Behavioral Activation as a Treatment for Posttraumatic Stress Disorder Among Returning Veterans: A Randomized Trial

Amy W. Wagner, Ph.D., Matthew Jakupcak, Ph.D., Halina M. Kowalski, L.P.C., Joyce N. Bittinger, Ph.D., Shahrokh Golshan, Ph.D.

Objective: Although evidence-based, trauma-processing treatments exist for posttraumatic stress disorder (PTSD), many individuals do not seek out, complete, or fully respond to these treatments, pointing to the need for alternative treatments. In this study, the authors evaluated the effectiveness of behavioral activation therapy modified to address PTSD among veterans.

Methods: In a randomized trial, behavioral activation was compared with treatment as usual (referral to PTSD "standard care") among a sample of 80 veterans of the wars in Iraq and Afghanistan who were enrolled at the U.S. Department of Veterans Affairs (VA) Portland Health Care System and the VA Puget Sound Health Care System.

Results: Levels of PTSD symptoms decreased for both groups across posttreatment and at 3-month follow-up as measured by clinical interview and self-report measures. The behavioral activation group had greater improvement on PTSD as evidenced by the self-report measure of symptom severity. Both groups also showed improvement on self-report measures of depression and overall functioning across time, with greater improvement on depression evidenced by the behavioral activation group. Ratings of treatment satisfaction were high for both groups.

Conclusions: Behavioral activation is a promising alternative treatment for PTSD.

Psychiatric Services 2019; 70:867–873; doi: 10.1176/appi.ps.201800572

Despite the established efficacy of trauma-focused psychotherapies for posttraumatic stress disorder (PTSD), including prolonged exposure and cognitive processing therapy, many civilians and veterans with PTSD are not receiving or completing these treatments (1–7). This finding is noteworthy because unprecedented training and implementation policies ensure that all U.S. Department of Veterans Affairs (VA) medical centers provide access to prolonged exposure and cognitive processing therapy.

Avoidance of trauma reminders is a central feature of PTSD, and research has indicated that PTSD-related avoidance is associated with lower utilization of psychiatric care (8–10). Among veterans, commonly reported treatment-seeking barriers include perceived stigma and competing responsibilities (work, childcare; 11–13). Implementation barriers also exist regarding use of trauma-focused treatments in many settings, including limited provider hours and variability in training (14, 15).

To address the need for additional PTSD treatments, Wagner et al. (16) and Jakupcak et al. (17) developed a brief adaptation of behavioral activation for treating PTSD (and comorbid depression). Behavioral activation is a present-focused, well-established treatment for depression (18–21) that targets patterns of avoidance through identification and enactment of reinforcing activities aligned with patients' long-term goals (22). Case formulations and treatment planning are ideographic and patient centered. The rationale for applying behavioral activation to PTSD was based on the role of avoidance in the development and maintenance of PTSD impairments (23) and contemporary approaches

HIGHLIGHTS

- Participants receiving behavioral activation for posttraumatic stress disorder (PTSD) demonstrated reductions in PTSD symptom severity, comparable with participants referred to PTSD specialty care.
- Behavioral activation for PTSD was associated with reductions in depression and high treatment satisfaction, comparable with participants referred to PTSD specialty care.
- Behavioral activation for PTSD holds promise as an alternative treatment for PTSD.

identifying unified intervention targets (avoidance) across many psychiatric disorders (24).

Preliminary studies have supported adaptations of behavioral activation for PTSD among both civilians (16) and veterans (17, 25–27). Two pilot studies conducted by independent researchers found that the brief behavioral activation for PTSD protocol developed by Wagner et al. (16) and Jakupcak et al. (17) was clinically effective for reducing PTSD symptoms in military and veteran samples (28, 29). Furthermore, behavioral activation for PTSD has been effectively delivered in a range of settings, including primary care (17, 29), rehabilitation clinics (27), and home-based care (16, 28).

Two additional studies have included behavioral activation in phased treatments for comorbid depression and PTSD; in these protocols, several sessions of behavioral activation preceded trauma processing (30, 31). In both studies of behavioral activation plus trauma processing, reductions in PTSD were evident during the behavioral activation phase; Gros and colleagues (30) found treatment-response trajectories unchanged following the initiation of imaginal exposure. Together, these initial studies suggest that behavioral activation holds promise as a stand-alone treatment for PTSD for individuals who do not want or cannot access trauma-processing therapies.

This study builds on previous work by evaluating behavioral activation for PTSD in a randomized trial, comparing behavioral activation with specialty PTSD treatment (standard care) in a sample of veterans with PTSD. The behavioral activation protocol tested is the eight-session version developed by Wagner et al. (16) and Jakupcak et al. (17). We predicted veterans receiving behavioral activation would demonstrate significant and greater reductions in PTSD relative to those receiving standard care.

We further predicted that behavioral activation would be associated with significant reductions in depression severity and increases in overall functioning compared with standard care. We chose a standard care comparison group (rather than another specific treatment) on the basis of our interest in comparing behavioral activation with the existing standard of care within the VA health care system, which promotes referral to specialty PTSD care for trauma-focused treatments but also allows for patient choice and provider recommendations.

METHODS

Participants

Participants were 80 veterans of the wars in Iraq and Afghanistan, enrolled at either the VA Portland Health Care System or the VA Puget Sound Health Care System (Seattle) and diagnosed as having PTSD related to military trauma(s). Study referrals were primarily from providers in primary care, reflective of recruitment efforts to enroll veterans who might not typically seek psychiatric care. Eligibility criteria included current diagnosis of PTSD; willingness to refrain from additional PTSD care during the treatment phase; psychiatric medication stability (no medication changes within 4 weeks before enrollment); and absence of current psychosis, bipolar disorder, substance dependence (as defined by the *DSM-IV*; substance abuse was not a rule out), and high current suicidality or homicidality. Data were collected between June 2009 and March 2013.

Primary Outcome Measures

PTSD. The Clinician-Administered PTSD Scale (CAPS; 32, 33) was used to assess initial PTSD diagnosis (*DSM-IV*; 34) and PTSD severity across assessment time points. The CAPS is considered a gold standard for assessing PTSD. Items are ranked on Likert scales according to both frequency (0–4) and intensity of symptoms (0–4), yielding an overall severity score based on the sum of frequency and intensity ratings across 17 items (range 0–136). For this study, a diagnosis of PTSD was based on the scoring rule in which a symptom with a "1" on frequency and "2" on intensity is counted as present, and the overall CAPS severity score is at least 45 (35). The CAPS has strong psychometric properties (32, 33).

The Posttraumatic Stress Disorder Checklist-Military version (PCL-M; 36, 37) was used to assess participants' subjective PTSD-related distress. The PCL-M is a 17-item, self-report scale that assesses *DSM-IV* PTSD symptoms. Items are rated on a 5-point Likert scale according to how much symptoms bothered the respondent over the past month. Psychometric properties of this measure are excellent (37, 38).

Depression. The Beck Depression Inventory-II (39) is a 21-item measure of subjective depression severity. This widely used measure is commonly included in outcome studies to determine treatment effects on severity of depressive symptoms and has excellent psychometric properties (40).

Secondary Outcome Measures

Functioning. The Sheehan Disability Scale (41) is a widely-used three-item self-rated scale of functional impairment. Items ask respondents to rate (on a Likert scale ranging from 0 to 10) to what extent their symptoms interfere with functioning in the areas of work, social, and family life. Scores range from 0 to 30, higher scores representing greater functional impairment. The scale's reliability and concurrent validity have been demonstrated in anxiety disorder samples (42).

Behavioral activation. The Behavioral Activation for Depression Scale (BADS; 43) was used to assess changes in behavioral activation. The BADS is a 25-item, self-report measure that assesses overall degree of behavioral activation. Items are rated on a 7-point Likert scale ranging from 0 (not at all) to 6 (completely). Total scores range from 0 to 150, with higher scores indicating more behavioral

activation. The BADS has demonstrated strong reliability and validity (44).

Treatment Acceptability Measures

The Credibility-Expectation Scales (45) were administered only after behavioral activation, session 1, to assess perceived credibility of treatment and expectancy for change. This six-item measure is widely used and has demonstrated strong reliability and validity (46). Items 1–3 assess credibility (the degree to which the treatment is viewed as believable, convincing, and logical); items 4–6 assess expectancy (the degree to which the respondent believes improvements will occur).

The Client Satisfaction Questionnaire (47) is an eight-item, self-report questionnaire used to assess satisfaction with care. Items are rated on a 4-point Likert scale, with higher scores reflecting greater satisfaction (range 0–32). The Client Satisfaction Questionnaire has demonstrated strong reliability and validity (48).

Procedures

Assessors contacted patients referred to the study for a preliminary phone screen to confirm interest in PTSD treatment and psychiatric medication stability. Those eligible were scheduled for a pretreatment session that included informed consent and a clinical interview to assess remaining eligibility criteria and baseline symptom severity and functioning levels [see online supplement].

Participants completed in-person posttreatment and 3-month follow-up assessments. Assessors were master's- or doctoral-level clinicians who were blinded to treatment assignment. Because of the nonspecific nature of standard care (described later), follow-up assessments occurred at predetermined time points (vs. after a specific number of sessions). A scheduling "clock" was started at the time of participants' first therapy appointment or 1 month after pretreatment assessment, whichever came first. The posttreatment assessment was scheduled for 12 weeks after clock initiation, and the 3-month follow-up was scheduled for 24 weeks after clock initiation.

Study assessors were trained to reliability on the CAPS. To determine interrater reliability on the CAPS, approximately 10% of completed CAPS (N=21) audio recordings were randomly selected (across all assessment points) and rated by an expert CAPS assessor unaffiliated with this study. Interrater reliability was high (intraclass correlation coefficient=0.97). This study was approved and monitored by the institutional review boards of the VA Portland and Puget Sound health care systems as well as a centralized VA institutional review board.

Interventions

Behavioral activation for PTSD. The eight-session protocol is based on behavioral activation for depression as described by Martell and colleagues (22). The protocol maintains the central structure and components of this approach, including behavioral analyses for assessing avoidance patterns and tracking difficulties and benefits of engaging in activities; activity scheduling and monitoring of reactions based on patient values, physical abilities, and life circumstances; and present-centered strategies to decrease rumination and enhance emotional engagement and awareness of subjective experiences, referred to as "attention to experience" (similar to mindfulness training). Psychoeducational materials for patients included information on PTSD and its association with avoidance patterns. The manual allows for the inclusion of a significant other in an early session with encouragement to involve significant others in goal setting and goal-directed activities.

Sessions are designed to be delivered within 60 minutes, typically lasting 45 minutes. Sessions 1 and 2 focus on orientation to the treatment model, assessing and discussing PTSD avoidance in the maintenance of functional impairment, assessing values and goals, and identifying and initiating areas for activation. Sessions 3–7 focus on continuing assignment of behavioral activation tasks, assessing the effects of activation, and promoting problem solving. Sessions are loosely but consistently structured, anchored by agenda setting, homework review, and troubleshooting, with flexibility to address additional concerns. The last session includes a review of activation progress, relapse prevention, and discussion of future behavioral activation targets and additional treatment.

Standard care. Participants randomly assigned to standard care received standard treatments delivered in the VA PTSD specialty clinics in Portland and Seattle. In both clinics, providers are trained in either prolonged exposure, cognitive processing therapy, or both; VA performance measures promote offering these treatments. Both clinics also offer individual and group-based alternative treatments and coping-skills training (e.g., acceptance and commitment therapy, anger management).

Both PTSD clinics offer pharmacotherapy. Actual treatment received was determined collaboratively between the standard care provider and the veteran. Therefore, standard care reflected "real-world" care per policies, training, and procedures consistent with PTSD specialty clinics across VA medical centers. In an effort to equate access to care between groups as much as possible (without interfering excessively with the spirit of standard care), participants randomly assigned to standard care were offered a minimum of six individual psychotherapy appointments.

Therapists and Treatment Fidelity

Behavioral activation was delivered by three doctoral-level psychologists, including the principal investigators (the first and second authors) and a provider in Seattle who was trained and supervised by the principal investigators. Most cases were seen by the principal investigators. Providers of standard care were not preselected for study purposes and were representative of the providers of the PTSD clinics,

TABLE 1. Characteristics at baseline of 80 Iraq and Afghanistan veterans with PTSD, by receipt of behavioral activation or standard care

Variable	Behavioral activation (N=42)		Standard care (N=38)		χ^2	t	df	p
	N	%	N	%				
Age (M±SD)	30.2±6.4		29.9±7.1			.03	1	.87
Male	39	93	36	95	.12		1	.73
Race-ethnicity[a]					.60		1	.44
White/Caucasian	34	81	28	74				
Black/African American	2	5	2	5				
Asian/Pacific Islander	2	5	2	5				
Native American	0	—	1	4				
Latino	1	2	2	5				
Other	3	7	3	7				
Married[b]	20	48	16	42	.34		2	.84
Education[a]					8.40		5	.14
High school graduate	10	24	3	8				
Some college	25	60	31	82				
College degree or higher	7	16	4	10				
Branch of service[a]					.00		1	.95
Army	29	69	26	69				
Marines	10	24	8	21				
Navy	3	7	2	5				
Air Force	0	—	2	5				
OIF or OEF deployments (M±SD)[c]	2.0±1.1		2.1±2.0			.09	1	.77
Major depressive disorder diagnosis	28	67	26	68	.03		1	.87

[a] Some categories were collapsed for analyses because of low numbers.
[b] Analysis based on three categories: single, married, divorced or separated.
[c] OIF, Operation Iraqi Freedom; OEF, Operation Enduring Freedom.

composed of psychologists, psychiatrists, nurse practitioners, and social workers.

Recordings of 25 randomly selected sessions (11%) underwent fidelity coding, with roughly equal numbers chosen across behavioral activation sessions and sites. A fidelity checklist consisted of 12 "essential" components that were rated on a 3-point scale (0, absent; 1, partial and more was needed; and 2, present and no more was needed). The fidelity assessor was trained by the first author to reliability by using additional tapes not selected for fidelity assessment. Most (91%, N=273) essential components were listed as present with an average score of 1.8, indicating most were present fully.

Data Analyses

Descriptive statistics were obtained for all variables, and tests of normality and homogeneity of variance were performed. Data were analyzed by using mixed-effects regression modeling to account for missing data across assessments (both groups experienced fairly high rates of study dropout; number of participants lost to 3-month follow-up was 13 for both groups). Primary hypothesis tests were evaluations of changes from baseline through follow-up assessments on measures of PTSD severity (PCL-M and CAPS). Secondary hypothesis tests were evaluations of changes on measures of depression (Beck Depression Inventory-II) and quality of life (Sheehan Disability Scale). All analyses included the intent-to-treat sample, used IBM SPSS Statistics (version 24), and were two-tailed with α=0.05.

RESULTS

Participant characteristics are presented in Table 1. Groups did not differ significantly on any demographic variables. Table 2 provides a summary of the treatment received by both groups, determined by review of electronic medical records by the assessors. Behavioral activation participants received significantly more individual treatment (all behavioral activation therapy) at posttreatment than the standard care participants despite equal access to care (t=6.70, df=73, p<0.001). Similarly, total treatment received, defined as the sum of individual, group, and medication management sessions across time periods, was greater among the behavioral activation group than the standard care group (t=2.67, df=72, p<0.009). Despite all standard care providers being trained in prolonged exposure and cognitive processing therapy, few veterans received these treatments, even by 3-month follow-up. To control for the amount of treatment received on outcomes, the composite variable of total treatment received was computed and used as a covariate in analyses.

Table 3 displays means and standard deviations for primary and secondary outcome variables. Controlling for amount of treatment received, the analyses found that levels of PTSD symptoms decreased for both groups over time on the CAPS total score (F=30.47, df=2, 111, p<0.001) and PCL-M (F=35.07, df=2, 114, p<0.001). Contrary to prediction, the behavioral activation group did not demonstrate a significantly greater reduction in the CAPS total score than the standard care group (group × time interaction), although there was trend toward significance in favor of behavioral activation (F=2.69, df=2, 111, p=0.07). There was a significant group × time interaction on the PCL-M, indicating greater reductions in PTSD symptoms for the behavioral activation group compared with the standard care group (F=5.87, df=2, 114, p<0.01).

On the CAPS subscales, there was a significant group × time interaction for the avoidance subscale, such that the behavioral activation group had greater avoidance reductions relative to standard care (F=3.63, df=2, 110, p=0.03). Nonetheless, mean scores remained in the clinical range

TABLE 2. Number of treatment sessions received by Iraq and Afghanistan veterans with PTSD, by type of treatment

	Week 12		Week 24		Combined	
Treatment type	M	SD	M	SD	M	SD
Behavioral activation (BA)						
Individual (all BA)	6.65	2.88	1.42	2.97		
Group	.05	.23	.31	1.04		
Medication	.32	.71	.42	1.25		
Total					8.75	5.40
Standard care						
Individual	2.55	2.40	1.45	1.98		
PE[a]	.32	.96	.03	.16		
CPT[b]	.24	1.00	.18	.73		
Skills[c]	.32	.90	.74	1.57		
Other[d]	1.68	1.95	.50	.86		
Group	.61	2.14	.21	.70		
Medication	.21	.66	.26	.64		
Total					5.31	5.63

[a] Prolonged exposure.
[b] Cognitive processing therapy.
[c] Skills represent present-focused skills for managing PTSD and stress.
[d] Other represents assessment, psychoeducation, and "supportive" therapy.

of presumptive PTSD for both groups at both follow-up assessments. Depression scores also significantly decreased over time for both groups ($F=8.36$, df=2, 112, $p<0.001$) with a significant group × time interaction, reflecting greater reductions among the behavioral activation group ($F=4.08$, df=2, 112, $p=0.02$). However, mean scores remained in the moderate range of depression severity for both groups at both follow-up time periods.

On the Sheehan Disability Scale, participants in both groups showed improvement in functioning over time ($F=10.28$, df=2, 108, $p<0.001$), but there was no group × time effect. Likewise, levels of behavioral activation, as measured by the BADS, increased over time for both groups ($F=7.1$, df=2, 97, $p<0.01$); however, there was no group × time effect on behavioral activation.

Both groups reported comparable satisfaction with treatment, with overall means suggesting high treatment satisfaction; at the 24-week assessment, the mean score was 25.14±2.35 for behavioral activation (N=28) and 25.39±2.87 for standard care (N=23). Overall, behavioral activation was viewed as credible (items 1–3, 6.7±1.09) with moderate expectation of improvement (items 4–6, 5.3±1.48).

DISCUSSION

Results of this randomized trial suggest that brief behavioral activation may be effective for reducing PTSD and depression symptoms among veterans within VA health care settings. Although both groups showed improvement over time on measures of PTSD (interview and self-report), depression, and overall functioning, the behavioral activation group showed greater reductions on subjective measures of PTSD and depression relative to standard care. However, groups did not differ on overall PTSD severity as measured by the CAPS, suggesting that behavioral activation may not be more effective than referral to specialty PTSD care.

Surprisingly, the behavioral activation group did not show greater increases in behavioral activation than the standard care group, given the specific focus of behavioral activation. Perhaps behavioral activation is an outcome of PTSD improvement regardless of the therapy type.

It is notable that, despite the range of therapies available within the specialty PTSD clinics, veterans randomly assigned to behavioral activation for PTSD attended more psychiatric appointments. Perhaps this outcome reflects veterans' preferences for present-focused and skill-based therapies over the trauma-focused therapies often associated with specialty PTSD care (49). Indeed, the standard

TABLE 3. Primary and secondary outcomes over time among Iraq and Afghanistan veterans with PTSD, by treatment group

	Behavioral activation						Standard care					
	Baseline (N=42)		Week 12 (N=30)		Week 24 (N=28)		Baseline (N=38)		Week 12 (N=24)		Week 24 (N=25)	
Measure	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
CAPS[a]												
Total	75.88	15.15	54.40	22.98	56.25	25.43	82.00	15.72	70.13	25.68	64.60	28.30
Subscale B (intrusive symptoms)[b]	18.31	6.47	12.73	6.27	11.89	7.91	22.50	6.91	18.75	9.20	15.84	10.31
Subscale C (avoidance symptoms)[c]	31.29	9.31	21.30	12.70	22.75	14.27	32.47	8.48	28.13	11.87	25.68	13.37
Subscale D (hyperarousal symptoms)[b]	26.29	4.27	20.37	7.55	21.61	7.31	27.03	5.18	23.25	8.47	23.36	8.68
PCL-M[d]	58.95	7.75	44.17	12.04	47.90	13.44	58.97	8.09	52.56	12.99	51.36	15.06
BDI-II[e]	24.83	6.99	17.5	10.44	21.03	10.03	25.2	8.17	23.32	11.42	21.52	11.75
SDS[f]	18.95	5.99	14.96	6.74	15.86	7.57	18.94	5.09	16.00	8.86	16.13	8.49
BADS[g]	75.97	19.80	89.54	24.39	79.42	22.37	74.25	17.71	81.96	27.91	83.79	27.76

[a] Clinician-Administered PTSD Scale. Possible scores range from 0 to 136, with higher scores representing greater symptom severity.
[b] Possible scores range from 0 to 40, with higher scores representing greater symptom severity.
[c] Possible scores range from 0 to 56, with higher scores representing greater symptom severity.
[d] PTSD Checklist-Military version. Possible scores range from 17 to 85, with higher scores representing greater symptom severity.
[e] Beck Depression Inventory-II. Possible scores range from 0 to 63, with higher scores representing greater symptom severity.
[f] Sheehan Disability Scale. Possible scores range from 0 to 30, with higher scores representing greater functional impairment.
[g] Behavioral Activation for Depression Scale. Possible scores range from 0 to 150, with higher scores representing greater behavioral activation.

care group's rates of utilization are comparable with national patterns of psychiatric use observed among VA-enrolled Iraq and Afghanistan veterans diagnosed as having PTSD (6, 49). Alternatively, administrative factors associated with referral processes to PTSD specialty services (scheduling the clinic intake before therapy initiation) may have influenced utilization patterns in the standard care condition (although study procedures also involved extensive pretreatment processes).

Although the group differences in treatment received can be considered a limitation of this study, we intentionally designed the comparison group to reflect real-world PTSD care within the VA health care system. Nonetheless, it cannot be ruled out that administrative, as well as provider, factors (greater motivation within the behavioral activation providers, who were primarily the treatment developers) influenced the results. Future studies should examine the effectiveness of behavioral activation for PTSD relative to research-structured, trauma-focused (evidence-based) therapy protocols with therapists independent of the investigation.

Our study is limited by a modest sample size, a predominantly white and male population, a noncontrolled comparison treatment, and patients dropping out over time. Furthermore, although clinically meaningful reductions in PTSD and depression symptom severity were observed in both groups, follow-up outcomes remained in the diagnostic range across assessments. Meta-analyses have found smaller effect sizes associated with treatment of military-related PTSD relative to PTSD from other types of traumatic exposure (50). Still, PTSD and depression severity scores at follow-up assessments suggest that the majority of study participants would benefit from ongoing therapy.

Finally, our PTSD measures were based on *DSM-IV* criteria because the study began before the publication of *DSM-5*. This basis may somewhat limit the generalizability of our findings to persons who have currently been diagnosed as having PTSD (although *DSM-IV* and *DSM-5* diagnoses of PTSD are highly correlated), and we have no knowledge of the effects of behavioral activation on the current "cluster D" criteria, which are related to changes in cognition and mood.

CONCLUSIONS

Behavioral activation may be a viable alternative treatment for PTSD for individuals who do not want or who are unable to access trauma processing therapy. With its focus on behavioral avoidance and increasing functionality, behavioral activation is also well-suited for the treatment of conditions commonly comorbid with PTSD, such as depression and chronic pain (31). Elements of behavioral activation are relatively straightforward and easy to implement in a range of health care settings (16, 27, 51) by providers with varying backgrounds and training (52). Taken together, our findings suggest that behavioral activation is a promising therapy that may expand the reach of PTSD treatment (53). Behavioral activation may be strengthened by including additional sessions. Future studies should compare behavioral activation with specific evidenced-based treatments for PTSD; behavioral activation should also be used within implementation designs that include additional populations of individuals with PTSD.

AUTHOR AND ARTICLE INFORMATION

U.S. Department of Veterans Affairs (VA) Portland Health Care System, Portland, Oregon (Wagner, Kowalski); Department of Psychiatry, Oregon Health and Science University, Portland (Wagner); VA National Telemental Health Hub, Continental Region, Salt Lake City (Jakupcak); Department of Psychiatry and Behavioral Sciences, University of Washington, Seattle (Jakupcak); Department of Psychiatry, University of California, San Diego, La Jolla (Golshan). Dr. Bittinger, who was with the VA Puget Sound Health Care System, is now deceased. Send correspondence to Dr. Wagner (amy.wagner@va.gov).

Funding for this study was provided by the Veterans Health Administration through Merit Review grant MHBA-022-06S awarded to Drs. Wagner and Jakupcak. This study is registered with ClinicalTrials.gov (NCT00805532). The authors gratefully acknowledge Margaret Kincaid, who was essential to the overall coordination and operation of this study; Autumn Del Fierro, who served as a behavioral activation study therapist; the standard care therapists; the PTSD clinic managers who supported this study (Chris Anderson and James Sardo at the VA Portland Health Care System and David Tarver at the VA Puget Sound Health Care System); and the veterans who contributed their time and efforts as participants. These views represent the opinions of the authors and not necessarily those of the VA or the U.S. government.

Drs. Wagner and Jakupcak have a contract through New Harbinger Publications to write a client workbook for behavioral activation for PTSD. The other authors report no financial relationships with commercial interests.

Received December 17, 2018; revisions received March 11, April 25, and May 14, 2019; accepted May 16, 2019; published online July 24, 2019.

REFERENCES

1. Finley EP, Garcia HA, Ketchum NS, et al: Utilization of evidence-based psychotherapies in Veterans Affairs posttraumatic stress disorder outpatient clinics. Psychol Serv 2015; 12:73–82
2. Hoge CW, Grossman SH, Auchterlonie JL, et al: PTSD treatment for soldiers after combat deployment: low utilization of mental health care and reasons for dropout. Psychiatr Serv 2014; 65:997–1004
3. Kehle-Forbes SM, Meis LA, Spoont MR, et al: Treatment initiation and dropout from prolonged exposure and cognitive processing therapy in a VA outpatient clinic. Psychol Trauma 2016; 8:107–114
4. McLean CP, Foa EB: Dissemination and implementation of prolonged exposure therapy for posttraumatic stress disorder. J Anxiety Disord 2013; 27:788–792
5. Mott JM, Mondragon S, Hundt NE, et al: Characteristics of US veterans who begin and complete prolonged exposure and cognitive processing therapy for PTSD. J Trauma Stress 2014; 27:265–273
6. Seal KH, Maguen S, Cohen B, et al: VA mental health services utilization in Iraq and Afghanistan veterans in the first year of receiving new mental health diagnoses. J Trauma Stress 2010; 23:5–16
7. Shiner B, D'Avolio LW, Nguyen TM, et al: Measuring use of evidence based psychotherapy for posttraumatic stress disorder. Adm Policy Ment Health Ment Health Serv Res 2013; 40:311–318
8. Blais RK, Hoerster KD, Malte C, et al: Unique PTSD clusters predict intention to seek mental health care and subsequent utilization in US veterans with PTSD symptoms. J Trauma Stress 2014; 27:168–174
9. Elbogen EB, Wagner HR, Johnson SC, et al: Are Iraq and Afghanistan veterans using mental health services? New data from a national random-sample survey. Psychiatr Serv 2013; 64:134–141

10. Sayer NA, Friedemann-Sanchez G, Spoont M, et al: A qualitative study of determinants of PTSD treatment initiation in veterans. Psychiatry 2009; 72:238–255
11. Hoge CW, Castro CA, Messer SC, et al: Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. N Engl J Med 2004; 351:13–22
12. Pietrzak RH, Johnson DC, Goldstein MB, et al: Perceived stigma and barriers to mental health care utilization among OEF-OIF veterans. Psychiatr Serv 2009; 60:1118–1122
13. Stecker T, Fortney JC, Hamilton F, et al: An assessment of beliefs about mental health care among veterans who served in Iraq. Psychiatr Serv 2007; 58:1358–1361
14. Cook JM, Dinnen S, Simiola V, et al: VA residential provider perceptions of dissuading factors to the use of two evidence-based PTSD treatments. Prof Psychol Res Pr 2014; 45:136–142
15. Watts BV, Shiner B, Zubkoff L, et al: Implementation of evidence-based psychotherapies for posttraumatic stress disorder in VA specialty clinics. Psychiatr Serv 2014; 65:648–653
16. Wagner AW, Zatzick DF, Ghesquiere A, et al: Behavioral activation as an early intervention for PTSD and depression among physically injured trauma survivors. Cognit Behav Pract 2007; 14: 341–349
17. Jakupcak M, Wagner A, Paulson A, et al: Behavioral activation as a primary care-based treatment for PTSD and depression among returning veterans. J Trauma Stress 2010; 23:491–495
18. Dimidjian S, Hollon SD, Dobson KS, et al: Randomized trial of behavioral activation, cognitive therapy, and antidepressant medication in the acute treatment of adults with major depression. J Consult Clin Psychol 2006; 74:658–670
19. Dobson KS, Hollon SD, Dimidjian S, et al: Randomized trial of behavioral activation, cognitive therapy, and antidepressant medication in the prevention of relapse and recurrence in major depression. J Consult Clin Psychol 2008; 76:468–477
20. Gortner ET, Gollan JK, Dobson KS, et al: Cognitive-behavioral treatment for depression: relapse prevention. J Consult Clin Psychol 1998; 66:377–384
21. Jacobson NS, Dobson KS, Truax PA, et al: A component analysis of cognitive-behavioral treatment for depression. J Consult Clin Psychol 1996; 64:295–304
22. Martell CR, Addis ME, Jacobson NS: Depression in Context: Strategies for Guided Action. New York, Norton, 2001
23. Foa EB, Kozak MJ: Emotional processing of fear: exposure to corrective information. Psychol Bull 1986; 99:20–35
24. Allen LB, McHugh RK, Barlow DH: Emotional disorders: a unified protocol; in Clinical Handbook of Psychological Disorders: A Step-by-Step Treatment Manual. Edited by Barlow DH. New York, Guilford Press, 2008
25. Jakupcak M, Roberts LJ, Martell C, et al: A pilot study of behavioral activation for veterans with posttraumatic stress disorder. J Trauma Stress 2006; 19:387–391
26. Mulick PS, Naugle AE: Behavioral activation for comorbid PTSD and major depression: a case study. Cognit Behav Pract 2004; 11: 378–386
27. Turner AP, Jakupcak M: Behavioral activation for treatment of PTSD and depression in an Iraqi combat veteran with multiple physical injuries. Behav Cogn Psychother 2010; 38:355–361
28. Luxton DD, Pruitt LD, O'Brien K, et al: An evaluation of the feasibility and safety of a home-based telemental health treatment for post-traumatic stress in the US military. Telemed J E Health 2015; 21:880–886
29. Plagge JM, Lu MW, Lovejoy TI, et al: Treatment of comorbid pain and PTSD in returning veterans: a collaborative approach utilizing behavioral activation. Pain Med 2013; 14:1164–1172
30. Gros DF, Price M, Strachan M, et al: Behavioral activation and therapeutic exposure: an investigation of relative symptom changes in PTSD and depression during the course of integrated behavioral activation, situational exposure, and imaginal exposure techniques. Behav Modif 2012; 36:580–599
31. Nixon RDV, Nearmy DM: Treatment of comorbid posttraumatic stress disorder and major depressive disorder: a pilot study. J Trauma Stress 2011; 24:451–455
32. Blake DD, Weathers FW, Nagy LM, et al: The development of a clinician-administered PTSD scale. J Trauma Stress 1995; 8:75–90
33. Weathers FW, Keane TM, Davidson JR: Clinician-administered PTSD scale: a review of the first ten years of research. Depress Anxiety 2001; 13:132–156
34. Diagnostic and Statistical Manual of Mental Disorders, 4th ed. Washington, DC, American Psychiatric Publishing, 2000
35. Weathers FW, Ruscio AM, Keane TM: Psychometric properties of nine scoring rules for the Clinician-Administered Posttraumatic Stress Disorder Scale. Psychol Assess 1999; 11:124–133
36. Blanchard EB, Jones-Alexander J, Buckley TC, et al: Psychometric properties of the PTSD Checklist (PCL). Behav Res Ther 1996; 34: 669–673
37. Weathers FW, Litz BT, Herman DS, et al: The PTSD Checklist: reliability, validity, and diagnostic utility. Presented at the annual meeting of the International Society for Traumatic Stress Studies, San Antonio, TX, 1993
38. Bliese PD, Wright KM, Adler AB, et al: Validating the Primary Care Posttraumatic Stress Disorder Screen and the Posttraumatic Stress Disorder Checklist with soldiers returning from combat. J Consult Clin Psychol 2008; 76:272–281
39. Beck AT, Steer RA, Brown GK: Manual for the BDI-II. San Antonio, TX, Psychological Corp, 1996
40. Wang YP, Gorenstein C: Psychometric properties of the Beck Depression Inventory-II: a comprehensive review. Br J Psychiatry 2013; 35:416–431
41. Sheehan DV: The Sheehan Disability Scale; in Handbook of Psychiatric Measures. Edited by Rush AJ, Pincus A, First MB, et al. Washington, DC, American Psychiatric Publishing, 2000
42. Leon AC, Shear MK, Portera L, et al: Assessing impairment in patients with panic disorder: the Sheehan Disability Scale. Soc Psychiatry Psychiatr Epidemiol 1992; 27:78–82
43. Kanter JW, Mulick P, Busch AM, et al: The Behavioral Activation for Depression Scale (BADS): psychometric properties and factor structure. J Psychopathol Behav Assess 2007; 29:191–202
44. Fuhr K, Hautzinger M, Krisch K, et al: Validation of the Behavioral Activation for Depression Scale (BADS)—psychometric properties of the long and short form. Compr Psychiatry 2016; 66:209–218
45. Borkovec TD, Nau SD: Credibility of analogue therapy rationales. J Behav Ther Exp Psychiatry 1972; 3:257–260
46. Devilly GJ, Borkovec TD: Psychometric properties of the Credibility/Expectancy Questionnaire. J Behav Ther Exp Psychiatry 2000; 31:73–86
47. Larsen DL, Attkisson CC, Hargreaves WA, et al: Assessment of client/patient satisfaction: development of a general scale. Eval Program Plann 1979; 2:197–207
48. Attkisson CC, Greenfield TK: The UCSF Client Satisfaction Scales: I. the Client Satisfaction Questionnaire-8; in The Use of Psychological Testing for Treatment Planning and Outcome Assessment: Instruments for Adults, 3rd ed. Edited by Maruish ME. Mahwah, NJ, Erlbaum, 2004
49. Maguen S, Madden E, Cohen BE, et al: Time to treatment among veterans of conflicts in Iraq and Afghanistan with psychiatric diagnoses. Psychiatr Serv 2012; 63:1206–1212
50. Bradley R, Greene J, Russ E, et al: A multidimensional meta-analysis of psychotherapy for PTSD. Am J Psychiatry 2005; 162: 214–227
51. Hopko DR, Bell JL, Armento MEA, et al: Behavior therapy for depressed cancer patients in primary care. Psychotherapy 2005; 42:236–243
52. Ekers D, Richards D, McMillan D, et al: Behavioural activation delivered by the non-specialist: phase II randomised controlled trial. Br J Psychiatry 2011; 198:66–72
53. Darnell D, O'Connor S, Wagner A, et al: Enhancing the reach of cognitive-behavioral therapy targeting posttraumatic stress in acute care medical settings. Psychiatr Serv 2017; 68:258–263