTSD and does not take into account comorbidity with other disorders such as depression and substance use. In accordance with previous research based upon civilian populations, we hypothesized that veteran participants with GAD-only would report more severe impairments in physical health, mental health, and social functioning in addition to increased healthcare utilization compared to veterans without a diagnosis. In comparisons involving PTSD-only and comorbid GAD and PTSD, we hypothesized that veterans with comorbid GAD and PTSD would demonstrate more severe impairment and increased healthcare utilization than either of the two disorders alone. In addition, we also hypothesized that veterans with PTSD only and GAD only would report similar symptom severity and healthcare utilization.

2. Methods

2.1. Participants

Veterans were randomly selected from a master list of patients who had attended a DVA primary care appointment in the 1999 fiscal year at one of the four target VAMCs. Stratifying on hospital, patient lists were generated and blocks of 200 eligible patients were sent to each VAMC. Letters of invitation were mailed to eligible patients to explain the study. Preselected patients were approached at the time of their next primary care visit and invited to participate in the study

procedures (74% participated). One thousand seventy six veteran participants in primary care received a baseline interview during an initial appointment that included brief self-report demographic and symptom measures. Of the 1076 initial participants, 884 (82.1%) completed a follow-up phone interview that included additional assessments, including semi-structured diagnostic interviews. Data collection was completed in two phases, the second of which involved an oversample of female veterans (Grubaugh et al., 2006). Additional female veterans were randomly identified from the master list and approached during their visits to a primary care clinic (no letter was sent in advance) (Grubaugh et al., 2006). As detailed in Grubaugh et al. (2006) “as many as 276 women were approached, and 191 women consented to participate (refusal rate=30.8%). Of the women who consented to participate, 137 completed the primary measures for this study (completion rate=71.7%).”

Study participants averaged 59.5 (S.D.=12.7) years of age, and the majority were male (78.7%), Caucasian (61.1%), married (64.1%), unemployed and/or retired (65.3%), completed some college (37.0%), did not serve in a war zone (50.9%), and did not have DVA service connections/disability rating (55.2%). One hundred and six (12.0%) participants met diagnostic criteria consistent with GAD on the Mini International Neuropsychiatric Interview (MINI; Sheehan et al., 1998). One hundred and seven (12.1%) participants met diagnostic criteria consistent with PTSD on the Clinician Administered PTSD Scale (CAPS; Blake et al., 1995). For the purposes of the GAD-specific comparisons (first research goal), participants were categorized into two diagnostic groups based upon the MINI: GAD ($n=106$) and no GAD ($n=778$). For the purpose of the GAD vs. PTSD comparisons (second research goal), participants were categorized into four diagnostic groups based upon the MINI and the CAPS: no GAD-PTSD ($n=713$), GAD-only ($n=64$), PTSD-only ($n=65$), and comorbid GAD-PTSD ($n=42$).

2.2. Procedures

All consenting participants completed a brief demographic interview, Short-Form Health Survey (SF-36; Ware and Sherbourne, 1992), and the PTSD Checklist-Civilian Version (PCL; Blanchard et al., 1996) at their primary care appointment at the VAMC (baseline interview). Afterwards, a follow-up phone interview was arranged that involved the MINI to assess psychiatric disorders (mood disorders, anxiety disorders, substance use disorders) and the Trauma Assessment for Adults Questionnaire (TAA) to assess for a lifetime occurrence of a potentially traumatic event (Resnick et al., 1993). For those who endorsed a traumatic event on the TAA, the CAPS was administered to complete the diagnostic assessment of PTSD. Telephone interviewers were blinded to the results of the initial measures administered in primary care (demographics, PCL, and SF-36). A 12-month retrospective medical chart review of DVA treatments also was completed for each participant.

All interviewers were master's-level clinicians trained and supervised by a licensed clinical psychologist. Reliability was investigated through a random sample of interviews conducted via speakerphone by two trained interviewers (approximately 8%). Although inter-rater reliability was not assessed for GAD, there was extremely high concordance (100%) for PTSD diagnosis on the CAPS (Blake et al., 1995). In addition, the assessment of GAD was completed under the strict supervision of a licensed clinical psychologist to confirm its diagnosis. The use of telephone interviews is common in the diagnostic literature with strong psychometric support (Acerno et al., 2003).

2.3. Chart review

Trained chart reviewers examined electronic medical records for the 12 months preceding study initiation for consenting participants. Research personnel who conducted chart reviews were blind to diagnostic status of the participants based on structured interviews. Information recorded included: (1) use of mental health (yes or no), substance use (yes or no), and urgent care clinics (yes or no), (2) number of stays (numeric value), total number of days (numeric value), and average length of stay in days in inpatient settings (numeric value), (3) use of antidepressant medications (yes or no), (4) number of visits to the emergency room (numeric value), and (5) total number of visits to outpatient clinic services (numeric value).

2.4. Measures

2.4.1. Short-form health survey

The SF-36 is a 36-item measure designed to assess functional health and wellbeing across eight primary scales of physical functioning, role limitations due to physical health, role limitation due to emotional problems, energy/fatigue, emotional well-being, social functioning, pain, and general health (Ware and Sherbourne, 1992). The psychometric properties of the SF-36 subscales have received extensive support in the literature (Ware et al., 1994). Higher scores are associated with better physical and mental health. The present findings further supported the reliability for the eight subscales ($\alpha > 0.78$).

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