

AWARD NUMBER: W81XWH-18-C-0331

TITLE: Effectiveness of Trauma Management Therapy and Prolonged Exposure Therapy for the Treatment of Post-Traumatic Stress Disorder in an Active-Duty Sample: A Comparison Study

PRINCIPAL INVESTIGATOR: Deborah C. Beidel, Ph.D., ABPP

CONTRACTING ORGANIZATION: University of Central Florida Board of Trustees
Orlando, FL

REPORT DATE: June 2023

TYPE OF REPORT: Annual

PREPARED FOR: U.S. Army Medical Research and Development Command
Fort Detrick, Maryland 21702-5012

DISTRIBUTION STATEMENT: Approved for Public Release.
Distribution Unlimited

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.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202- 4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. **PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.**

1. REPORT DATE June 2023		2. REPORT TYPE Annual		3. DATES COVERED 16 May 2022 to 15 May 2023	
4. TITLE AND SUBTITLE Effectiveness of Trauma Management Therapy and Prolonged Exposure Therapy for the Treatment of Post-Traumatic Stress Disorder in an Active Duty Sample: A Comparison Study				5a. CONTRACT NUMBER W81XWH-18-C-0331	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Deborah C. Beidel, Ph.D., ABPP E-Mail: Deborah.Beidel@ucf.edu				5d. PROJECT NUMBER 0011172217	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) UNIVERSITY OF CENTRAL FLORIDA BOARD OF TRUSTEES 4000 CENTRAL FLORIDA BLVD ORLANDO FL 32816-8005				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Medical Research and Development Command Fort Detrick, Maryland 21702-				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT Approved for Public Release; Distribution Unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT This study will provide an evaluation of performance and suitability of the compressed versions of exposure psychotherapy to support the capability gap for the treatment of active-duty service members and veterans with PTSD by comparing different exposure psychotherapy modalities. The overall objective of this study is to determine if compressed psychotherapy can be used as an effective alternative treatment for PTSD and to compare the impact of TMT and PE on social, familial, and occupational impairment. The primary objectives will be to compare 1) 3-week TMT with 12-week PE and 2) 3-week TMT with 2-week PE for the effectiveness of reducing PTSD symptoms in a gated approach or some other method to control for multiplicity. Outcomes will be determined based upon self-report, clinician ratings, as well as other aspects of psychopathology, and social/emotional functioning. The addition of the TMT group component will be assessed in particular to determine its impact on social, familial, and occupational impairment. The current status of the software and VR suite as a potential FDA-regulated medical device needs to be evaluated. The investigator or the company/supplier should request an IDE exemption for the study from the FDA. Blood samples will be collected from participants at baseline and at the end of the treatment period in order to identify PTSD biomarkers, e.g., predictors of response, biological subtypes of PTSD, and therapeutic markers. Collection, storage, and transfer of the blood samples to DoD will be performed according to standardized protocols provided by the DoD. One or more site visits may occur in order to assess adherence to standardized protocols.					
15. SUBJECT TERMS None listed.					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			USAMRDC
Unclassified	Unclassified	Unclassified	Unclassified	13	19b. TELEPHONE NUMBER (include area code)

TABLE OF CONTENTS

Page No.

Introduction	4
Keywords	4
Accomplishments	4-11
Impact	11
Changes/Problems	11
Products	11
Participants & Other Collaborating Organizations	11-13
Special Reporting Requirements	13
Appendices	13

Introduction

The purpose of this project is to identify an effective exposure psychotherapy paradigm for the treatment of Post-Traumatic Stress Disorder (PTSD) in active-duty service members and veterans by comparing different exposure psychotherapy modalities. The long-term goal of exposure psychotherapy is to improve the mental health of U.S. service members and veterans with military-related PTSD. Recovery from PTSD will reduce the economic burden not only for those persons experiencing PTSD, but also for the health care system and society as a whole.

Keywords

- Post-Traumatic Stress Disorder (PTSD)
- Trauma Management Therapy (TMT)
- Prolonged Exposure (PE)
- Compressed Prolonged Exposure (CPE)
- Navy Medical Center Portsmouth (NMCP)
- Eisenhower Army Medical Center (EAMC)
- Navy Medical Center Camp Lejeune (NMCCL)

Accomplishments

Major Goals/Objectives

This project will evaluate the efficacy and suitability of Compressed Prolonged Exposure Therapy (CPE) and Trauma Management Therapy (TMT) for the treatment of active-duty service members with PTSD. The objectives are as follows:

1. Initial goal was to determine if compressed formats of established interventions for PTSD (CPE and TMT) are effective treatments for PTSD compared to PE when delivered in a standard treatment format. Due to challenges in recruitment brought about as a result of COVID-19, the goal was revised to eliminate the standard PE comparison and the study redesigned/reduced to a two group comparison (Compressed PE vs TMT). The efficacy will be determined at the end of the active treatment phase as well as at three- and six-months post-treatment.
2. Compare the impact of TMT and PE on social, familial, and occupational impairment.
3. Examine differences in attrition and the emergence of potential adverse events that may accompany intensive treatments, such as increased suicidal ideation or increased substance use.

4. Using blood samples collected at baseline, end of treatment, and three- and six-months post-treatment, identify PTSD biomarkers (e.g., predictors of response, biological subtypes of PTSD, and therapeutic markers).

Major activities

- Participant accrual is ongoing.
- We continue to be challenged by onboarding and credentialing processes, but on June 2, 2023, we were informed that all paperwork is completed for one therapist at Portsmouth Naval Medical Center, and she should be starting to work on the project no later than July 1, 2023. For the second therapist, all paperwork has been completed except for an original signature on one letter of reference but we hope that will also be completed in time to begin work on July 1, 2023. An additional therapist is being credentialed at Eisenhower Army Medical Center and her credentialing should go more quickly as she has worked on military bases previously.
- To date, 120 participants have been assessed for the project and 99 have been randomized into one of the two groups – one additional participant is pending randomization (see CONSORT chart). Fifty-seven participants (57) were randomized to Compressed PE – forty-two (42) have completed treatment, ten (10) dropped out and five (5) did not start treatment after randomization. Forty-two participants (42) have been randomized to TMT – Thirty-three (33) have completed treatment, 3 participants dropped out, five (5) and 1 is waiting to begin treatment (see CONSORT chart).

Specific Objectives/Deliverables

Reporting

- Develop and Submit Quarterly Reports.

The researchers will create a quarterly report that documents the project's activities.

Deliverable: Quarterly Reports.

Timeframe: Years 01-05, quarterly

Status: Quarterly reports have been submitted as required

- Submit Contractor Manpower Report (CMR): The researchers will create and submit a CMR annually.

Deliverable: Verification of Submission.

Timeframe: October 31 for the previous fiscal year

Status: The first and second CMRs were submitted as required and the submission were verified. The next CMR was due on 10.31.2020 (with an extension to 1.31.2021) and despite significant effort (see previous annual reports), we were not able to submit for 2020 or 2021. The new contract specialist assigned to this contract provided us with a different website and we plan to submit September 2022 as required.

- Develop and deliver a Contractor Recommended Surveillance Plan.

The researchers will develop a recommended plan to evaluate the quality of the research effort within 5 days of contract award. This plan will include program metrics and success indicators.

Deliverable: Contractor Recommended Surveillance plan.

Timeframe: Year 01, Month 01

Status: Completed

- Provide Case Report Forms.

The researchers will provide a Case Report Form Template for review within 3 months from contract award. The government will review to ensure appropriate and complete phenotypic information for each patient is being collected for correlation with the blood samples that USACEHR will analyze.

Deliverable: Case Report Forms.

Timeframe: Year 01, Month 03

Status: Completed

- Develop and deliver an Annual Progress Report.

The researchers will create an Annual Progress Report that details the efforts related to the project for the year.

Deliverable: Annual Progress Report.

Timeframe: Year 01, Month 12

Status: Completed for Years 01, 02, 03, 04, and 05.

- Provide notification of contact with other agencies: The researchers will provide written notice of any anticipated meetings between research staff (including sub-contractors) and other government agencies.

Deliverable: Notifications of contact

Timeframe: As needed/as appropriate

Status: Will complete as needed

- Provide written communications related to the project: The researchers will provide copies of written communications between project staff (including sub-contractors) and other government agencies.

Deliverable: Copies of written communications

Timeframe: As needed/as appropriate

Status: Will complete as needed

Agreements, Subcontracts, and Surveillance

- Initiate and complete subcontracts: UCF will complete the subcontract agreement with the Geneva Foundation and with Peter Tuerk, Ph.D.

Deliverable: Completed subcontracts

Timeframe: Year 01, Month 04

Status: The subcontract with Geneva was terminated (03/10/21) due to poor performance and a new subcontract with The Staffing Resource Group (SRG) was initiated on (03/11/21). SRG has been extremely accessible to UCF personnel as well as clinicians and research coordinators on the project. SRG has identified and hired the remaining personnel needed in a short period of time and continues to work diligently with the varying requirements at the different installations.

Data Analysis Plan

- Develop a Data Analysis plan: The researchers have developed a data analysis plan (included with the original proposal).

Deliverable: Data Analysis Plan (included with proposal)

Timeframe: Year 01, Month 01

Status: Completed.

Regulatory

- Initiate Human Subjects Approval.

UCF will work with the three sites to submit all necessary Human Subjects documentation, and once IRB approval is granted at the sites, will submit that information to UCF IRB and HRPO for second-tier review.

Timeframe: Year 01, Month 01 through Year 01, Month 12

Status: Completed.

- Develop a Draft Study Protocol.

Within 2 months of contract award, the researchers will submit a draft research protocol to the government. After IRB approval, the final protocol will be submitted to HRPO. HRPO approval will be obtained prior to initiation of study recruitment.

Deliverable: Draft Study Protocol.

Timeframe: Year 01, Month 02

Status: Completed. HRPO approval is no longer required for studies with DOD IRBs.

- Determine and if necessary, obtain FDA device exemption.

If the IRB makes the determination that the virtual reality system will require a device exemption from the FDA, the researchers will work with the FDA to obtain an IDE exemption. The exemption will be documented in the official meeting minutes from an FDA meeting.

Deliverable: Meeting minutes or notice from FDA, if deemed necessary by IRB.

Timeframe: Year 01, Month 01-09

Status: Completed.

Personnel Management and Hiring

- Develop and submit job descriptions: Provide Geneva Foundation with job descriptions to begin clinical personnel recruitment at three performance sites.

Deliverable: Job descriptions.

Timeframe: Year 01, Month 02

Status: As stated above, the sub-contract with Geneva Foundation has been terminated. The new sub-contractor (SRG) has been given all job descriptions and hires personnel as needed.

- Complete Hiring of Clinical Personnel: Personnel decisions for project personnel at the three treatment sites will be finalized.

Timeframe: Year 01, Month 03 through Year 01, Month 09

Status: We are waiting for the final credentialing for two therapists at Portsmouth Medical Center and for one additional therapist at Eisenhower Medical Center

- Complete Hiring of Support Personnel at UCF: Personnel decisions for project personnel at UCF finalized.

Timeframe: Year 01, Month 03 through Year 01, Month 09

Status: Completed

Study Preparation

- Develop a DSMB Charter: The researchers will provide a charter for the DSMB. This charter will include a plan or scheduled and unscheduled reviews of adverse events.

Deliverable: DSMB Charter.

Status: Completed

Timeframe: Year 01, Month 02

• Provide Training Manuals: The researchers will provide drafts of the training manuals associated with the proposed study within two months of contract award. The manuals will include recommendations for assessing treatment fidelity.

Deliverable: Draft Training Manuals

Timeframe: Year 01, Month 02

Status: Completed

• Develop a Randomization Plan: The researchers will develop a randomization plan that will describe the method by which random assignment will be achieved. This plan will be submitted within 3 months of contract award.

Deliverable: Randomization Plan

Timeframe: Year 01, Month 03

Status: Completed. The plan did not change even though we developed a new randomization schedule consistent with changes in study design (2/2022). See below.

• Develop a Data Management Manual: The researchers will develop and deliver a data management manual within 3 months of contract award. This manual will include a description of all phases of data management, including informed consent, data accuracy, and database audit plan.

Deliverable: Data Management Manual

Timeframe: Year 01, Month 03

Status: Completed

• Train Therapists in PE and TMT: Therapists will complete training in both Prolonged Exposure and Trauma Management Therapy and reach approved criteria.

Timeframe: Year 01, Month 10 through Year 01, Month 12

Status: 4 therapists are fully trained; two continue to provide treatment (Eisenhower) and two are ready to begin (Portsmouth). Following the closing of Camp Lejeune, we hired an additional therapist at Eisenhower. She is proceeding through credentialing and has begun training in assessment and treatment protocols.

• All Research and Clinical Staff Trained in Study Protocol: All clinical staff will be trained in all aspects of the protocol, including all procedures and timelines, study assessments, and data handling.

Timeframe: Year 01, Month 10 through Year 01, Month 12

Status: All therapists are trained in the study protocol as they are being onboarded and credentialed.

• Establish clinic space at each treatment site and begin recruitment: PI will travel to each site to assure project implementation. This will include meetings with leadership, site investigators, and research staff to assure that adequate space and all office equipment/computer equipment has been delivered and that clinicians have completed all necessary training at the site.

Timeframe: Year 02, Months 01 and 02

Status: Clinic space at both sites has been established.

• VR equipment installed at each site and clinicians trained on use: Working with distributor, PI will ensure that VR systems are established at each site and clinicians are thoroughly trained in their use.

Deliverable: Documentation of training completion.

Timeframe: Year 02, Months 01 and 02

Status: VR training occurs on site or at UCF (depending on availability and scheduling) at the same time as all other clinical training.

Study Execution

- Admit and initiate treatment protocol.

Timeline: Year 02, Month 03 through Year 05, Month 12

Status: As delineated below, changes in the study design will allow for accelerated recruitment into the two intensive treatment groups. At this point, we believe that we will achieve our revised treatment goal (144 patients randomized to one of two treatments) by month 06 of year 06, allowing for completion of follow-up by the end of the contract.

- Initiate and continue patient follow-up: Project coordinator will track participants and arrange for 3- and 6-month follow-up assessments.

Timeline: Year 02, Month 07 through Year 05, Month 12

Status: Three-month follow-up assessments are ongoing.

- Finish 6-month follow-up assessments: Project coordinators will arrange final 6-month follow-up assessments.

Timeline: Year 06, Month 06

Status: Six-month follow-up assessments are ongoing.

Shipment of Blood Samples

- Work with the USACEHR Director of Systems Biology to develop blood sample collection and shipment protocol. This will be completed by 30 days prior to recruitment commencement.

Deliverable: Blood Sample Protocol

Timeframe: Year 01, Month 11

Status: Completed

- Send blood samples to USACEHR Director of Systems Biology (Marti Jett-Tilton, Ph.D., Senior Scientist ST/SES, US Army Medical Research and Development Command, Walter Reed Army Institute of Research) and Notify Government of Shipment: On the last day of the month, samples will be sent to USACEHR Director of Systems Biology per protocol established in Year 01. This will include a detailed description of the data identifiers (as documented in the Case Report Form for each subject) as well as collection techniques. Notification of number of blood samples sent will be sent to the government with each monthly batch that is sent to USACEHR.

Deliverable: Blood samples and notification of shipment.

Timeframe: Monthly, Year 02, Month 03 through Year 06, Month 12

Status: Shipping procedures have been established and data collection is ongoing

Data Analysis

- Develop and deliver a Top Line Results report: Depending on the date of the final 6 month follow up assessment, this report will be delivered in month 07 or 08. The researchers will create a Top Line Results report within 30 days of database lock. This report will provide a high-level summary of the research outcomes based on preliminary data analyses of the study.

Deliverable: Top Line Results report.

Timeframe: By Year 06, Month 08

Status: Pending

- Conduct data analyses: The statistician will conduct data analyses to examine the primary and secondary hypotheses per the Data Analysis Plan.

Timeframe: Year 05, Month 06 through Year 06, Month 09

Status: Pending

- Develop and deliver a final clinical results report: The researchers will create a final report that details all clinical results resulting from the study described in Task 12. The report will be submitted within 6 months of database lock.

Deliverable: Final Clinical Results

Status: Year 06, Month 12.

Significant results or key outcomes

Nothing to report

Major findings, developments or conclusions (both positive and negative)

Nothing to report

Results disseminated to communities of interest

Nothing to report

Other achievements

Nothing to report

Opportunities for training and professional development

Nothing to report

Results disseminated to communities of interest

Nothing to report

Plans to accomplish the goals in the next reporting period

- Continue recruitment and admission of study participants.
- Admit a minimum of four participants per month at both sites. Thus, a minimum of eight participants per month will be admitted to the study. If possible, additional subjects will be recruited to make up time lost due to pandemic.
- Personnel from UCF will conduct quarterly visits at each study site.
- Collect blood samples at baseline, post-treatment and 3- and 6-month post-treatment.
- The research coordinators will send blood samples to USACEHR Director of Systems, Dr. Marti Jett-Tilton, for processing and analysis on a monthly basis.
- Peter Tuerk, Ph.D. will provide weekly supervision for the CPE protocol and Deborah Beidel, Ph.D. will provide weekly supervision of the TMT protocol.

- Data from the assessments and treatment in Qualtrics will be uploaded on a daily basis and reviewed by the project coordinator for accuracy and quality.
- Initiate and continue patient follow-up assessments at 3- and 6-month post treatment.

Impact

We continue to experience frustration regarding the length of time it is taking to credential therapists at the Portsmouth site. There continue to be changes in forms and credentialing procedures that have created a significant time lag. We have streamlined processes as we hit roadblocks and we anticipate being fully staffed within the next month.

Changes/Problems

UCF: No changes/problems.

NMCP: No changes/only problem is difficulty in recruiting/retaining therapists at this site

EAMC: No changes/problems.

Products

Nothing new to report

Participants & Other Collaborating Organizations

Name: Christina Alecse
 Project Role: Project Manager
 Nearest person month worked: 3.64
 Contribution to Project: Ms. Alecse provides day to day coordination with study sites

Name: Deborah C. Beidel, Ph.D., ABPP
 Project Role: Principal Investigator
 Nearest person month worked: 1.51
 Contribution to Project: Dr. Beidel oversees the implementation of the project.

Name: Clint Bowers, Ph.D.
 Project Role: Co-Principal Investigator
 Nearest person month worked: 0.20
 Contribution to Project: Dr. Bowers is developing the project's database and data analytic procedures.

Name: Amie Newins, Ph.D.
 Project Role: Co-Principal Investigator
 Nearest person month worked: 0.56
 Contribution to Project: Dr. Newins will aid in supervision of treatment.

Name: Christine Seaver
 Project Role: Graduate Student
 Nearest person month worked: 2.52
 Contribution to Project: Ms. Seaver provides data management

Name: Shiyang Su, Ph.D.
Project Role: Co-Principal Investigator
Nearest person month worked: 1.04
Contribution to Project: Dr. Su advises on data management issues

Name: Kathryn Sunderman
Project Role: Graduate Student
Nearest person month worked: 1.95
Contribution to Project: Ms. Sunderman conducts inter-rater reliability and treatment integrity checks

Name: Ashley Winch
Project Role: Doctoral Student
Nearest person month worked: 3.91
Contribution to Project: Conducting inter-rater reliability of PTSD diagnosis as assessed via diagnostic interview

Study Personnel on Sites

NMCP
Name: Therapist 1
Project Role: Clinician, NMCP
Contribution to Project: Assessment and Treatment

NMCP
Name: Therapist 2
Project Role: Clinician, NMCP
Contribution to Project: Assessment and Treatment

NMCP
Name: Marquita Bennett
Project Role: Research Coordinator, NMCP
Contribution to Project: Oversee study site operations

DDEAMC
Name: Rebecca Facundo, LCSW
Project Role: Clinician, EAMC
Contribution to Project: Assessment and Treatment

DDEAMC
Name: Kimberley Banta, LPC
Project Role: Clinician, EAMC
Contribution to Project: Assessment and Treatment

DDEAMC
Name: Therapist 3
Project Role: Clinician, EAMC
Contribution to Project: Assessment and Treatment

DDEAMC
Name: Cynthia Gilley, BSN
Project Role: Research Coordinator, EAMC
Contribution to Project: Oversee study site operations

Organization Name: Staffing Resource Group
Address: 405 N Reo Street, Suite 255, Tampa, FL 33609
Contact: Britt Massing
Project Role: Sub-award
Contribution of Project: Human Resource Development

Organization Name: Naval Medical Center Portsmouth
Nursing Research & Consultation Services
Address: 620 John Paul Jones Cir, Portsmouth, VA 23708
Contact: Shawna Grover, Ph.D., ANP-BC, LCDR/NC/USN
Project Role: Study Site Co-PI
Contribution of Project: Human subject participation site

Organization Name: Eisenhower Medical Center, Fort Gordon
Dwight David Eisenhower Army Medical Center
Address: 300 E. Hospital Road, Fort Gordon, GA 30905-5650
Contact: Leslie Walker Roberson, LTC
Project Role: Study Site Co-PI
Contribution of Project: Human subject participation site

Special Reporting Requirements

Nothing to report

Appendices

None