Behavioral Activation as a Primary Care-Based Treatment for PTSD and Depression Among Returning Veterans

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This preliminary study examined treatment-satisfaction and potential therapeutic benefits of Behavioral Activation as a primary care-based treatment for posttraumatic stress disorder (PTSD) and depression among Iraq and Afghanistan War veterans. Eight veterans were enrolled, 6 completed at least 4 sessions, and 5 veterans completed posttreatment and 3-month follow-up assessments after receiving 5–8 weekly sessions of Behavioral Activation delivered in a specialty postdeployment primary care clinic. Significant and meaningful reductions in PTSD symptoms were found on structured clinical assessments and self-report measures. Posttraumatic stress disorder treatment gains (measured by structured clinical assessments) were maintained at 3-month follow-up. The majority of veterans demonstrated meaningful improvements on depression and quality of life and veterans reported a high satisfaction with treatment.

Approximately 425,000 veterans of Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) have sought Veteran Affairs (VA) health care. Rates of posttraumatic stress disorder (PTSD) and depression among OEF/OIF veterans seeking VA care have steadily increased since 2002 (Seal et al., 2009), with veterans often first diagnosed in primary care clinics; however, few receive an adequate dose of psychotherapy following referral to mental health services (Seal et al., 2010). Stigma or practical concerns (e.g., time or travel) may be barriers to OEF/OIF veterans receiving specialty mental health treatment (Hoge et al., 2004). As such, primary care clinics are an important setting in which to offer mental health services (Engel et al., 2008).

Primary care-based treatments for depression are effective in reducing symptoms and functional impairment (Gilbody, Bower, Fletcher, Richards, & Sutton, 2006) and typically include pharmacotherapy augmented by brief problem-solving and behavioral activation therapies. However, the presence of PTSD comorbid to depression is associated with poorer responses to primary care-based treatments (Hegel et al., 2005) and individuals may prefer behavioral therapies for PTSD over psychopharmacological therapy (e.g., Roy-Byrne, Berlinger, Russo, Zatzick, & Pitman, 2003). The burden of training clinicians in multiple
condition-specific psychotherapies argues for unified approaches to treating co-occurring conditions (Barlow, Allen, & Choate, 2004). Thus, there may be benefit to developing behavioral therapies that can be used to treat both depression and PTSD in primary care.

Behavioral Activation is an effective psychotherapy for treating depression (e.g., Dimidjian et al., 2006). Based on behavioral reinforcement theory, Behavioral Activation for depression emphasizes overcoming patterns of withdrawal and avoidance that can follow a precipitating event (e.g., loss of a loved one) by coaching patients to re-engage in rewarding and meaningful activities (Martell, Addis, & Jacobson, 2001). As avoidance and withdrawal are common maintaining features of both depression and anxiety, Behavioral Activation has also been applied to anxiety disorders (Hopko, Robertson, & Lejuez, 2006), and there is accumulating support for Behavioral Activation as a treatment for PTSD (Jakupcak et al., 2006; Wagner, Zatzick, Ghes Quiere, & Jurkovich, 2007). Behavioral Activation is intuitive, well-tolerated, and may be particularly suited for delivery in nonmental health settings (Hopko, Bell, Armento, Hunt, & Lejuez, 2005).

The purpose of this preliminary investigation was to assess treatment-satisfaction and potential therapeutic benefits of Behavioral Activation delivered in primary care to OEF/OIF veterans with PTSD and depression. The study protocol was approved by the University of Washington Internal Review Board and the Research and Development Committee of VA Puget Sound Health Care System. We predicted that Behavioral Activation for PTSD and depression would be associated with meaningful improvements in symptom severity and veterans' quality of life.

**Method**

**Participants**

Veterans were recruited from a specialty postdeployment primary care clinic. Exclusionary criteria were limited to current bipolar disorder, psychotic disorders, and alcohol/drug dependence. To isolate treatment effects of Behavioral Activation, enrollment criteria required a stable medication regime of at least 60 days prior to enrollment.

Eight veterans consented to participate. One veteran was excluded due to subthreshold PTSD symptom severity and one veteran was withdrawn and referred to addiction treatment because he underreported his alcohol use at baseline. A third veteran completed four sessions, but dropped out citing scheduling difficulties and did not complete posttreatment assessments.

Participants were White male veterans who served in the military since 2002, with an average age of 28 years ($SD = 5$). Five veterans reported trauma exposure from combat; one denied combat service but reported trauma from handling dead bodies. All six veterans who completed Session 4 met criteria for lifetime major depressive disorder, with four of six participants reporting a current depressive episode. Three of six met criteria for current active alcohol abuse and two met criteria for alcohol abuse in early remission.

**Measures**

The Clinician Administered PTSD Scale (CAPS-IV; Blake et al., 1995) was administered to assess PTSD severity, with criteria according to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV; American Psychiatric Association, 1994) and global CAPS score of 50 at baseline used to determine inclusion criteria for study enrollment. The Structured Clinical Interview for DSM-IV Axis I Disorders (First, Spitzer, Gibbon, & Williams, 1997) was administered at baseline to assess for depression and alcohol abuse comorbid to PTSD and to assess for exclusionary diagnoses.

Veterans' self-ratings of PTSD symptoms were assessed using the PTSD Checklist-Military Version (PCL-M; Weathers, Litz, Herman, Huska, & Keane, 1993). Depression symptoms were assessed using the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996). Quality of life was assessed using the Quality of Life Inventory (QOLI; Frisch, Cornell, & Villanueva, 1992).

Posttreatment, veterans completed the Client Satisfaction Questionnaire (CSQ). The CSQ is an unpublished 8-item, self-report questionnaire developed at VA Puget Sound Health Care System to assess satisfaction with the amount and quality mental health care. Items are rated on a 4-point Likert scale with higher scores reflecting greater satisfaction. The measure demonstrated adequate internal reliability ($\alpha = .57$).

**Procedure**

Veterans were reimbursed $30 for each completed pre-, post-, and follow-up evaluation. Three independent doctoral-level study raters with prior training in the relevant structured interviews administered assessments. Self-report measures were administered at baseline, midtreatment, and posttreatment. Structured interviews assessing PTSD symptoms were administered at baseline, posttreatment, and 3-month follow-up.

Behavioral Activation for PTSD was based on the protocol developed by Wagner et al. (2007). Although Behavioral Activation’s emphasis on targeting avoidance is similar to other cognitive behavioral therapies (CBTs) for depression and PTSD, Behavioral Activation differs in its “outside in” approach to change (Martell et al., 2001). Rather than addressing underlying cognitive schemas or conditioned emotional or physical responses to trauma cues, Behavioral Activation uses active problem-solving to navigate barriers and promote engagement in valued activities to increase pleasure and or mastery.

Behavioral Activation therapists (MJ and AP) received weekly consultation from AW to discuss cases and monitor treatment adherence. Sessions 1–4 (Session 1 = 90 minutes, Sessions
2–4 = 50–60 minutes) were used to (a) identify treatment goals and the impact of PTSD and depressive symptoms on quality of life; (b) provide psychoeducation regarding PTSD and depression; (c) conduct idiographic, functional analyses of avoidance behaviors to identify barriers to activity; and (d) institute weekly goal-setting and problem-solving to promote successive steps toward activation. Sessions 5–7 (45–60 minutes) provided ongoing support and consolidation of Behavioral Activation strategies. Session 8 (60 minutes) was used to review progress, reinforce ongoing goal-setting, and discuss relapse prevention.

Patient goals commonly targeted efforts to improve health (e.g., re-establishing fitness routines), pursue academic/career goals (e.g., enroll in college), and improve, re-establish, or develop intimate relationships. Several veterans identified goals specific to re-engaging in spiritual practices. Behavioral Activation involved asking veterans to identify concrete, weekly tasks that represented approximate goals toward these goals, identify avoidance (behavioral or emotional) that might be interfering with completion of tasks, and problem-solve ways to overcome avoidance, using alternative coping strategies to progress toward goals.

One veteran dropped from the study at Session 4 and did not complete structured assessments posttreatment; because Sessions 1–4 represent the most active components of the protocol, this was considered an adequate dose of treatment and his self-reported responses to the CSQ ranged from 3.0 to 3.9 (M = 3.7, SD = 0.4), indicating high treatment satisfaction. Individual scores and group means at baseline and follow-up assessments are shown in Table 1. Participants showed a significant decrease in clinician-assessed PTSD symptoms over time, F (2, 3) = 10.66, p < .05, d = 1.44, with an average drop in CAPS scores of 23.2 points for the five veterans who completed follow-up. Using a 12-point change in CAPS scores as a marker of meaningful change (see Monson et al., 2006), all five veterans who completed posttreatment assessments demonstrated reductions in PTSD and four of the five veterans maintained these reductions at 3-month follow-up. Veterans’ self-report on the PCL-M indicated significant decreases over time, F (2, 3) = 24.97, p < .05, d = 1.87. Although not significant, there were meaningful effects associated with reductions in depression, F (2, 3) = 3.49, ns, d = 1.28, and improvements in quality of life, F (2, 3) = 2.72, ns, d = 0.62. An examination of self-report assessments of the six veterans who completed Session 4 showed significant improvements in PTSD with an average drop of 11.5 points on the PCL-M, t(5) = 7.25, p < .01, and a mean drop of 7.2 points on the BDI-II, t(5) = 2.43, p < .05.

### Table 1. PTSD, Depression, and Quality of Life Scores at Pretreatment, Midtreatment, and Posttreatment Assessments

<table>
<thead>
<tr>
<th>Assessments</th>
<th>Participant 1</th>
<th>Participant 2</th>
<th>Participant 3</th>
<th>Participant 4</th>
<th>Participant 5</th>
<th>Participant 6</th>
<th>Group M</th>
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<tr>
<td>CAPS Pretreatment</td>
<td>90.00</td>
<td>79.00</td>
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<td>59.00</td>
<td>67.00</td>
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<td>34.00</td>
<td>31.00</td>
<td>40.00</td>
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<tr>
<td>3-Month follow-up</td>
<td>84.00</td>
<td>–</td>
<td>43.00</td>
<td>23.00</td>
<td>52.00</td>
<td>37.00</td>
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<td>PCL-M Pretreatment</td>
<td>65.00</td>
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<td>45.00</td>
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<td>61.00</td>
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<td>BDI-II Pretreatment</td>
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<td>33.00</td>
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<td>4.00</td>
<td>11.00</td>
<td>16.00</td>
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<td>0.08</td>
<td>−0.53</td>
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<td>1.63</td>
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Note. PTSD = posttraumatic stress disorder, CAPS = Clinician Administered PTSD Scale, PCL-M = PTSD Checklist-Military Version, BDI-II = Beck Depression Inventory-II, QOLI = Quality of Life Inventory.

Data Analysis

Repeated measures analysis of variance (ANOVA) was conducted to assess change in symptoms per the CAPS (pretreatment, posttreatment, 3-month follow-up) and self-report measures (pretreatment, midtreatment, posttreatment).

### RESULTS

Responses to the CSQ ranged from 3.0 to 3.9 (M = 3.7, SD = 0.4), indicating high treatment satisfaction. Individual scores and group means at baseline and follow-up assessments are shown in Table 1. Participants showed a significant decrease in clinician-assessed PTSD symptoms over time, F (2, 3) = 10.66, p < .05, d = 1.44, with an average drop in CAPS scores of 23.2 points for the five veterans who completed follow-up. Using a 12-point change in CAPS scores as a marker of meaningful change (see Monson et al., 2006), all five veterans who completed posttreatment assessments demonstrated reductions in PTSD and four of the five veterans maintained these reductions at 3-month follow-up. Veterans’ self-report on the PCL-M indicated significant decreases over time, F (2, 3) = 24.97, p < .05, d = 1.87. Although not significant, there were meaningful effects associated with reductions in depression, F (2, 3) = 3.49, ns, d = 1.28, and improvements in quality of life, F (2, 3) = 2.72, ns, d = 0.62. An examination of self-report assessments of the six veterans who completed Session 4 showed significant improvements in PTSD with an average drop of 11.5 points on the PCL-M, t(5) = 7.25, p < .01, and a mean drop of 7.2 points on the BDI-II, t(5) = 2.43, p < .05.
DISCUSSION

Behavioral Activation was associated with high patient satisfaction and beneficial treatment effects for a small sample of OEF/OIF veterans with PTSD and depression. Despite the diagnostic complexity of patients, we found significant improvements in PTSD posttreatment that were maintained for 3 months in four of five veterans. Improvement in quality of life and depression were associated with medium to large effects.

Due to stigma and practical barriers to seeking specialty mental health care among OEF/OIF veterans, treatments for PTSD and depression should be made available in primary care settings. Asking primary care-based clinicians to learn multiple, condition-specific treatments may not be practical and the brevity of this Behavioral Activation protocol compares favorably with the treatment-length of prolonged exposure (90 minute sessions delivered over 10 sessions; Schnurr et al., 2007) and cognitive processing therapy (50-minute sessions delivered over 12 sessions; Monson et al., 2006). Individuals’ improvements in self-reported PTSD and depression symptoms observed at Session 4 suggest that for some, briefer versions of Behavioral Activation may be sufficient for clinically meaningful changes.

Importantly, Behavioral Activation may overlap with in vivo exposure strategies. However, Behavioral Activation differs from other CBT therapies for PTSD in that its primary focus is on engaging activities that are reinforcing for the individual and consistent with his or her goals, whereas the focus of in vivo exposure is on activities that are avoided because they elicit fear or anxiety. For example, one veteran struggled with attending church services, citing anxiety associated with crowds and fears that others might ask details about his military service (cuing difficult memories). He was able to identify alternative strategies to re-engage in his spiritual life, incorporating prayer into physical exercise, reading scriptures daily, and participating in a church-sponsored young-adult club. In this way, Behavioral Activation did not explicitly encourage exposure, but did promote successful re-engagement in a valued domain through creative problem-solving.

Limitations of this preliminary study include the small, homogenous sample and lack of randomized control procedures; thus, we cannot rule out that symptom changes reflect regression toward the mean or spontaneous improvements over time. Although 3-month follow up CAPS scores suggest the majority of study completers maintained improvements in PTSD, longer-term follow-up assessments are needed to determine if this therapy approach is sufficient or is best offered as a preliminary stage of treatment. Study assessors were aware of the study aims and this may have influenced their posttreatment assessments. We are currently pursuing a larger scale, randomized control trial of Behavioral Activation delivered in VA primary care clinics compared to treatment as usual delivered in VA specialty PTSD clinics.

REFERENCES


