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Improving Treatment Engagement for Returning OEF/OIF Veterans with PTSD, Depression, and Suicidal Ideation

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Abstract

Posttraumatic stress disorder (PTSD) is associated with increased risk of suicidal ideation among Veterans of Iraq and Afghanistan (OEF/OIF). This report examined the effectiveness of a brief phone-based cognitive-behavioral intervention on treatment seeking among suicidal and non-suicidal OEF/OIF Veterans who screened positive for PTSD. Participants were randomized to the intervention or control conditions. We found that suicidal participants, regardless of condition, were twice as likely to attend treatment as non-suicidal participants. Participants assigned to the control condition who did not indicate suicidality at baseline were less likely to attend treatment at both the 1 and 6 month follow-up interviews. Qualitative findings of the suicidal participants indicated PTSD and depressive symptomatology, low social support, and infrequent positive coping mechanisms. Our finding indicates the effectiveness of an intervention to motivate Veterans with PTSD to initiate and remain in treatment. The intervention might be particularly useful prior to experiencing a psychological crisis.

Keywords

OEF/OIF Veterans; post-traumatic stress disorder; suicidal ideation; treatment engagement

Introduction

The mental health burden of deployment to Iraq and Afghanistan is associated with high rates of morbidity and mortality, including risk of suicide. For Operation Enduring Freedom and Operation Iraqi Freedom (OEF/OIF) Veterans using Veterans Health Administration (VHA) services, the rate of posttraumatic stress disorder (PTSD) is estimated at 29% ((Bagalman, 2013). The estimated rate of PTSD among all OEF/OIF service members is 13-20% and 14% for depression (U.S. Department of Veterans Affairs, 2013). Co-morbid PTSD and depression are associated with increased risk of suicidal behavior in Veterans

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(Guerra and Calhoun, 2011; Jacupcak et al., 2009; Pompili et al., 2013). For example, Corson et al. (2013) found that 32.4% of OEF/OIF Veteran VHA users who screened positive for depression on the Patients Health Questionnaire-2 (PHQ-2) reported suicidal ideation. Suicidal ideation significantly increases the risk of suicide attempts and eventual death by suicide (Kessler et al., 2005). It is noteworthy that greater mental health symptom severity predicts increased use of VHA services among OEF/OIF Veterans (Di Leone et al., 2013; Elbogen et al., 2013; Haskell et al., 2011). In a study of 1,388 OEF/OIF Veterans, 69% with PTSD and 67% with depression reported past year psychiatric treatment (Elbogen et al., 2013). However, seeking services to address these mental health concerns is not universal. Addressing barriers to treatment is essential to improving mental health outcomes, treatment engagement, and suicide prevention.

To address non-treatment engagement among OEF/OIF Veterans, it is imperative to understand both the predictors of and barriers to service use. Psychiatric comorbidity, polytrauma exposure, and time since military separation are the best predictors of initial engagement in needed mental health treatment (Hearne, 2013). In a sample of 1,040 OEF/OIF Veterans, more PTSD symptomatology and positive perceptions of the VA were associated with use of VHA mental health services (Di Leone et al., 2013). Examining time since military separation, Hoge, Auchterlonie, and Milliken (2006) found that 35% of OIF Veterans accessed mental health services in the year after returning home. However, many Veterans who would benefit from mental health treatment do not seek care. Several studies have examined barriers to care among returning OEF/OIF Veterans. Barriers to care include stigma of mental illness and negative perceptions of treatment (Hoge et al., 2004; Hoge and Castro, 2012). The aim of this study was to address barriers to care for OEF/OIF Veterans by offering a Cognitive-Behavioral Therapy (CBT) intervention designed to improve beliefs about getting treatment.

In a prior report from this study, treatment-seeking barriers were examined for OEF/OIF Veterans with PTSD who had not sought treatment for PTSD (Stecker et al., 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. The purpose of this report is to examine the effectiveness of a brief, cognitive-behavioral intervention on treatment seeking among suicidal and non-suicidal OEF/OIF Veterans who screen positive for PTSD. We hypothesized that participants who were randomized to receive the intervention and were suicidal would be more likely to seek PTSD treatment than non-suicidal intervention participants. We further hypothesized that suicidal participants randomized to the intervention condition would receive more treatment as compared with non-suicidal intervention participants during the six-month follow-up period. While suicidal intervention participants are hypothesized to seek more treatment, we hypothesized that they would have fewer reductions in symptoms of PTSD and depression over the course of the study than non-suicidal intervention participants.

Methods

Participants

Eligible participants were service members or former service members who screened positive for PTSD after deployment to Iraq and/or Afghanistan and who had not initiated PTSD treatment. Participants were recruited through visits to armories and social media advertisements. 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. Individuals were excluded from participation if they had already been or were in PTSD treatment.

Upon enrollment in the study, participants were consented and randomly assigned to either the intervention or control conditions. A total of 274 participants were randomized to the intervention ($n = 123$) or control conditions ($n = 151$). At the baseline assessment, 93 participants indicated that they were experiencing suicidal ideation and 181 reported no suicidal ideation. Of the 93 experiencing suicidal ideation, 36 were randomly assigned to the intervention condition and 57 to the control condition.

Procedures

Study procedures were reviewed and approved by the institutional review boards of the investigators' institutions. Trained study staff administered a baseline assessment by telephone to all participants to obtain demographic information, and assess beliefs about PTSD treatment and symptom severity. Intervention participants were asked to schedule a time for an intervention session, and received an additional phone call for this session. Intervention calls were conducted by interventionists trained in a CBT engagement intervention. Participants in the control condition did not receive an intervention session. All participants received follow-up calls to assess for service utilization, beliefs about PTSD treatment, and symptoms at 1, 3, and 6 months following the baseline telephone assessment. Participants received \$125 for their participation in four telephone sessions.

Measures

To determine symptom severity, the PTSD Checklist-Military Version (PCL-M; Weathers et al., 1993), a reliable and valid assessment of PTSD (Blanchard et al., 1996) and the Patient Health Questionnaire-9 (PHQ-9), a reliable and valid measure of major depressive disorder, were used (Kroenke et al., 2001). Participants were also assessed on suicidal ideation using the PHQ-9 item 9. Symptoms were assessed at baseline, 1, 3, and 6 months.

The Perceptions about Services Scale (PASS) assessed beliefs about PTSD treatment. The PASS is a 45-item self-report measure with items conforming to the Theory of Planned Behavior (Ajzen, 1991). Responses are rated on a 7-point Likert-type scale with higher numbers reflecting more positive beliefs about treatment (e.g., “1 = strongly disagree” to “7 = strongly agree”). Examples of items on the scale include: “Treatment will reduce symptoms”; “Some of my experiences would be too difficult to talk about in treatment”; and “Going to treatment means I can't handle my problems.” Some items are reverse-coded for

scoring. The PASS has adequate test-retest reliability and high internal consistency (Ajzen, 1991; Stecker et al., 2010).

To assess treatment utilization, all participants received follow-up phone calls at months 1, 3, and 6 after the baseline assessment. Participants were asked whether they had initiated treatment (by scheduling and attending the appointment), and the number of treatment sessions attended. Information regarding the treatment session was also assessed, including treatment facility type (i.e. VHA or non-VHA), provider type (i.e., psychiatrist, psychologist, or other), and type of treatment received (e.g., CBT, medications, etc.).

Intervention

Intervention sessions were conducted by telephone and lasted approximately 45-60 minutes. Sessions were based on the CBT framework that thoughts, feelings, and behaviors interact with each other and influence behavior. Participants identified beliefs most influential in their treatment-seeking behavior. Interventionists addressed participants' beliefs using CBT principles to modify thoughts to those more consistent with active treatment-seeking behavior. 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.

Statistics

Quantitative methods were used first to provide descriptive statistics, to measure changes in PTSD scores and trends in the data. Qualitative methods were used after the analysis of the quantitative results as a means to further understand participants' experiences with the intervention and the impact of PTSD on their lives. Together, this mixed methods approach provided greater insight into the primary outcomes of the intervention and to further understand what main factors encourage or discourage service engagement (Creswell and 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 count variable, positively skewed, 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 to compare those who were suicidal at baseline with those who were not. All statistical analyses were conducted with SAS v.9.3. A p-value of 0.05 was used to indicate statistical significance.

Qualitative analysis

The research team conducted a qualitative analysis of 20 participants who received the intervention. The participants were organized into two categories: suicidal and non-suicidal at baseline. Ten participants were selected at random from each group. Groups were

determined based on the PHQ-9 item 9, which assessed whether the participants had experienced thoughts of self-harm in the two weeks prior to the baseline assessment.

The research team individually and collectively reviewed the intervention sheets. The session sheets were notes written by trained professionals who conducted the telephone intervention and documented the participants' current status (e.g., changes in circumstances, life events). Themes related to treatment barriers and psychological and social functioning were agreed upon by the research team prior to initiating individual analyses of the qualitative data. The themes included: depressive symptoms, post-traumatic stress (PTS) symptoms, positive and negative psychosocial circumstances, positive and negative coping mechanisms, and sleep. Team members individually tallied the frequency (how often a theme is mentioned) and extensiveness (how many participants mention a theme) of statements related to these five themes in all of the session sheets. The sheets were then reviewed by the research team again in a group setting, and consensus was reached regarding the exact counts for each theme.

Results

Characteristics of study participants are presented in Table 1. To compare treatment seeking and retention among suicidal and non-suicidal participants in both intervention and control conditions, logistic regression models were used. By the one month follow-up interview, suicidal participants, regardless of condition, were twice as likely to attend treatment as non-suicidal participants ($X^2 = 3.97$, $df = 1$, $OR = 2.08$, $p < 0.05$). Further, a group (intervention versus control condition) and suicidality (suicidal at baseline versus not suicidal at baseline) difference was found ($X^2 = 7.84$, $df = 3$, $p < 0.05$). Specifically, participants assigned to the control condition who did not indicate suicidality at baseline were less likely to attend treatment at both the 1 and 6 month follow-up interviews (see Table 2).

Group (intervention versus control condition) by suicidality (suicidal at baseline versus not suicidal at baseline) differences were also found for the number of PTSD treatment sessions received at the 1, 3 and 6 month follow-up interviews. Specifically, those who were in the control group who did not report suicidality at baseline attended fewer PTSD treatment sessions over the six month time ($X^2 = 11.3$, $df = 3$, $p < 0.01$; see Table 2).

Generalized equation models were used to assess reductions in PTSD and depression symptoms, assessing for time, group by time, and suicidality effects. Participants who were suicidal at baseline had higher PTSD and depression scores at baseline than non-suicidal participants at baseline, and were observed to have a significant reduction in symptoms of depression ($Z = 9.62$, $p < 0.01$) and PTSD ($Z = -6.09$, $p < 0.01$) over time. Likewise, significant group by suicidality effects were found over time for depression ($X^2 = 15.98$, $df = 3$, $p < 0.01$), but not for PTSD symptoms. Specifically, participants who were not suicidal in the control group had less significant reductions in depression over time as compared to the other groups (see Table 3). A 10-point reduction on the PCL and a 25% change in PHQ-9 scores are considered clinically significant. All groups, except the non-suicidal intervention group, saw clinically meaningful reductions in PTSD symptoms by the 6-month follow-up. Further, all groups experienced clinically significant reductions in depression

over time. The non-suicidal groups experienced meaningful reductions in depression at 1 month post baseline, and the suicidal groups experienced clinically meaningful reductions at 3 months.

Findings from Qualitative Analysis

Prior to the analysis, five themes were identified concerning psychological and social functioning and treatment barriers: depressive symptoms; post-traumatic stress (PTS) symptoms; psychosocial factors; sleep; and coping strategies. After the analysis, six subcategories emerged from the depressive, psychosocial, and coping categories. The two subcategories identified within depressive symptoms were hopelessness and social isolation. Psychosocial factors related to overall functioning were subcategorized into positive and negative psychosocial factors. Finally, the category of coping was subcategorized into positive and negative coping strategies.

Depressive symptoms—Among the suicidal respondents, 40% discussed themes related to hopelessness compared to 20% of the non-suicidal respondents. One suicidal respondent noted, “[It’s] tough to keep going on; [I feel like I’m] falling into a black hole.” Social isolation emerged among suicidal respondents (50%) and non-suicidal respondents (40%). A suicidal respondent stated; “[I] don’t like to go out. [I] like to stay home. [I] don’t like crowds.”

Post-traumatic stress symptoms—Themes related to PTS symptoms emerged, including intrusive memories, persistent avoidance, and increased arousal. Among suicidal respondents, 70% reported PTS symptoms, as compared to 50% of non-suicidal respondents. Themes of negative alterations in mood and cognition emerged, including shame, guilt, and anger, which were higher among non-suicidal respondents (70%) than suicidal respondents (50%). A non-suicidal respondent stated, “Guilt get[s me] angry really quick.”

Sleep—Themes related to sleep emerged with a similar frequency (10%) and extensiveness among suicidal (50%) and non-suicidal respondents (40%). Respondents stated difficulties falling and staying asleep, and one non-suicidal respondent stated, “Nights are the worst.”

Psychosocial factors—Themes related to negative psychosocial factors emerged as the most frequent (26.7%) and extensive (100%) topic throughout the suicidal transcripts. Negative psychosocial themes emerged as limited or difficult interpersonal relationships and difficulty finding work. One suicidal respondent stated, “I would rather be at war than at home.” Non-suicidal respondents were more likely to discuss positive psychosocial factors (70%), which emerged as themes related to social connectedness. One respondent endorsed having “a supportive family.”

Coping—Non-suicidal respondents were more likely to discuss themes related to positive coping than suicidal respondents (80%; 60%). Moreover, positive coping was the most frequently discussed theme among non-suicidal respondents. One non-suicidal respondent was able to identify several positive coping strategies, including breathing, talking, relaxing,

and exercise. Conversely, suicidal respondents endorsed negative coping strategies more than non-suicidal respondents (40%; 30%). For example, a suicidal respondent mentioned cocaine, weed, and drinking as forms of coping.

Discussion

Results from this study partially supported our hypothesis that suicidal individuals would be more likely to seek mental health treatment. Contrary to our hypothesis that suicidal individuals receiving the intervention would seek mental health treatment most frequently, no significant difference in treatment seeking behaviors was found between the intervention and control groups for suicidal participants. Our findings support previous research that greater symptom severity predicts treatment utilization (Di Leone et al., 2013; Elbogen et al., 2013; Haskell et al., 2011).

Our hypothesis that suicidal participants would seek more treatment sessions was not supported. However, the cognitive-behavioral intervention focused on improving treatment utilization appears to have benefited the non-suicidal individuals. Non-suicidal individuals who received the intervention attended the most sessions at the 6-month follow-up. Participants who were not in a crisis but received the intervention were just as likely to seek treatment as those who were suicidal. Conversely, participants in the control group who were non-suicidal at baseline were the least likely to seek treatment throughout the course of the study. This finding has significant clinical implications, as PTSD symptomatology is often a barrier to treatment. Avoidance is the cornerstone symptom of PTSD, which maintains the disorder and is the symptom cluster most associated with suicidal ideation in OEF/OIF Veterans (Lemaire and Graham, 2011). Further research is necessary to understand what motivates people to engage in treatment before a crisis, especially for groups at high risk for suicidal ideation, such as returning service members.

The categories that emerged from the qualitative analysis may help elaborate upon the experience of comorbidity for returning service members experiencing suicidal ideation. Social isolation, hopelessness, intrusive memories, sleeplessness, low social support, and infrequent positive coping mechanisms are all themes commonly expressed by suicidal veterans, and could all be points of therapeutic intervention. Our qualitative findings support previous research that postdeployment stressors associated with suicidal behaviors are disruption in family relationships, employment challenges, and legal problems (Kaplan et al., 2012; Kline et al., 2011; Pietrzak et al., 2011).

This study had several limitations. First, the study was designed for Veterans with PTSD, not suicidal ideation. Therefore, the assessment of suicidal ideation was limited to one question. The limited assessment may have resulted in underreporting of suicidal ideation. Despite this limitation, we believe our findings are generalizable to primary care settings, where similar assessment is likely to take place. Second, the intervention group received more phone calls than the control group, which may have affected treatment engagement. Third, 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. Finally, the pre-

determined categories may have biased our qualitative findings. Further research is needed to motivate suicidal Veterans to remain in treatment.

Conclusion

In conclusion, our findings indicate that Veterans who are suicidal will seek treatment, but may not remain in treatment. Further, our findings illustrate the importance of an intervention to motivate non-suicidal Veterans with PTSD to not only initiate treatment, but to remain in treatment, which may prevent suicidal outcomes.

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Figure 1. Suicidal at Baseline

Table 1
Sample Characteristics

	Suicidal (n = 93)	Not Suicidal (n = 181)
Gender (%)		
Men	81.7	90.1
Age (<i>M</i>)	30.5	28.72
Race (%)		
White	69.2	71.3
Black	13.2	15.2
Hispanic	7.7	7.9
Asian American	4.4	0.6
American Indian or Alaskan Native	2.2	2.2
Other	3.3	2.8

Table 2
PTSD Treatment Attendance

	Intervention (n =123)		Control (n =151)	
	Suicidal (n = 36)	Not Suicidal (n = 87)	Suicidal (n = 57)	Not Suicidal (n = 94)
Attended PTSD Treatment				
1 mo.	27%	19%	20%	7% *
3 mo.	44%	36%	38%	26%
6 mo.	64%	56%	52%	43% *
Number of Sessions Attended <i>M</i> (<i>SD</i>)				
1 mo.	0.39 (0.75)	0.37 (0.95)	0.39 (0.91)	0.08 (0.32) *
3 mo.	1.22 (2.5)	1.03 (2.0)	0.98 (1.8)	0.48 (1.2)
6 mo.	3.58 (10.0)	4.3 (12.2)	3.74 (5.2)	1.66 (3.9) **

* $p < .05$

** $p < .01$

Table 3
PTSD and Depressive Symptoms

	Intervention		Control	
	Suicidal	Not Suicidal	Suicidal	Not Suicidal
PTSD Symptoms - mean (SD)				
Baseline	63.2 (12.4)	57.5 (11.1)	66.1 (10.1)	55.9 (10.9)
1 mo.	55.8 (13.4)	49.4 (13.2)	60.0 (12.8)	52.0 (12.3)
3 mo.	53.3 (14.2)	48.0 (15.6)	59.2 (12.6)	49.0 (13.7)
6 mo.	52.0 (14.3)	49.0 (15.6)	53.7 (13.3)	45.7 (15.7)
Depression Symptoms - mean (SD)				
Baseline	19.6 (4.4)	14.9 (4.1)	19.8 (3.7)	14.3 (4.1)
1 mo.	15.5 (5.6)	11.6 (5.2)	15.0 (4.7)	13.0 (4.7)
3 mo.	13.3 (5.8)	9.6 (5.4)	14.8 (5.8)	11.5 (5.1)
6 mo.	12.8 (5.7)	11.2 (5.8)	12.3 (5.3)	10.6 (6.2)