Post-print de: Hernandez-Tejada, M., Acierno, R., & Sanchez-Carracedo, D. (2017). Addressing dropout from prolonged exposure: Feasibility of involving peers during exposure trials. *Military Psychology, 29*(2): 157-163. http://dx.doi.org/10.1037/mil0000137 enviado a Military Psychology Editor: Armando X. Estrada. Versión del editor consultable en : http://psycnet.apa.org/psycinfo/2016-37287-001/

Title page with All Author Information

RUNNING HEAD: Addressing PE Dropout through Peer Support

TITLE: Addressing Dropout from Prolonged Exposure: Feasibility of Involving Peers During Exposure Trials

AUTHORS:

Melba A. Hernandez-Tejada, DHA 1,2,3

Ron Acierno, PhD 2,3

David Sanchez-Carracedo, PhD1

INSTITUTION(S) OF AFFILIATION:

1Department of Clinical and Health Psychology, Universitat Autònoma de Barcelona

2Ralph H. Johnson Veterans Affairs Medical Center, Charleston SC

3College of Nursing, Medical University of South Carolina

Corresponding Author:

Melba A. Hernandez-Tejada, DHA

99 Jonathan Lucas St.

MSC160

Charleston, SC 29425

Email: hernanma@musc.edu

Phone: (843) 906-2281

(843) 789-6963

Keywords: PTSD, Peer, Social Support, Dropout,

Attrition, Prolonged Exposure Therapy, Combat Veteran

Introduction

Approximately 15-25% of United States combat veterans suffer from Post-Traumatic Stress Disorder (PTSD)[1]. When left untreated, symptoms often do not remit, and as such, these patients experience enduring suffering and subsequently use disproportionately greater levels of health care. Over the past decade and in response to aforementioned needs of returning Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) veterans, the of Veterans Health Administration (VHA) healthcare system improved the quality of screening, referral, and treatment efforts to offer best practices care for PTSD[2]. Specifically, through national mental health provider training workshops, VHA increased its capacity to disseminate evidence based PTSD treatments such as Prolonged Exposure (PE)[3].

Efficacy of and Attrition from Prolonged Exposure PTSD treatment

Among empirically-based treatments, PE has the most consistent support for its efficacy[4]. Meyers et al.[5] reported that veterans receiving PE for PTSD used significantly fewer mental health services following treatment; results echoed by Tuerk et al.[6] who found a reduction of mental health service use of about 50%, but only among those completing PE treatment. Unfortunately, attrition from evidence-based therapy for PTSD is about 25-40%, even under optimum, research protocol settings where all efforts are made to limit dropout from treatment[7,8]. Identifying and resolving barriers to effective treatment completion is therefore essential to preventing suffering and controlling costs.

Research on causes for treatment dropout among veterans receiving exposure-based psychotherapy for PTSD such as PE usually centers on demographic correlates studied in post-hoc analyses as part of larger treatment outcome studies (i.e., attrition from evidence based PTSD treatment was not the original focus of the study). Consequently, very limited

investigation into reasons for dropout is available. Most frequently reported reasons for early treatment withdrawal include logistical factors, (e.g., travel time, cost) and stigma[9]. However, although these factors are often indicators of statistically significant increased likelihood of attrition, their predictive value is limited. In fact, when all logistic and stigma barriers were virtually eliminated by offering exposure therapy for PTSD via home based telemedicine, rates of attrition were virtually identical to the same treatment offered in a traditional office based setting[8]. Clearly, alternative factors related to evidence based treatment attrition and its resolution should be considered.

Social Support: A Factor in Psychotherapy Completion & Success

Social support, particularly in the context of trauma exposure, may be very important to resilience in general[10] and successful exposure based treatment completion and positive outcome in particular[11]. Indeed, Tarrier et al. [11] found that poor social support (i.e., social environments high in criticism and hostility) accounted for 20% of the variance in PTSD treatment outcome. Similarly, Pietrzak et al. [10] studied OEF/OIF Veterans and found that post-deployment social support was associated with lower PTSD symptomatology. Finally, Price et al. [12] noted precisely the same results, with emotional support positively associated with treatment outcome and inversely related to attrition. Therefore, social support may be useful to target as a component of PE treatment retention, particularly in veteran populations.

Peers as a Source of Social Support for Veteran Populations

Although social support is most frequently conceptualized as that provided by relatives and friends, *peer* support is a resource currently used successfully by other mental health specialties to help patients with difficult aspects of treatment[13]. Moreover, there is precedent for veteran-to-veteran support programs in healthcare that build on the team and leadership aspects

of social support so essential to military culture. Indeed, VHA has filled over 1,100 paid peer support specialist positions, has placed them in mental health, primary care, and outreach locations, and offers an extensive toolkit for VHA administrators and staff interested in such programs[14]. Moreover, Chinman and colleagues[15] have collected data and reported on peer programs recognized by VHA as examples of evidence based, effective care. These programs engage veterans in mental health treatment by promoting recovery strategies by veteran peers who themselves are experiencing or have experienced a mental health condition such as PTSD or depression, and are actively engaged in their own recovery. Of note, although they receive training, these peers do not take the place of providers. Rather, they complement provider services by using their own recovery experiences to model effective recovery behaviors to other veterans with mental illness, including specific behaviors related to accessing and engaging in treatment[15].

Considering the aforementioned (1) findings regarding reasons for dropout from exposure therapy for PTSD (i.e., difficulty with exposure therapy homework), and (2) data supporting veteran peer support programs, specifically data demonstrating the ability of these programs to enhance treatment engagement, we hypothesized that peer support during in vivo exposure homework may be effective in reversing dropout from exposure based treatments for PTSD. Based on this hypothesis, we constructed and collected initial feasibility data for such an exposure therapy peer support program designed to reverse (or prevent) treatment dropout and enhance treatment completion**.**

Methods

Design and participants

The VHA PTSD clinic and PTSD research clinic in Charleston, SC are engaged in this feasibility study, and those patients who indicate that they have decided to drop out, or have dropped out of treatment (e.g., stopped attending sessions) are contacted by their therapist by telephone and offered the opportunity to have a peer, who has been through treatment successfully, help them to complete community based exposure by offering social support and encouragement during exposure trials (see description of peers and training below). Veterans who indicate that they would like to try treatment again, this time with the assistance of peer support person, continue PE treatment from the point of their last session. If significant time has elapsed since their last session (greater than 3 months), they begin from PE session 1.

Eighty-two Vietnam, OIF, and OEF Veterans (75 male and 7 female) ranging in age from 27 to 72 years were identified as having dropped out of exposure based treatment for PTSD from two ongoing treatment outcome studies. These Veterans were recontacted and offered the opportunity to attempt PE again, this time with the assistance of a peer. We also asked clinicians to contact individuals who had successfully completed treatment and no longer met criteria for PTSD who might be interested in serving as a PE support peer.

The Exposure Therapy Peer Support Program

This program is a modified version of PE insofar as simple social support and encouragement from a peer during in vivo exposure homework is added to the standard PE protocol. Specifically, PE is a manualized treatment for PTSD[3] that includes, among other components, (a) repeated, prolonged, imaginal exposure to traumatic memories and (b) repeated *in vivo* exposure to a hierarchal list of stimuli that trigger traumatic memories, feelings or sensations such as people, places, things, or situations that resemble the traumatic event but are realistically safe. In vivo exercises are assigned as homework. During imaginal exposure,

patients "revisit" the traumatic event, providing a detailed verbal account that includes sensory information, thoughts, feelings, and reactions experienced during the traumatic event. During in vivo exposure, the patient confronts feared, but safe, stimuli or cues in their natural environment that elicit trauma-related distress. Thus, the exposure therapy peer support program is designed so that veterans receive support and encouragement during this difficult treatment component, in the patient's natural environment. The logic underlying this program is twofold: first, veterans will be more likely to go to the assigned in vivo exposure site if they know another veteran is there waiting for them; second, social support and encouragement offered during exposure from a Veteran peer will likely increase the likelihood that the exposure trial will be successfully completed.

Exposure Therapy Peer Selection

Peers are recruited by therapists who identify patients who have completed treatment and did very well, both overall, and in particular with in vivo exposure therapy components. These patients are contacted, informed of the exposure therapy peer support program, and if interested, given an outline of the nature of expectations of peer support person. Peers who are candidates for the peer support program are evaluated for presence of PTSD via structured clinical interview, and only those who no longer meet the PTSD diagnosis are permitted to participate. Participants are paired with peers solely on the basis of geographical proximity, except in cases where PTSD arises from Military Sexual Trauma (MST). In these cases, the gender of the participant and peer are the same. We considered pairing participants and peers based on combat theatre, age, or thematic trauma type, but decided that each of these would reduce the exportability of the program by applying unnecessary constraints. So far, this decision appears appropriate.

Peer Training

The major activities of peers are to simply meet Veterans at in vivo exposure homework sites and offer encouragement and support. The analogy of peers who attend group therapy and offer each other support is used to describe the type of support offered, along with expectations of confidentiality, and encouragement. Thus, logistics and limits of responsibility, not therapeutic skills, are the primary focus of training. Much time is spent emphasizing appropriate boundaries and safety procedures. During training, the rationale for in vivo exposure is reviewed, and the benefits of having a supportive partner, friend, or peer during in vivo exposure is outlined. Training explicitly includes content informing peers that they are *not* engaging in the role of therapist or providing therapy; rather, their role is equivalent to that of a group member in traditional group counseling. In such a situation, with which many Veterans are familiar, group members offer each other advice and support on how to achieve stated goals. In the present case, the stated and agreed upon goal will be the in vivo exposure therapy assignment. Also, as with group counseling parameters, peers are trained in the importance of confidentiality, and are not paid or compensated for their time. This clarifies that they are not in the role of a therapist, while also enhancing sustainability of the program, a position underscored by the fact that we have had such a high peer volunteer rate. After limits to personal responsibility are clearly outlined, and peers well educated that neither the outcome of the treatment, nor the disposition of the patient is their responsibility, a review of potential negative outcomes is conducted, including patient suicide.

Peer Logistics & Supervision: Getting Started

Once patients have agreed to re-initiate treatment with an exposure therapy peer support person, the peer is asked by the therapist to call in to the next session to make introductions and

listen to the patient and therapist review the next item of the in vivo exposure hierarchy. The location, timing, outline, description, and parameters of the in vivo exposure therapy assignment are reviewed and are clear to patient, peer, and therapist. Once this clarity has been achieved, peer and patient finalize arrangements to meet at a set time and place to engage in this exposure trial, and are directed to arrange 3 such meetings per week for 3-4 weeks.

Note that these peer behaviors are those encouraged and used when delivering exposure-based therapies in-group settings[16] and with supportive family members. Specifically, we encourage group members to work together during in vivo exposure trials in between sessions as supportive and encouraging partners.

During the subsequent therapy session (i.e., following the first peer support-assisted in vivo exposure session), the peer calls in to review how in vivo exposure homework went with the therapist and patient. In addition, therapists speak privately with patients to assure that he or she continues to want to participate with a peer support person. Therapists ask patients to comment on any problems or benefits associated with in vivo exposures accompanied by the peer support person during treatment sessions each week to obtain a progress report of how exposure trials are going, and to determine if there were any issues that should be discussed at greater length. Following the first scheduled in vivo session, the therapist contacts the peer to review how the exposure homework went. Subsequently, peers, patients, and therapists hold five-minute telephone check-ins during treatment sessions to assure that exposures are going well according to both patient and peer. In the event a peer is not available to call in during a treatment session, they are contacted by the therapist after the session. Also, during the first therapist call with the peer, they are asked if they would like to continue with the participant and if there are any issues or problems. If a peer indicates that they would no longer prefer to

work with a particular participant, a different peer is recruited.

In Vivo Exercises with Peers

As detailed above, each peer undergoes a 4-hour training to review expectations, responsibilities, and most importantly, limits of responsibilities. Specific discussion of engaging in only those activities the peer feels comfortable performing is held. Specific review of excluded activities is also held. All peers engage only in exposure hierarchy items jointly determined by the therapist and participant, with assent of the peer, in the patient's natural environment. No new, or unscheduled exposure activities, initiated on the part of the peer or the participant are permitted. Peers are directed to communicate with participants if either party feels or seems to feel uncomfortable with the activity in question. The difference between discomfort arising from conditioned anxiety that is part of PTSD and discomfort arising from feelings that the situation is inappropriate are discussed as part of peer training.

Only situational activities, in clearly safe places, are included in the in vivo exposure participation events by peers. Moreover, several common activities are excluded, such as: activities involving driving together in either the peer's or patient's car (public transportation, such as taking a bus together is permitted); activities in or around private residences of the participant or peer; activities involving weapons (e.g., shooting range); new or previously unlisted or unscheduled exposure activities; and activities that are associated with risk or danger as defined per therapist and or peer. If participants and peers agree, the length of time for exposure trial assistance can be extended to 6 weeks, 3-4 times per week, but this will be based on therapist judgment with respect to therapeutic gains vs. risk of becoming dependent on the peer.

Measures and Data Analysis

The primary metrics of interest for this ongoing feasibility study were the proportion of PE dropouts who agreed to return to therapy, and the proportion who actually re-engaged in therapy. Also of interest was the feasibility of recruiting peers who have successfully completed PE to serve in a supportive role during in vivo homework assignments.

Initial Feasibility Results:

Fully 52% (n=43) of the 82 treatment dropouts who were surveyed by telephone as part of standard clinic exit interviews starting January 2014 indicated that they would be interested in trying exposure therapy for PTSD a second time if they could do so with the assistance of an exposure therapy support peer. Based on this interest, Institutional Review Board approval was sought and granted in May 2015 to treat Veterans through the PE plus Peer Support Program. Approximately 16% (13) of the original total sample of 82 dropouts immediately signed consent to re-initiate treatment when offered the support of a peer, 3 of whom were women. PE treatment focused on combat trauma for all but one female Veteran, for whom the treatment focus was Military Sexual Trauma (MST). Given the strong support from Veterans who had dropped out of treatment for the proposed peer support solution, we concurrently attempted to identify peers who might be good candidates to serve in this capacity (e.g., offer to meet patients at in vivo homework locations to offer support and encouragement). Fourteen exposure therapy support peers were contacted between November 2014 and March 2016 and 12 (86%) (9 male and 3 female Veterans) agreed to enroll in the program as a volunteer, and 9 (8 male and 1 female Veterans) have completed the brief training, indicating that recruitment of peers does not appear problematic. Nine of the peers had successfully completed PE in response to combat trauma, and 3 (2 female and 1 male Veterans) had received treatment for MST. Note each peer agreed to accompany up to 4 different patients over a 6 month period, none have

discontinued participation, and the future dissemination potential of the program from the perspective of Veterans volunteering to help other Veterans appears strong. Of the 13 aforementioned patients who signed consents to return to treatment with a peer, 2 have dropped out prior to re-initiating treatment, one has completed treatment, and the remaining 10 are engaged in treatment.

Comments and Future Directions

Over half of the veterans who dropped out of PE indicated that they would attempt treatment again if a peer were available to support them during in vivo homework assignments, and about a third of those indicating interest immediately signed consent to re-initiate treatment when such an option became available. Moreover, over three-quarters of all peers who were contacted agreed to serve in a PE Peer Support role and were subsequently trained. Ten Veterans are currently in various stages of PE treatment with a peer, and no adverse events have been observed and none have requested a change in their assigned peer. Recruitment and treatment are ongoing, and patients, peers and therapists have expressed strongly supportive sentiments. For example, one peer reported: *"All went well. J and I spent 1 hour and 20 minutes at the large hardware store downtown, followed by 40 minutes at the ice cream place. He was motivated, timely, communicated well and expressed a willingness to commit to continued therapy. We both look forward to meeting again today and Friday also."* And one patient's comment is illustrative of the supportive, not dependent aspects of the relationship: *"The first few weeks I was really avoidant. Wouldn't do it without him (the peer). Now I'll do whatever I want without him."* And finally, a comment from a therapist: *"I am so happy to be a part of this. To see these peers, who were patients once, now helping to guide others through*

this treatment, and feeling so good about themselves for helping their fellow Veterans, is just so rewarding for everyone."

These feasibility data provide initial support for conducting a larger evaluation focused on PTSD symptom outcome measures, in addition to the process measures (i.e., willingness to return to treatment) outlined here. Findings from this pilot feasibility study, and the subsequent studies we anticipate conducting, will be directly applicable to the VHA system, for which peer support programs have become a national priority. Our, findings compliment those of Chinman[15], and build on those of Davis, Shore, and Lu[17] who also used peers as integral parts of a home-based telemedicine project for evidence based psychotherapy for PTSD. Results may also be very relevant to civilian patients for whom dropout from evidence based treatments for PTSD is also a significant and enduring problem, and for whom social support during treatment has been identified as key[11]. If successful, this treatment adjunct will represent a new, efficient and exportable method to address the problematic rate of dropout from our most effective evidence based therapies for PTSD.

References

1. Kok BC, Herrell RK, Thomas JL, Hoge CW: Posttraumatic stress disorder associated with combat service in Iraq or Afghanistan: reconciling prevalence differences between studies. J Nerv Ment Dis, 2012; 200(5): 444-50.

2. Karlin, BE, Agarwal M: Achieving the promise of evidence-based psychotherapies for posttraumatic stress disorder and other mental health conditions for veterans. Psychol Sci Public Interest, 2013; 14(2): 62-4.

3. Foa EB, Hembree EA, Rothbaum BO: Prolonged exposure therapy for PTSD: emotional processing of traumatic experiences. New York, NY: Oxford University Press. 2007.

4. Institute of Medicine. Treatment of PTSD: An Assessment of the Evidence. 2007. Retrieved from http://www.iom.edu/~/media/Files/Report%20Files/2007/Treatment-of-PTSD-An-Assessment-of-The-Evidence/PTSDReportBriefFINAL2.pdf , accessed January, 2016.

5. Meyers LL, Strom TQ, Leskela J, Thuras P, Kehle-Forbes SM, Curry KT: Service Utilization Following Participation in Cognitive Processing Therapy or Prolonged Exposure Therapy for Post-Traumatic Stress Disorder. Mil Med, 2013; 178(1): 95-9.

6. Tuerk PW, Wangelin B, Rauch SA, Dismuke CE, Yoder M, Myrick H, Eftekhari A, Acierno R: Health service utilization before and after evidence-based treatment for PTSD. Psychol Serv, 2013; 10(4): 401-9.

7. Gutner CA, Gallagher MW, Baker AS, Sloan DM, Resick PA:Time course of treatment dropout in cognitive-behavioral therapies for posttraumatic stress disorder. PsycholTrauma, 2016; 8(1): 115-21.

8. Hernandez-Tejada MA, Zoller JS, Ruggiero KJ, Kazley AS, Acierno R: Early treatment withdrawal from evidence-based psychotherapy for PTSD: telemedicine and in-person parameters. Int J Psychiatry Med, 2014; 48(1): 33-55.

9. Hoge CW, Grossman SH, Auchterlonie JL, Riviere LA, Milliken CS, Wilk JE: PTSD treatment for soldiers after combat deployment: low utilization of mental health care and reasons for dropout. Psychiatr Serv, 2014; 65(8): 997-1004.

10. Pietrzak RH, Johnson DC, Goldstein MB, Malley JC, Rivers AJ, Morgan CA, Southwick SM: Psychosocial buffers of traumatic stress, depressive symptoms, and psychosocial difficulties in veterans of Operations Enduring Freedom and Iraqi Freedom: the role of resilience, unit support, and post-deployment social support. J Affect Disord, 2010; 120(1-3): 188-92.

11. Tarrier N, Sommerfield C, Pilgrim H: Relatives' expressed emotion (EE) and PTSD treatment outcome. Psychol Med, 1999; 29(4): 801-11.

12. Price M, Gros DF, Strachan M, Ruggiero KJ, Acierno R: The role of social support in exposure therapy for Operation Iraqi Freedom/Operation Enduring Freedom veterans: A preliminary investigation. Psychol Trauma, 2013; 5(1): 93-100.

13. Corrigan PW, Pickett S, Batia K, Michaels PJ: Peer Navigators and Integrated Care to Address Ethnic Health Disparities of People with Serious Mental Illness. Soc Work Public Health, 2014; 29(6): 581-93.

14 Chinman M, Henze K, Sweeney, P: Peer Specialist Toolkit. Implementing Peer Support Services in VHA. 2013. Retrieved from https://vaww.cmopnational.va.gov/CR/MentalHealth/Peer%20Support%20Services/Forms/AllItems.aspx , accessed June 2016.

15. Chinman M, Oberman RS, Hanusa BH, Cohen AN, Salyers MP, Twamley EW, Young AS: A cluster randomized trial of adding peer specialists to intensive case management teams in the veterans health administration. J Behavl Health Serv & Research 2015; 42(1): 109-21.

16. Smith ER., Porter KE, Messina MG, Beyer JA, Defever ME, Foa EB, Rauch SA: Prolonged Exposure for PTSD in a Veteran group: A pilot effectiveness study. Journal of Anxiety Disorders 2015; 30: 23-27.

17. Davis, T., Shore, P., Lu, M. (2016) Peer Technical Consultant: Veteran-Centric Technical Support Model for VA Home-Based Telehealth Programs. Fed Pract. 2016; 33(3):31-36.

Introduction

Approximately 15-25% of United States combat veterans suffer from Post-Traumatic Stress Disorder (PTSD) (Kok, Herrell, Thomas & Hoge, 2012). When left untreated, symptoms often do not remit, and as such, these patients experience enduring suffering and subsequently use disproportionately greater levels of health care. Over the past decade and in response to aforementioned needs of returning Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) veterans, the of Veterans Health Administration (VHA) healthcare system improved the quality of screening, referral, and treatment efforts to offer best practices care for PTSD (Karlin & Agarwal, 2013). Specifically, through national mental health provider training workshops, VHA increased its capacity to disseminate evidence based PTSD treatments such as Prolonged Exposure (PE) (Foa, Hembree, & Rothbaum, 2007).

Efficacy of and Attrition from Prolonged Exposure PTSD treatment

Among empirically-based treatments, PE has the most consistent support for its efficacy (Institute of Medicine, 2007). Meyers et al. (2013) reported that veterans receiving PE for PTSD used significantly fewer mental health services following treatment; results echoed by Tuerk et al. (2013) who found a reduction of mental health service use of about 50%, but only among those completing PE treatment. Unfortunately, attrition from evidence-based therapy for PTSD is about 25-40%, even under optimum, research protocol settings where all efforts are made to limit dropout from treatment (Gutner, Gallagher, Baker, Sloan & Resick, 2016; Hernandez-Tejada, Zoller, Ruggiero, Kazley & Acierno, 2014). Identifying and resolving barriers to effective treatment completion is therefore essential to preventing suffering and controlling costs.

Research on causes for treatment dropout among veterans receiving exposure-based psychotherapy for PTSD such as PE usually centers on demographic correlates studied in post-

hoc analyses as part of larger treatment outcome studies (i.e., attrition from evidence based PTSD treatment was not the original focus of the study). Consequently, very limited investigation into reasons for dropout is available. Most frequently reported reasons for early treatment withdrawal include logistical factors, (e.g., travel time, cost) and stigma (Hoge et al., 2014). However, although these factors are often indicators of statistically significant increased likelihood of attrition, their predictive value is limited. In fact, when all logistic and stigma barriers were virtually eliminated by offering exposure therapy for PTSD via home based telemedicine, rates of attrition were virtually identical to the same treatment offered in a traditional office based setting (Hernandez-Tejada et al., 2014). Clearly, alternative factors related to evidence based treatment attrition and its resolution should be considered.

Social Support: A Factor in Psychotherapy Completion & Success

Social support, particularly in the context of trauma exposure, may be very important to resilience in general (Pietrzak et al., 2010) and successful exposure based treatment completion and positive outcome in particular (Tarrier, Sommerfield, & Pilgrim, 1999). Indeed, Tarrier et al. (1999) found that poor social support (i.e., social environments high in criticism and hostility) accounted for 20% of the variance in PTSD treatment outcome. Similarly, Pietrzak et al. (2010) studied OEF/OIF Veterans and found that post-deployment social support was associated with lower PTSD symptomatology. Finally, Price et al. (2013) noted precisely the same results, with emotional support positively associated with treatment outcome and inversely related to attrition. Therefore, social support may be useful to target as a component of PE treatment retention, particularly in veteran populations.

Peers as a Source of Social Support for Veteran Populations

Although social support is most frequently conceptualized as that provided by relatives and friends, *peer* support is a resource currently used successfully by other mental health specialties to help patients with difficult aspects of treatment (Corrigan, Pickett, Batia, & Michaels, 2014). Moreover, there is precedent for veteran-to-veteran support programs in healthcare that build on the team and leadership aspects of social support so essential to military culture. Indeed, VHA has filled over 1,100 paid peer support specialist positions, has placed them in mental health, primary care, and outreach locations, and offers an extensive toolkit for VHA administrators and staff interested in such programs (Chinman, Henze, & Sweeney, 2013). Moreover, Chinman and colleagues (2015) have collected data and reported on peer programs recognized by VHA as examples of evidence based, effective care. These programs engage veterans in mental health treatment by promoting recovery strategies by veteran peers who themselves are experiencing or have experienced a mental health condition such as PTSD or depression, and are actively engaged in their own recovery. Of note, although they receive training, these peers do not take the place of providers. Rather, they complement provider services by using their own recovery experiences to model effective recovery behaviors to other veterans with mental illness, including specific behaviors related to accessing and engaging in treatment (Chinman et al., 2015).

Considering the aforementioned (1) findings regarding reasons for dropout from exposure therapy for PTSD (i.e., difficulty with exposure therapy homework), and (2) data supporting veteran peer support programs, specifically data demonstrating the ability of these programs to enhance treatment engagement, we hypothesized that peer support during in vivo exposure homework may be effective in reversing dropout from exposure based treatments for PTSD. Based on this hypothesis, we constructed and collected initial feasibility data for such an

exposure therapy peer support program designed to reverse (or prevent) treatment dropout and enhance treatment completion**.**

Methods

Design and participants

The VHA PTSD clinic and PTSD research clinic in Charleston, SC are engaged in this feasibility study, and those patients who indicate that they have decided to drop out, or have dropped out of treatment (e.g., stopped attending sessions) are contacted by their therapist by telephone and offered the opportunity to have a peer, who has been through treatment successfully, help them to complete community based exposure by offering social support and encouragement during exposure trials (see description of peers and training below). Veterans who indicate that they would like to try treatment again, this time with the assistance of peer support person, continue PE treatment from the point of their last session. If significant time has elapsed since their last session (greater than 3 months), they begin from PE session 1.

Eighty-two Vietnam, OIF, and OEF Veterans (75 male and 7 female) ranging in age from 27 to 72 years were identified as having dropped out of exposure based treatment for PTSD from two ongoing treatment outcome studies. These Veterans were recontacted and offered the opportunity to attempt PE again, this time with the assistance of a peer. We also asked clinicians to contact individuals who had successfully completed treatment and no longer met criteria for PTSD who might be interested in serving as a PE support peer.

The Exposure Therapy Peer Support Program

This program is a modified version of PE insofar as simple social support and encouragement from a peer during in vivo exposure homework is added to the standard PE

protocol. Specifically, PE is a manualized treatment for PTSD (Foa et al., 2007) that includes, among other components, (a) repeated, prolonged, imaginal exposure to traumatic memories and (b) repeated *in vivo* exposure to a hierarchal list of stimuli that trigger traumatic memories, feelings or sensations such as people, places, things, or situations that resemble the traumatic event but are realistically safe. In vivo exercises are assigned as homework. During imaginal exposure, patients "revisit" the traumatic event, providing a detailed verbal account that includes sensory information, thoughts, feelings, and reactions experienced during the traumatic event. During in vivo exposure, the patient confronts feared, but safe, stimuli or cues in their natural environment that elicit trauma-related distress. Thus, the exposure therapy peer support program is designed so that veterans receive support and encouragement during this difficult treatment component, in the patient's natural environment. The logic underlying this program is twofold: first, veterans will be more likely to go to the assigned in vivo exposure site if they know another veteran is there waiting for them; second, social support and encouragement offered during exposure from a Veteran peer will likely increase the likelihood that the exposure trial will be successfully completed.

Exposure Therapy Peer Selection

Peers are recruited by therapists who identify patients who have completed treatment and did very well, both overall, and in particular with in vivo exposure therapy components. These patients are contacted, informed of the exposure therapy peer support program, and if interested, given an outline of the nature of expectations of peer support person. Peers who are candidates for the peer support program are evaluated for presence of PTSD via structured clinical interview, and only those who no longer meet the PTSD diagnosis are permitted to participate. Participants are paired with peers solely on the basis of geographical proximity,

except in cases where PTSD arises from Military Sexual Trauma (MST). In these cases, the gender of the participant and peer are the same. We considered pairing participants and peers based on combat theatre, age, or thematic trauma type, but decided that each of these would reduce the exportability of the program by applying unnecessary constraints. So far, this decision appears appropriate.

Peer Training

The major activities of peers are to simply meet Veterans at in vivo exposure homework sites and offer encouragement and support. The analogy of peers who attend group therapy and offer each other support is used to describe the type of support offered, along with expectations of confidentiality, and encouragement. Thus, logistics and limits of responsibility, not therapeutic skills, are the primary focus of training. Much time is spent emphasizing appropriate boundaries and safety procedures. During training, the rationale for in vivo exposure is reviewed, and the benefits of having a supportive partner, friend, or peer during in vivo exposure is outlined. Training explicitly includes content informing peers that they are *not* engaging in the role of therapist or providing therapy; rather, their role is equivalent to that of a group member in traditional group counseling. In such a situation, with which many Veterans are familiar, group members offer each other advice and support on how to achieve stated goals. In the present case, the stated and agreed upon goal will be the in vivo exposure therapy assignment. Also, as with group counseling parameters, peers are trained in the importance of confidentiality, and are not paid or compensated for their time. This clarifies that they are not in the role of a therapist, while also enhancing sustainability of the program, a position underscored by the fact that we have had such a high peer volunteer rate. After limits to personal responsibility are clearly outlined, and peers well educated that neither the outcome of

the treatment, nor the disposition of the patient is their responsibility, a review of potential negative outcomes is conducted, including patient suicide.

Peer Logistics & Supervision: Getting Started

Once patients have agreed to re-initiate treatment with an exposure therapy peer support person, the peer is asked by the therapist to call in to the next session to make introductions and listen to the patient and therapist review the next item of the in vivo exposure hierarchy. The location, timing, outline, description, and parameters of the in vivo exposure therapy assignment are reviewed and are clear to patient, peer, and therapist. Once this clarity has been achieved, peer and patient finalize arrangements to meet at a set time and place to engage in this exposure trial, and are directed to arrange 3 such meetings per week for 3-4 weeks.

Note that these peer behaviors are those encouraged and used when delivering exposure-based therapies in-group settings (Smith et al., 2015) and with supportive family members. Specifically, we encourage group members to work together during in vivo exposure trials in between sessions as supportive and encouraging partners.

During the subsequent therapy session (i.e., following the first peer support-assisted in vivo exposure session), the peer calls in to review how in vivo exposure homework went with the therapist and patient. In addition, therapists speak privately with patients to assure that he or she continues to want to participate with a peer support person. Therapists ask patients to comment on any problems or benefits associated with in vivo exposures accompanied by the peer support person during treatment sessions each week to obtain a progress report of how exposure trials are going, and to determine if there were any issues that should be discussed at greater length. Following the first scheduled in vivo session, the therapist contacts the peer to review how the exposure homework went. Subsequently, peers, patients, and therapists hold

five-minute telephone check-ins during treatment sessions to assure that exposures are going well according to both patient and peer. In the event a peer is not available to call in during a treatment session, they are contacted by the therapist after the session. Also, during the first therapist call with the peer, they are asked if they would like to continue with the participant and if there are any issues or problems. If a peer indicates that they would no longer prefer to work with a particular participant, a different peer is recruited.

In Vivo Exercises with Peers

As detailed above, each peer undergoes a 4-hour training to review expectations, responsibilities, and most importantly, limits of responsibilities. Specific discussion of engaging in only those activities the peer feels comfortable performing is held. Specific review of excluded activities is also held. All peers engage only in exposure hierarchy items jointly determined by the therapist and participant, with assent of the peer, in the patient's natural environment. No new, or unscheduled exposure activities, initiated on the part of the peer or the participant are permitted. Peers are directed to communicate with participants if either party feels or seems to feel uncomfortable with the activity in question. The difference between discomfort arising from conditioned anxiety that is part of PTSD and discomfort arising from feelings that the situation is inappropriate are discussed as part of peer training.

Only situational activities, in clearly safe places, are included in the in vivo exposure participation events by peers. Moreover, several common activities are excluded, such as: activities involving driving together in either the peer's or patient's car (public transportation, such as taking a bus together is permitted); activities in or around private residences of the participant or peer; activities involving weapons (e.g., shooting range); new or previously unlisted or unscheduled exposure activities; and activities that are associated with risk or

danger as defined per therapist and or peer. If participants and peers agree, the length of time for exposure trial assistance can be extended to 6 weeks, 3-4 times per week, but this will be based on therapist judgment with respect to therapeutic gains vs. risk of becoming dependent on the peer.

Measures and Data Analysis

The primary metrics of interest for this ongoing feasibility study were the proportion of PE dropouts who agreed to return to therapy, and the proportion who actually re-engaged in therapy. Also of interest was the feasibility of recruiting peers who have successfully completed PE to serve in a supportive role during in vivo homework assignments.

Initial Feasibility Results:

Fully 52% (n=43) of the 82 treatment dropouts who were surveyed by telephone as part of standard clinic exit interviews starting January 2014 indicated that they would be interested in trying exposure therapy for PTSD a second time if they could do so with the assistance of an exposure therapy support peer. Based on this interest, Institutional Review Board approval was sought and granted in May 2015 to treat Veterans through the PE plus Peer Support Program. Approximately 16% (13) of the original total sample of 82 dropouts immediately signed consent to re-initiate treatment when offered the support of a peer, 3 of whom were women. PE treatment focused on combat trauma for all but one female Veteran, for whom the treatment focus was Military Sexual Trauma (MST). Given the strong support from Veterans who had dropped out of treatment for the proposed peer support solution, we concurrently attempted to identify peers who might be good candidates to serve in this capacity (e.g., offer to meet patients at in vivo homework locations to offer support and encouragement). Fourteen exposure therapy support peers were contacted between November 2014 and March 2016 and

12 (86%) (9 male and 3 female Veterans) agreed to enroll in the program as a volunteer, and 9 (8 male and 1 female Veterans) have completed the brief training, indicating that recruitment of peers does not appear problematic. Nine of the peers had successfully completed PE in response to combat trauma, and 3 (2 female and 1 male Veterans) had received treatment for MST. Note each peer agreed to accompany up to 4 different patients over a 6 month period, none have discontinued participation, and the future dissemination potential of the program from the perspective of Veterans volunteering to help other Veterans appears strong. Of the 13 aforementioned patients who signed consents to return to treatment with a peer, 2 have dropped out prior to re-initiating treatment, one has completed treatment, and the remaining 10 are engaged in treatment.

Comments and Future Directions

Over half of the veterans who dropped out of PE indicated that they would attempt treatment again if a peer were available to support them during in vivo homework assignments, and about a third of those indicating interest immediately signed consent to re-initiate treatment when such an option became available. Moreover, over three-quarters of all peers who were contacted agreed to serve in a PE Peer Support role and were subsequently trained. Ten Veterans are currently in various stages of PE treatment with a peer, and no adverse events have been observed and none have requested a change in their assigned peer. Recruitment and treatment are ongoing, and patients, peers and therapists have expressed strongly supportive sentiments. For example, one peer reported: *"All went well. J and I spent 1 hour and 20 minutes at the large hardware store downtown, followed by 40 minutes at the ice cream place. He was motivated, timely, communicated well and expressed a willingness to commit to*

continued therapy. We both look forward to meeting again today and Friday also." And one patient's comment is illustrative of the supportive, not dependent aspects of the relationship: *"The first few weeks I was really avoidant. Wouldn't do it without him (the peer). Now I'll do whatever I want without him."* And finally, a comment from a therapist: *"I am so happy to be a part of this. To see these peers, who were patients once, now helping to guide others through this treatment, and feeling so good about themselves for helping their fellow Veterans, is just so rewarding for everyone."*

These feasibility data provide initial support for conducting a larger evaluation focused on PTSD symptom outcome measures, in addition to the process measures (i.e., willingness to return to treatment) outlined here. Findings from this pilot feasibility study, and the subsequent studies we anticipate conducting, will be directly applicable to the VHA system, for which peer support programs have become a national priority. Our, findings compliment those of Chinman et al. (2015), and build on those of Davis, Shore, and Lu (2016) who also used peers as integral parts of a home-based telemedicine project for evidence based psychotherapy for PTSD. Results may also be very relevant to civilian patients for whom dropout from evidence based treatments for PTSD is also a significant and enduring problem, and for whom social support during treatment has been identified as key (Tarrier et al., 1999). If successful, this treatment adjunct will represent a new, efficient and exportable method to address the problematic rate of dropout from our most effective evidence based therapies for PTSD.

References

Chinman, M., Henze, K., & Sweeney, P. (2013). Peer Specialist Toolkit. Implementing Peer Support Services in VHA. 2013. Retrieved from https://vaww.cmopnational.va.gov/CR/MentalHealth/Peer%20Support%20Services/Forms/AllItems.aspx , accessed June 2016.

Chinman, M., Oberman, R., Hanusa, B., Cohen, A., Salyers, M., Twamley, E., & Young, A. (2015). A cluster randomized trial of adding peer specialists to intensive case management teams in the veterans health administration. *Journal of Behavioral Health Services & Research, 42*, 109-121.

Corrigan, P., Pickett, S., Batia, K., Michaels, P. (2014). Peer Navigators and Integrated Care to Address Ethnic Health Disparities of People with Serious Mental Illness. *Social Work in Public Health, 29*, 581-593.

Davis, T., Shore, P., & Lu, M. (2016). Peer Technical Consultant: Veteran-Centric Technical Support Model for VA Home-Based Telehealth Programs. *The Journal of Family Practice, 33,* 31-36.

Foa, E., Hembree, E., & Rothbaum, B. (2007). *Prolonged exposure therapy for PTSD: emotional processing of traumatic experiences.* New York, NY: Oxford University Press.

Gutner, C., Gallagher, M., Baker, A., Sloan, D., & Resick, P. (2016). Time course of treatment dropout in cognitive-behavioral therapies for posttraumatic stress disorder. *Psychological trauma : theory, research, practice and policy, 8*, 115-121.

Hernandez-Tejada, M., Zoller, J., Ruggiero, K., Kazley, A., & Acierno, R. (2014). Early treatment withdrawal from evidence-based psychotherapy for PTSD: telemedicine and in-person parameters. *International Journal of Psychiatry in Medicine, 48,* 33-55.

Hoge, C., Grossman, S., Auchterlonie, J., Riviere, L., Milliken, C., & Wilk, JE. (2014). PTSD treatment for soldiers after combat deployment: low utilization of mental health care and reasons for dropout. *Psychiatric Services, 65,* 997-1004.

Institute of Medicine. (2007). Treatment of PTSD: An Assessment of the Evidence. Retrieved from http://www.iom.edu/~/media/Files/Report%20Files/2007/Treatment-of-PTSD-An-Assessment-of-The-Evidence/PTSDReportBriefFINAL2.pdf , accessed January, 2016.

Karlin, B., & Agarwal, M. (2013). Achieving the promise of evidence-based psychotherapies for posttraumatic stress disorder and other mental health conditions for veterans. *Psychological Science in the Public Interest, 14,* 62-64.

Kok, B., Herrell, R., Thomas, J., & Hoge, C. (2012). Posttraumatic stress disorder associated with combat service in Iraq or Afghanistan: reconciling prevalence differences between studies. *The Journal of Nervous and Mental Disease, 200,* 444-450.

Meyers, L., Strom, T., Leskela, J., Thuras, P., Kehle-Forbes, S., & Curry, K. (2013). Service Utilization Following Participation in Cognitive Processing Therapy or Prolonged Exposure Therapy for Post-Traumatic Stress Disorder. *Military Medicine, 178,* 95-99.

Pietrzak, R., Johnson, D., Goldstein, M., Malley, J., Rivers, A., Morgan, C., & Southwick, S. (2010). Psychosocial buffers of traumatic stress, depressive symptoms, and psychosocial difficulties in veterans of Operations Enduring Freedom and Iraqi Freedom: the role of resilience, unit support, and post-deployment social support. *Journal of Affective Disorders, 120*, 188-192.

Price, M., Gros, D., Strachan, M., Ruggiero, K., & Acierno, R. (2013). The role of social support in exposure therapy for Operation Iraqi Freedom/Operation Enduring Freedom veterans: A preliminary investigation. *Psychological trauma : theory, research, practice and policy, 5*, 93-100.

Smith, E., Porter, K., Messina, M., Beyer, J., Defever, M., Foa, E., & Rauch, S. (2015). Prolonged Exposure for PTSD in a Veteran group: A pilot effectiveness study. *Journal of Anxiety Disorders, 30*, 23-27.

Tarrier, N., Sommerfield, C., & Pilgrim, H. (1999). Relatives' expressed emotion (EE) and PTSD treatment outcome. *Psychological Medicine, 29*, 801-811.

Tuerk, P., Wangelin, B., Rauch, S., Dismuke, C., Yoder, M., Myrick, H. . . Acierno, R. (2013). Health service utilization before and after evidence-based treatment for PTSD. *Psychological Services, 10*, 401-409.