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TITLE: Innovative Service Delivery for Secondary Prevention of PTSD in At-Risk OIF-OEF Service Men and Women

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The views, opinions and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision unless so designated by other documentation.
This report describes key research accomplishments for Innovative Service Delivery for Secondary Prevention of PTSD between 4/1/11 and 3/31/12. This report focuses on the primary objectives for our fourth year including: a) recruitment and enrollment, b) the development and implementation of an efficient, sustainable, study-referral infrastructure, and c) presentation of the project at national conferences and submission and preparation of initial manuscripts. Additionally, we provide a detailed description of the study-related activities that occurred between 01/01/12 and 3/31/12.
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INTRODUCTION:

The current project has two primary objectives: 1) evaluate the effectiveness of an intervention to prevent the functional impairment associated with PTSD symptoms in post-deployed OIF/OEF service men and women, and 2) determine whether or not this program delivered via telepsychology will be as effective as in-person treatment. Behavioral Activation and Therapeutic Exposure (BA-TE) is an eight-session, manualized treatment program. Using a between-groups, repeated measures design, study participants will be randomized to one of two treatment conditions: BA-TE delivered via telepsychology (BA-TE-T), or BA-TE delivered in-person (BA-TE-IP). Participants will be assessed across primary and secondary outcome variables at five time points (pre-treatment, mid-treatment, post-treatment, and 3- and 12-month follow up).

BODY:

The major tasks of the S.O.W. include (1) recruit 200 active duty or veteran participants with PTSD or Sub-Threshold PTSD and randomly assign to either in person or televideo based treatment for PTSD; (2) collect measures of PTSD and other psychopathology, attendance, patient satisfaction and cost at pre-treatment, post-treatment, and follow-up. Note that our S.O.W. has been amended and approved to address the more prevalent problem of chronic PTSD by including up to 33% of Vietnam Veterans, in addition to OIE/OEF and Persian Gulf Veterans.

Report: 4 Year Point Data Analysis

Between 04/01/2011 and 03/31/2012, 408 participants were screened and 58 were enrolled, bringing our total enrollment to date since the initiation of study procedures on 10/08/2008 to 167. Additionally, 36 participants completed post-test assessment (85 total), 33 completed three-month follow-up (69 total), and 20 completed 12-month follow-up (42 total).

Participants were predominantly male (91%), White (50.7%) followed by Black (44%) and then Hispanic/Other (5.2%), and had a mean age of 41.0 years (SD = 14.4). Theatre was predominantly OIF/OEF (60.4%), followed by Vietnam (20.1%) and then Persian Gulf (19.5%). All participants endorsed symptoms consistent with either PTSD or subthreshold PTSD on the CAPs.

Clinical outcomes: Baseline to one-week post treatment

To evaluate the overall efficacy of BA-TE, we ran analyses on the PTSD Checklist-Military Version (PCL-M) and Beck Depression Inventory, Second Edition (BDI-II) for the entire sample. These analyses revealed significant within subject pre- to post-treatment reductions on the primary symptom measures. Consistent with
hypotheses, analyses revealed significant reductions in PTSD and Major Depressive Disorder (MDD) symptoms over time, but no significant time by condition interactions.

Figure 1: PCL-M Score Pre-Post (N = 75)

![PCL-M Score Pre-Post Diagram](image)

Figure 2: BDI Score Pre-Post (N = 75)

![BDI Score Pre-Post Diagram](image)

**Trends at three-month follow-up**

To date, 69 participants have completed the three-month follow-up assessment. Although tests of significance across condition are premature at this stage of the study, initial data suggest that participants maintain therapeutic gains three months post-treatment completion.
Trends at twelve-month follow-up

To date, 42 participants have completed the twelve-month follow-up assessment. Although tests of significance across condition are premature at this stage of the study, initial data suggest that participants maintain therapeutic gains twelve months post-treatment completion.

Figure 3: PCL Scores across Time (N=33)

Figure 4: BDI Scores across Time (N=33)
**Patient Satisfaction**

Of the 24 patients who completed the patient satisfaction survey, 70.8% agreed that their relationship with the clinician was the same using telehealth as it was in person. 91.7% agreed that they received good care via telehealth. 79.2% were satisfied and would recommend home-based telehealth to other Veterans. 44.4% said that access to HB TMH led to fewer/missed rescheduled appointments.

![Patient Satisfaction Graph](image)

**Figure 5: Patient Satisfaction**

<table>
<thead>
<tr>
<th>Good relationship w/provider</th>
<th>Good Care</th>
<th>Recommend HB TMH to other Veterans</th>
<th>Fewer missed/rescheduled appts</th>
<th>Overall Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>70.8%</td>
<td>91.7%</td>
<td>79.2%</td>
<td>45.8%</td>
<td>75.0%</td>
</tr>
</tbody>
</table>

**KEY RESEARCH ACCOMPLISHMENTS:**

- 167 participants have been enrolled to date; 85 participants have completed post-treatment assessment; 69 participants have completed 3-month follow-up; and 42 participants have completed 12-month follow-up

- An amendment to the statement of work to allow the enrollment of Vietnam and Persian Gulf veterans into the study was approved. The recent inclusion of Vietnam Veterans has enhanced recruitment success.
Team representatives established relationships with clinicians at our primary care clinic annexes located in the Trident Hospital and the Charleston Naval Weapons Station.

Team representatives established relationships with providers at the Goose Creek satellite clinic to establish a new recruitment path and increase enrollment.

Research staff implemented a postcard and phone call recruitment initiative; Veterans diagnosed with PTSD and receiving services at community-based outpatient clinics (e.g., Savannah, Myrtle Beach, Beaufort) are contacted via postcards/telephone to inform them of treatment opportunities through this study.

Research staff has utilized print and radio advertisements to recruit additional participants.

Staff continues to meet weekly with Dr. Acierno (Principal Investigator) for clinical supervision. Other clinical training/supervisory experiences included attending weekly Grand Rounds seminars, assessment training seminars, and providing ongoing opportunities for clinical staff to shadow senior-level clinicians during therapy.

Eight manuscripts were accepted for publication (see next section).

We presented preliminary findings at several national and regional conferences (see next section).

REPORTABLE OUTCOMES:

3 manuscripts have been published, and an additional 5 manuscripts are currently in press:

Acierno, R., Gros, D.F, Strachan, M., Frueh, BF (in press). The Next Step: Moving Combat-Related PTSD Care out of the Clinic and into the Home (or Boat, or Hotel, or Car [Parked]). Clinicians Research Digest.


- The research team presented at many national/regional conferences:


Price, M., Strachan, M., Gros, D., Ruggiero, K., Acierno, R. *Combat Experiences, Pre-deployment Training, and Outcome of Exposure Therapy for PTSD in Operation Enduring Freedom/Operation Iraqi Freedom Veterans*. (2011, November). Poster presented for the Disaster & Trauma Special Interest Group at the 45th annual meeting of for the Association for Behavior and Cognitive Therapy, Toronto, Canada.


- **Workshops/Training:**
  - Dr. Acierno delivered BA-TE training (for use with active duty personnel) to the staff at Joint Base Lewis-McChord in Seattle, Washington (December 2011).
  - Study staff is invited to give a workshop on Behavioral Activation and Therapeutic Exposure for the Armed Forces Public Health Convention (June 2012).

**CONCLUSION:**

Recruitment has increased dramatically with the activation of additional recruitment sites and inclusion of Vietnam Veterans.

Preliminary results are consistent with current literature that suggests behavior therapies can be safely and effectively implemented via home-based telehealth technology and that telehealth service delivery yields reductions in symptomatology that are comparable to in-person service delivery. Participants who receive behavior therapy via telehealth report comparable treatment satisfaction, credibility, and service delivery perceptions to patients who receive exposure therapy via conventional in-person service.
delivery. Furthermore, preliminary results find that participants in both conditions appear to maintain their treatment gains at 3-month and 12-month follow-up.

Thus far, study findings are encouraging. On measures of both PTSD and MDD, within-group improvements are evident, but no differences between telemedicine and in-person conditions are evident. The latter findings are tempered, however, because power is still low relative to that suggested as necessary in non-inferiority designs. Nonetheless, lack of significant differences between modalities, with significant improvement within both modalities is worthy of note.

REFERENCES:

None

APPENDICES:

The 8 research articles and 16 research presentations are available upon request.