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Gender Differences in Service Utilization among OEF/OIF Veterans with PTSD after a Brief Cognitive-Behavioral Intervention to Increase Treatment Engagement: A Mixed Methods Study

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Abstract

Purpose—Women veterans of Iraq and Afghanistan (OEF/OIF) have a moderately higher risk of developing post-traumatic stress disorder (PTSD) than male veterans. However, gender disparities in treatment engagement may prevent women veterans from initiating the care they need. Understanding gender differences in predictors of and barriers to treatment is essential to improving engagement and mental health outcomes. The purpose of this study was to examine gender differences in treatment utilization after a brief, Cognitive-Behavioral Therapy (CBT) intervention among male and female OEF/OIF veterans.

Methods—Participants were randomly assigned to either the intervention or control conditions. Intervention participants received the telephone-based CBT intervention. Participants were 35 female and 238 male OEF/OIF veterans who screened positive for PTSD and had never initiated PTSD treatment. Participants were asked about treatment utilization, beliefs about PTSD treatment, and symptoms at months 1, 3, and 6 months subsequent to the baseline telephone assessment. The PTSD Checklist-Military Version was used to assess PTSD and the Patient's Health Questionnaire was used to assess symptoms of depression.

Findings—Female veterans who received an intervention were significantly more likely to have attended treatment over the six-month follow-up period than male veterans who received an intervention ($\chi^2 = 7.91$, $df = 3$, $OR = 3.93$, $p = 0.04$).

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Conclusions—The CBT intervention may be a critical mechanism to engage female veterans in treatment. Further research is needed to understand how to engage male veterans with PTSD in treatment.

Keywords

OEF/OIF veterans; post-traumatic stress disorder; gender differences; treatment engagement

Introduction

Post-traumatic stress disorder (PTSD) is one of the signature injuries of veterans of Operation Enduring Freedom and Operation Iraqi Freedom (OEF/OIF). PTSD can result after a life-threatening event and manifests in re-experiencing, avoidance, negative alterations in cognitions and mood, and hyperarousal (American Psychiatric Association, 2013). The U.S. Department of Veterans Affairs (VA) reports that 13–20% of all OEF/OIF service members have developed PTSD, with a higher prevalence among OEF/OIF Veteran's Health Administration (VHA) service users (29%; Bagalman, 2013). Recent rates of gender differences in postdeployment development of PTSD among OEF/OIF veterans vary, though women appear to have moderately higher odds (ranging from 1.7 to 2.5) of developing PTSD (Crum-Cianflone & Jacobson, 2014). Major depressive disorder (MDD) is highly comorbid with PTSD (> 60%) among OEF/OIF veterans. Though MDD is more common in women veterans, there are no gender differences in comorbid MDD and PTSD (Curry et al., 2014). Addressing PTSD among veterans is a national effort in the VHA. Currently, the VHA's dissemination and implementation of evidence-based practices (EBPs) for PTSD is the largest in the United States (Karlin & Cross, 2014). The purpose is to increase EBP access and promote psychotherapy as a treatment option for veterans. Despite these efforts, patient factors such as gender may play a role in predicting treatment engagement among veterans.

Recent studies examining predictors of mental health care use among OEF/OIF female and male veterans are finding that greater symptom severity predicts higher service utilization (Di Leone, Vogt, Gradus, Street, Giasson, & Resick, 2013; Elbogen et al., 2013; Haskell et al., 2011). Di Leone et al. (2013) also found that positive perceptions of the VA were associated with use of VHA mental health services and those predictors were similar between men and women. However, Elbogen et al. (2013) found that, though female veterans were more likely than male veterans to seek mental health services, they sought services from non-VA facilities. Although increased use of VHA services is common among OEF/OIF veterans with mental health diagnoses, seeking services to address these mental health concerns is not universal. Barriers to care occurring at the patient level include issues of stigma of mental illness and negative perceptions of treatment (Hoge, Castro, Messer, McGurk, Cotting, & Koffman, 2004). For women veterans, some of the factors related to lack of engagement include knowledge gaps, incorrect assumptions about services to women, and difficulty using VA care (Bean-Mayberry et al., 2011).

In a previous report from this study, treatment-seeking barriers were examined for OEF/OIF veterans with PTSD who had not sought treatment for PTSD (Stecker, Shiner, Watts, Jones,

& Conner, 2013). The cohort of veterans reported concerns about the treatment, emotional readiness for treatment, stigma, and logistical issues as reasons associated with barriers to treatment. A similar study found that women veterans were more likely than men to report difficulty finding childcare as a barrier to care, whereas men were more likely to endorse wanting to solve mental health problems on their own rather than seek treatment (Elbogen et al., 2013). While existing research has identified a number of barriers at the patient level, few studies have examined the effect of addressing these individual barriers to treatment. The aim of this study was to examine gender differences in treatment utilization among male and female OEF/OIF veterans by offering a Cognitive-Behavioral Therapy (CBT) intervention designed to improve beliefs about getting treatment. Understanding gender differences in predictors of and barriers to treatment is essential to improving engagement and mental health outcomes.

Using a mixed-methods approach, we examined gender differences in treatment utilization after a brief, cognitive-behavioral intervention among male and female OEF/OIF veterans who screened positive for PTSD but were not in PTSD treatment. Based on findings that female veterans are more likely to seek treatment, it was hypothesized that female veterans receiving the CBT intervention would be more likely to seek PTSD treatment than male veterans receiving the intervention. It was further hypothesized that female veterans receiving the CBT intervention would seek more PTSD treatment over the course of the six-month follow-up than male veterans receiving the intervention.

Methods

Participants

To be eligible for this trial, participants had to have served in the wars in Iraq and/or Afghanistan, specifically OEF/OIF and thus could be active or separated, screen positive for PTSD, and have never initiated any treatment for PTSD. The research team visited local armories to recruit participants. Advertisements to social media websites like Craigslist and Facebook were also used to recruit participants. Initial screenings for PTSD were conducted with the Mini-International Neuropsychiatric Interview-PTSD subscale (MINI; Sheehan et al., 1998). Participants who screened positive for PTSD and were interested in participating went through the consent process. Study procedures were reviewed and approved by the institutional review boards of the investigators' institutions. Participants received \$50 for the baseline assessment and \$25 for each follow-up call, for a total of \$125 for their participation in the four study sessions.

Procedures

Upon enrollment in the study, participants were randomly assigned to either the intervention or wait-list control conditions. All participants were informed of their group assignment. Trained study staff administered a baseline assessment by telephone to all participants to obtain demographic information, and to assess beliefs about PTSD treatment and PTSD symptom severity. All participants received follow-up calls to assess the primary outcome of treatment utilization, in addition to beliefs about PTSD treatment, and symptoms at 1, 3, and 6 months subsequent to the baseline telephone assessment.

To determine symptom severity, the PTSD Checklist-Military Version (PCL-M; Weather et al., 1993), a reliable and valid assessment of PTSD (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996) and the Patient's Health Questionnaire, PHQ-9, a reliable and valid measure of major depressive disorder were used (Kroenke, Spitzer, & Williams, 2001). Participants were also assessed on secondary outcomes related to PTSD symptoms, such as depression and self-reported suicidal thoughts. Measurements of the primary (treatment utilization) and secondary (PTSD treatment outcomes of PTSD and depression symptom severity) outcomes were assessed at baseline, 1-, 3-, and 6-month intervals.

Intervention

Intervention participants were asked to schedule a time for an intervention session, and received an additional phone call for this session at baseline, 1, 3, and 6 months for a total of four intervention sessions. Doctoral-level interventionists trained in the CBT engagement intervention conducted the sessions by telephone, which lasted approximately 45 to 60 minutes. Sessions were based on the CBT principle that thoughts, feelings, and behaviors interact to influence behavior. Participants identified beliefs most influential in their treatment-seeking behavior. Interventionists allowed participants ample opportunity to discuss each of their beliefs about treatment and challenged dysfunctional beliefs. Sessions were documented using semi-structured forms that allowed for initial description of participants' attitudes and beliefs, additional barriers to treatment that emerged during the sessions, and changes in thoughts related to treatment-seeking and subsequent plans.

All study participants were asked about treatment utilization as part of the follow-up interview phone calls at 1, 3, and 6 months after the baseline assessment. To assess the primary outcome, participants were asked whether they had initiated PTSD treatment, and the number of treatment sessions attended. Information regarding the treatment session was also assessed (i.e., whether the appointment was at the VHA or a non-VHA setting, whether the appointment was with a psychiatrist, psychologist, or other provider, etc.). We asked about the type of treatment received (e.g., CBT, medications, etc.) to facilitate exploration of our secondary outcomes of PTSD and depression symptom severity after PTSD treatment.

Quantitative Analysis

Quantitative methods were used first to provide descriptive statistics, to measure changes in PTSD scores and to assess trends in the data. Qualitative methods were used after the analysis of the quantitative data as a means to explore participants' perspectives on help-seeking and barriers to treatment. Together, this mixed methods approach provided greater insight into the primary outcomes of the intervention and further understanding of the factors that encourage or discourage positive change in participants' lives (Creswell & Clark, 2007).

Descriptive statistics were calculated, including means and frequencies, to describe the background and demographic characteristics of participants. Logistic regression was used to compare the two groups for differences in treatment initiation at each follow-up point. Because the number of treatment sessions attended was a positively skewed count variable, the negative binomial model assessed group differences in the cumulative number of

treatment visits at each follow-up point. Generalized equation models were used for longitudinal analysis of PTSD and depression symptom severity for female and male veterans. All statistical analyses were conducted with SAS v.9.3. A p-value of 0.05 was used to indicate statistical significance.

Qualitative Analysis

For an in-depth review of perceived barriers to care, a qualitative analysis was conducted on a subsample of participants. The research team conducted a qualitative analysis of data obtained from 20 randomly selected participants and recorded in intervention session forms. Participants' forms were grouped by gender to facilitate exploration of a priori themes regarding barriers to treatment generated in previous analyses of study data. These identified barriers included: 1) concerns about treatment, 2) emotional readiness, 3) stigma, and 4) logistical issues. Concerns about treatment may refer to beliefs focused on not wanting to be prescribed a medication or not wanting to participate in group therapy. Emotional readiness for treatment referred to beliefs related to not feeling emotionally "able" to talk about a traumatic event or not wanting to admit to having a problem. Beliefs related to stigma revolved around perceptions of weakness and/or labels. Logistical issues may refer to time and distance to the VA. The research team reviewed the intervention forms independently and met together regularly to discuss emerging findings. Data were mapped onto matrices, organized by gender and theme, to allow for in-depth exploration of a priori themes by gender, and to facilitate recognition of nuances and richness in the data.

Results

Characteristics of study participants are presented in Table 1. A total of 35 female veterans were randomized to the intervention (n = 21) or control (n = 14) conditions and 238 male veterans were randomized to the intervention (n = 102) and control (n = 136) conditions. This sample size is a proportionate representation of the strata of female veterans compared to male veterans. Female participants reported significantly higher symptoms of depression at baseline than male participants. PTSD was also higher among female participants than male participants, though the difference was not significant.

Treatment Utilization and Retention

To compare treatment utilization and retention among male and female participants in both intervention and control conditions, logistic regression models were used. Female participants were more likely to have attended treatment than male participants at both the 3- and 6-month follow-up interviews ($\chi^2 = 5.09$, df = 1, OR = 2.5, p = 0.02 and $\chi^2 = 4.94$, df = 1, OR = 2.5, p = 0.026 respectively). When comparing gender by group differences, female participants who received an intervention were significantly more likely to have attended treatment over the six-month follow-up period than male participants who received an intervention ($\chi^2 = 7.91$, df = 3, OR = 3.93, p = 0.04) (see Table 2). For example, 82% of the women in the intervention condition had initiated treatment by 6 months as compared to 54% of the men in the intervention condition. Similar results were found for women in the intervention condition as compared to women in the control condition, as only 57% of women in the control condition had initiated treatment by 6 months. While female veterans

were more likely to seek PTSD treatment, no gender differences or group by gender differences were found for the number of PTSD treatment sessions received during the six-month follow-up.

PTSD and Depression Symptom Severity

Generalized equation models were used to assess reductions in PTSD and depression symptoms, assessing for time, group by time, and gender effects. Female participants were observed to have a significant reduction in symptoms of depression ($Z = -3.44$, $p = 0.0006$) and PTSD ($Z = -2.26$, $p = 0.023$) over time. Likewise, significant group by gender effects were found over time for both depression and PTSD ($\chi^2 = 15.79$, $df = 3$, $p = 0.0013$ and $\chi^2 = 11.75$, $df = 3$, $p = 0.0083$ respectively). Specifically, female participants in the control group were found to have significant reductions in depression over time as compared to males in the intervention group ($\chi^2 = 4.89$, $p = 0.027$). The same pattern held with symptoms of PTSD over time. Females participants in the control group saw significant reductions in symptoms of PTSD over the six-month follow-up when compared with females in the intervention group ($\chi^2 = 3.89$, $p = 0.048$); males in the intervention group ($\chi^2 = 7.65$, $p = 0.0057$); and males in the control group ($\chi^2 = 4.40$, $p = 0.036$).

Qualitative Findings

The qualitative findings from the intervention session forms identified gender differences in concerns about treatment, emotional readiness, stigma, and logistical issues. Statements regarding barriers to treatment emerged 43 times for female veterans ($n = 10$) and 34 times for male veterans ($n = 10$). Women reported a higher frequency of barriers related to concerns about treatment whereas men reported a higher frequency of barriers related to logistical issues (See Figure 1).

Concerns about Treatment

Over half of the statements reported by 70% of the women in the qualitative analysis were related to concerns about treatment. This category drew from a wide range of specific barriers. Some women addressed uncertainty about the use of medications, while others expressed resistance to support groups. One participant discussed her desire to not participate in a support group noting, "I don't want to tell her my story and I don't want to hear hers." Several women stated that they would not be understood or believed by someone who hadn't been deployed, and one woman noted that the VA was associated with stress. Men reported specific treatment related barriers far less frequently than women, but a few men reported negative past experiences in treatment and a resistance to medication.

Emotional Readiness and Stigma

The two categories of barriers to treatment with responses that were most similar for women and men were emotional readiness and stigma. Examples of the theme of emotional readiness included statements that the process of treatment is too painful, or the belief that treatment was not needed. Both male (60%) and female (70%) veterans described feeling shy or unable to open up in treatment. Stigma was also reported as a barrier by men and women alike. One man stated extensively that treatment would make him seem weak to

himself and his family. Another man reported that treatment would “put a bullet on my [job] application.” For two female veterans, stigma emerged as they explained that pride was keeping them from attending treatment and seeking help would be seen as a sign of weakness.

Logistical Issues

More men (50%) reported logistical issues as a barrier than women (10%). Male veterans discussed concerns about treatment interfering with school and work. A male participant who expressed an interest in obtaining treatment noted, “I don’t want to lose footing with school and my job.” The majority of statements centered on family needs and stresses included the need for childcare.

Discussion

This is the first study to examine gender differences in treatment utilization after a brief CBT intervention among OEF/OIF veterans. Our findings supported the hypothesis that female veterans would be more likely to seek treatment than male veterans. Women who had the intervention session were four times as likely to seek treatment over the course of the study as men who had an intervention session. There were no differences in the number of sessions participants received. Women, particularly those in the control group, saw significant reductions in both PTSD and depression symptoms over the course of the trial; however, we interpret these findings with caution, as this study was designed for treatment engagement, not symptom outcomes.

In this study’s main findings report, receiving the telephone-based intervention accelerated service utilization (treatment engagement and number of sessions) and PTSD symptom reduction (Stecker, McHugo, Xie, Whyman, & Jones, 2014). In examining gender differences in treatment engagement, receiving the CBT intervention resulted in more treatment seeking among women veterans. Qualitative data from the intervention sessions was examined as a means to provide some insight into barriers to treatment utilization for veterans. In our qualitative analysis, we found that women were more likely to discuss concerns about treatment and men were more likely to discuss logistical issues. The finding is similar to previous research that found that women veterans’ lack of engagement was due to knowledge gaps and incorrect assumptions about services to women (Bean-Mayberry et al., 2011). The CBT intervention may be particularly successful at addressing perceived barriers associated with concerns about treatment for women veterans.

Our hypothesis that women veterans would seek more treatment at the 6-month follow-up was not supported. This finding is similar to the work of Elbogen et al. (2013), who found that treatment access looked different from treatment engagement among OEF/OIF veterans. Though the CBT intervention was able to remove perceived barriers associated with accessing treatment, the intervention did not improve treatment retention. Further research is needed to understand the perceived barriers to treatment retention once treatment is initiated. This finding may highlight local systems issues where gender-sensitive treatment is variable (Oishi et al., 2011). It may be beneficial for VHA facilities to improve treatment retention by addressing potential barriers, including navigating the VHA system, at first contact. More

research is needed to understand which PTSD treatment options and delivery modality (i.e. individual vs. group) are best suited for women veterans.

Decreases in PTSD and depression symptoms occurred for all study participants; however, changes in symptoms over the course of the intervention are interpreted with caution, as the study was not designed to affect outcomes. Notably, women veterans in the control condition had the greatest decrease in PTSD and depression symptoms at follow-up. More research is needed to understand why the significant symptom reduction occurred among women veterans in the control condition.

This study had several limitations. The primary study was not designed to assess gender differences in treatment engagement, and therefore our interviews did not specifically aim to identify gender-specific barriers to care. Additionally, the randomization chart did not produce equal intervention and control group sizes. The assessment of treatment engagement was limited to PTSD treatment only, though it is possible that the veterans sought other types of mental health treatment. Further, individuals willing to participate in the study may have been more likely to engage in treatment than individuals unwilling to participate in the study. Our qualitative findings were based on a small sample size and the pre-determined categories may have biased our findings. Finally, we did not conduct follow-up interviews to assess perceived barriers to staying in treatment.

Further research is needed to assess and modify treatment engagement among veterans. Our finding that receiving the CBT intervention resulted in increased treatment engagement for female veterans indicates a need to disseminate this CBT intervention to female veterans who are non-VHA users. Our qualitative data suggests that logistical issues created a barrier to care for male veterans. While logistical barriers are often cited as barriers to treatment, further discussion often reveals a deeper level of resistance. For example, an individual might state that they do not have time for treatment, yet further discussion reveals that they are afraid to go to treatment because they perceive that they will be uncomfortable talking to a treatment provider about certain aspects of their lives. The brief, one-session CBT intervention may not have allowed ample time to uncover barriers that may be preventing male veterans from engaging in treatment. Further research is needed to understand how to engage male veterans with PTSD in PTSD treatment.

Implications for Practice and/or Policy

This article adds to the literature of gender differences in treatment engagement by examining treatment utilization after a brief, CBT intervention. PTSD has devastating consequences on the health of thousands of women veterans; however, seeking services to address these concerns is not universal. Many women veterans indicate lack of engagement due to knowledge gaps, incorrect assumptions about services to women, and difficulty using VA care (Bean-Mayberry et al., 2011; Oishi et al., 2011). The VHA is making extensive efforts to address gender disparities in services utilization by providing services specifically for women veterans. However, local health systems may play a role in creating a barrier to VHA care for women veterans, as implementation of gender-sensitive mental healthcare is highly variable among VA facilities (Oishi et al., 2011). This brief intervention may have addressed perceived barriers and concerns associated with treatment for women veterans.

These findings have implications for VA policy to not only improve efforts to provide services specific for women veterans, but to prioritize direct communication to address these concerns. As women are increasingly integrated within the military, efforts to address gender disparities in services utilization must be a precedent of utmost importance.

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Figure 1. Qualitative findings on perceived barriers to obtaining treatment for PTSD by gender. The percentage indicates the amount of male (n = 10) and female (n = 10) Veterans who made a statement regarding one of the perceived barriers to care.

Table 1

Sample Characteristics.

	Female (n = 35)	Male (n = 238)	t	p-value
Age (<i>M</i>)	32.0	28.9	−3.1	0.07
Race (%)				
Black	34	11	15.5 (5)	0.008
White	54	72		
Other	9	6		
Health Insurance (%)	93	74	10.9 (6)	0.09
Travel Distance to Med. Provider (%)				
0–30 miles	89	64	6.4 (4)	0.17
>30 miles	11	36		
Baseline PHQ-9 <i>M</i> (SD)	18 (4.4)	16.1 (4.7)	−1.9	0.02
Baseline PCL <i>M</i> (SD)	62.5 (11.4)	59.0 (11.7)	−3.5	0.1

Table 2

PTSD Treatment Attendance.

	Female		Male	
	Intervention (n = 21)	Control (n = 14)	Intervention (n = 102)	Control (n = 136)
Initiated PTSD Treatment				
1 month	4 (22%)	3 (23%)	18 (21%)	11 (10%)
3 month	8 (53%)	7 (54%)	30 (36%)	27 (28%)
6 month	14 (82%)*	8 (57%)	51 (54%)	53 (45%)
Number of sessions attended <i>M</i> (SD)				
1 month	0.61 (1.2)	0.46 (0.9)	0.33 (0.8)	0.2 (0.6)
3 month	1.8 (3.1)	1.1 (1.6)	0.95 (1.9)	0.6 (1.4)
6 month	6.8 (14.1)	2.2 (3.1)	3.6 (10.9)	2.5 (4.7)

*
p < .05

Table 3**PTSD and Depression Symptoms**

	Female		Male	
	Intervention	Control	Intervention	Control
PTSD Symptoms - mean (SD)				
Baseline	60.2 (12.2)	65.9 (9.4)	59.0 (11.7)	59.1 (11.7)
1 month	49.4 (14.3)	54.2 (14.8)	51.6 (13.5)	55.1 (12.9)
3 month	51.9 (12.8)	47.8 (16.7)	49.4 (15.7)	53.6 (13.7)
6 month	49.1 (14.7)	38.9 (18.6)*	50.0 (15.4)	50.0 (14.5)
Depression Symptoms - mean (SD)				
Baseline	17.5 (3.9)	18.8 (5.2)	16.0 (4.8)	16.1 (4.7)
1 month	12.6 (5.8)	12.9 (5.1)	12.9 (5.6)	13.9 (4.8)
3 month	9.7 (3.5)	11.3 (6.9)	11.1 (6.1)	12.9 (5.4)
6 month	11.1 (5.7)	7.6 (5.5)*	11.9 (5.8)	11.7 (5.9)

*
p < .05