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TITLE: Effectiveness of Telerehabilitation for OIF/OEF returnees with Combat Related Trauma.

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14. ABSTRACT The telerehabilitation for OEF/OIF returnees with mild or moderate combat related Traumatic Brain Injury (TBI) has as its objectives 1) care coordination for wounded veterans using distance technology via the internet and 2) monitoring of physical and mental health outcomes using a variety of validated health outcome instruments that capture physical function, cognition, mental health status and integration into society. We have enrolled a total of 150 veterans in the study. Our findings indicate that 1) The telerehab intervention did not significantly influence functional, cognitive and mental health outcomes as compared to those in the control group. Both groups showed improvement in functional and mental health status and community integration over time. 2) The presence of comorbid Post Traumatic Stress Disorders was a significant predictor in reported patient health 3) Individualized treatment pathways may be needed for rehabilitation and ultimate integration into society and 4) Veterans have expressed appreciation for the program.					
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Table of Contents

	<u>Page</u>
1. Introduction	4
2. Keywords	5
3. Accomplishments	6
4. Impact	15
5. Changes/Problems	15
6. Products	15
7. Participants & Other Collaborating Organizations	NA
8. Special Reporting Requirements	NA
9. Appendices	16

Effectiveness of Telerehabilitation for OIF/OEF returnees with Combat Related Trauma.

Introduction

Goals: This is one project in a planned program of research to improve care for injured Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) veterans. With this study we tested a telerehabilitation program for veterans with combat related traumatic brain injury (TBI) by monitoring functional, cognitive and mental health outcomes together with their integration into society using a variety of validated instruments. Coordinating medical care at a distance via secure messaging and thereby reducing their utilization of the VA health system is another important goal of this telerehabilitation intervention.

The *long term* goal of this program of research is to optimally define telerehabilitation services for all veterans with multiple injuries (Polytrauma), including accurate and efficient screening instruments, educational material for patients and families, family support, and family counseling to enhance care coordination and to maximize functional outcomes and quality of life.

The Telerehabilitation (telerehab) intervention: Veterans who meet the inclusionary criteria of a clinical diagnosis of mild or moderate TBI incurred in Iraq and Afghanistan and who utilize the James A. Haley (JAH) Veterans Hospital in Tampa, FL., the Miami Veterans Hospital and the Washington DC Veterans Hospital as their primary source of care and who in the opinion of primary care providers, will possibly benefit from the program are eligible to be consented for participation. They are provided laptop computers to communicate at least once weekly on a secured VA server with the care coordinator (Polytrauma RN) who also meets them at their scheduled outpatient visits at the JAH. The RN helps in a variety of care coordination efforts including scheduling appointments with specialists, medication management, counseling and monitoring outcomes. The RN coordinates care for Post Traumatic Stress Disorders (PTSD) with a clinical psychologist at the JAH. E-mail exchanges between veterans and the care coordinator are recorded as e-consults in the centralized Computerized Patient Recording System. Her counterpart at the Miami and Washington DC sites perform similar care coordination.

Care Coordination

Care coordination may include:

- Monthly records review/care coordination, monitoring and follow-up.
- Monthly review of medical/mental health treatment plans.
- Communication encounters/outreach via MyHealtheVet website which includes future appointment reminders/treatment plan updates, follow-up on pending tests/labs ordered by Primary Care Provider but not completed by veteran.
- Collaboration/coordination with subjects Patient Aligned Care Team (PACT)/Mental Health team.
- Facilitating veteran appointment request/scheduling with PACT team.
- Active appointment coordination with Mental Health providers to assess/evaluate veteran request for mental health intervention.
- Prescription assistance/renewal.
- Provision of education/resource information to other federal programs/websites including but not limited to E-Benefits, GI Bill info, Compensation & Pension benefits, MyHealtheVet, Vocational Rehab and the DOD-CSRC program.
- Attempts to reintegration of non-responders for follow-up care with PACT/MH teams.

Key words:

VA: Veterans Administration

VHA: Veterans Health Administration

TBI: Traumatic Brain Injury

PTSD: Post Traumatic Stress Disorders

MVH: My HealtheVet

JAH: James A Haley Veterans Hospital

FIM/FAM: The Functional Independence Measure and Functional Assessment Measure

CHART-SF: Craig Handicap Assessment and Reporting Technique - Short Form

MPAI-4: The Mayo-Portland Adaptability Inventory

PHQ: Patient Health Questionnaire

PCRS: The Patient Competency Rating Scale

PCL-C Traumatic Stress Disorder Rating Interview

AUDIT: Alcohol Use Disorders Identification Test

SF-12: Short Form Health Survey.

Accomplishments

Statement of Work

Study sites:

1) James A Haley Veterans Hospital

13000 Bruce B Downs Blvd

Tampa, FL, 33612

PI: Kris Siddharthan, PhD

Human use: A total of 60 combat wounded veterans (30 receiving telerehabilitation and 30 others with usual and traditional care at the Tampa VA) have been recruited.

2) Bruce W. Carter Department of Veterans Affairs Medical Center

1201 N.W. 16th St.

Miami, FL 33125

PI: Stuti Dang, MD

Human use: A total of 60 combat wounded veterans (30 receiving telerehabilitation and 30 others with usual and traditional care at the Miami VA) have been recruited.

3) Washington, D.C. VA Medical Center

50 Irving St. NW.

Washington, DC 20422

PI: Sreelatha Katari, MD

Human use: A total of 30 combat wounded veterans (15 receiving telerehabilitation and 15 others with usual and traditional care at the Washington, D.C. VA) have been recruited.

Task 1. Administrative tasks

a. Obtain Institutional Review Board and conduct literature review.

- IRB clearances from the University of South Florida, Tampa, Florida, necessary to conduct the study have been obtained.
- All DOD Human Research Protection Office's requirements have been met.
- Study personnel in the duration of the study have been compliant with the Veteran Administration's Human Subjects Research, Human Subjects **Privacy and HIPPA requirements.**

b. Recruit care coordination team

The telerehabilitation care coordination team is organized under a primary care physician, Steve G. Scott, DO, Chief Physical Medicine and Rehabilitation Services VA at the James A Haley Veterans Hospital in Tampa, FL. The panel of providers participating in the telerehabilitation for wounded veterans at the Tampa, Miami and Washington facilities included specialists in Neurology/Pain Management, Physiatrists, Clinical Psychologists, Social Workers and Pharmacists. Andrea M. Spehar, DVM, MPH, JD is the Program Manager and a Co-Investigator of this study. Two full time nurses specialized in the treatment of polytrauma, recruited veterans to the study at the Tampa and Miami facilities and provided care coordination while a health science expert accomplished the same at the

Washington VA hospital. Assisting them was William A. Lapcevic, MSST, MPH an expert in information technology and data management.

c. Order computers, load software programs/dialogues and set up web site on VA servers.

At least once a week communication is initiated between care coordinators and study participants. The primary mode of contact via secured messaging for the telerehabilitation intervention is the **My HealthVet (MVH)**. MHV is a VA developed free, online Personal Health Record (PHR) that empowers veterans to become informed partners in their health care and is easy to use. Through a Web-based portal, registered Veterans have Internet access at any time to VA health information that allows them to become informed partners in their care with their medical providers. Veterans can also schedule and change appointments, view their laboratory results, enter and update their own health information for their medical providers to monitor, and the possibility to communicate with their VA medical care team through secure messaging. Caregivers can also access the MHV website and aid in the care coordination of patients.

Task 2. Patient recruitment

- A list of all Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) returnees discharged from the Tampa PT/BRI Center with a primary or secondary diagnosis of mild/moderate TBI was obtained from VA administrative data bases.
- Veterans were recruited for the study either at their clinic appointments at the Polytrauma Center at the James Haley Veterans Hospital (JAH) or were contacted by phone/internet. Patients who met the inclusion criteria and agreed to participate in the intervention signed informed consents.
- A total of 150 veterans who met the inclusionary criteria were consented for the study at the Tampa and Miami VA sites and were equally divided between the group that received the telerehab intervention and those in the control group who had access only to the usual and customary care at the hospitals. Tampa (n=60) and Miami (n=60) were the original designated sites for the study. DOD eventually granted permission to include the Washington VA facility (n=30) as a test site.

Task 3. Initial home visits to assess functional status and home environment

The Physical Medicine and Rehabilitation Service (PMRS) at the JAH conducts initial home visit to assess functional status and home environment. Visits to the homes of combat injured veterans are made by qualified Occupational Therapists who provide recommendations for assistive devices and environmental interventions. Functional aids can include hand rails and ramps for wheel chairs in the homes to aid in ambulatory function. Other assistive devices can include modifications to the kitchen to accommodate the needs of the veterans. The cost to the VA is limited to \$2,000 per veteran.

Task 4. Data Collection

Patient/Caregiver satisfaction surveys will be conducted six months and 12 months of continuous enrollment in telerehab. The outcome measures we will examine include patient and/or caregiver perception of telerehab including acceptance of the program, perceived quality of care, and convenience. We abstracted questions from other telehealth surveys in the VHA to construct a patient satisfaction questionnaire using a Likert Scale measuring the strength of agreement to gauge attitudes or reactions (see Appendix). We tested the instrument on a small sample of veterans to establish reliability and validity.

Data was also collected from VA Administrative data bases and veteran's self-reported health, cognition and social integration status. Veterans' health Information Systems & Technology Architecture (VistA) medical record abstracts were used pertaining to health care utilization and treatments. Patient/caregiver surveys were conducted to determine acceptance of telerehabilitation and perceptions on facilitators and barriers to treating veterans at a distance.

Task 5. Data Analysis

Patient characteristics

Table 1 indicates subject characteristics of all 120 veterans enrolled in the study at the Tampa and Miami facilities. This report summarizes our findings for the veterans who completed baseline surveys. Four veterans were female. Females cannot be enlisted in combat units but do sustain injuries due to accidents and indirect fire. The majority of veterans enrolled classified themselves as white and were between 18 and 29 years of age.

Table 1: Subject Characteristics (N=120)

	<i>Tampa</i>	<i>Miami</i>
Gender	N (%)	N (%)
<i>Female</i>	4 (6.7)	5 (8.3)
<i>Male</i>	56 (93.3)	55 (91.7)
Race		
<i>Black</i>	12 (20.0)	8 (13.3)
<i>Native American</i>	1 (1.7)	0
<i>Native Hawaiian</i>	1 (1.7)	0
<i>White</i>	46 (76.7)	50 (83.3)
<i>Unanswered</i>	0	2 (3.3)
Ethnicity		
<i>Hispanic</i>	11 (18.3)	40 (66.7)
<i>Non-Hispanic</i>	49 (81.7)	20 (33.3)
Age		
<i>18-29</i>	26 (43.3)	26 (43.3)
<i>30-39</i>	18 (30.0)	25 (41.7)
<i>40-49</i>	12 (20.0)	7 (11.7)
<i>50+</i>	4 (6.7)	2 (3.3)
Age - Mean (SD)		
<i>N</i>	60	60
	33.6 (8.9)	32.7 (10.3)

Baseline, 6 month and 12 month Surveys

There are nine survey instruments to be completed by study subjects at six month intervals starting with baseline surveys while enrolled in the study. The Functional Independence Measure and Functional Assessment Measure (FIM/FAM); Craig Handicap Assessment and Reporting Technique - Short Form (CHART-SF), The Mayo-Portland Adaptability Inventory (MPAI-4); Patient Health

Questionnaire (PHQ which includes PHQ-2, PHQ-8, PHQ-9, PHQ-15), The Patient Competency Rating Scale (PCRS); The PTSD Checklist - Civilian Version (PCL-C); Short Post-Traumatic Stress Disorder Rating Interview (SPRINT); Alcohol Use Disorders Identification Test (AUDIT); and the SF-12 Health Survey (SF12). The surveys are administered at baseline, 6-months and 12-months. The Patient/Caregiver satisfaction surveys are conducted after 12 months of continuous enrollment in telerehabilitation.

Baseline, 6 month and 12 month surveys were conducted to: 1) To characterize rehabilitation trajectories over time in the areas of function, cognition, psychosocial adjustment, integration into society and mental health disorders over time and 2) To individualize treatment patterns customized to each veterans needs so as to maximize the effect of telerehabilitation. Reported in the Appendix by each site (Tampa/Miami) is each of the assessments to monitor health outcomes at baseline, 6 month and 12 month intervals. Unlike traditional telemedicine that deals with disease specific monitoring or intervention (diabetes, CHF, dementia etc.), our cohort exhibits a very diverse population in terms of disease affliction, complexity and propensity to receive care.

Research Question 1:

1. *What are the changes in functional status, cognition, mental health and community participation over time in veterans with mild/moderate TBI who participate in telerehabilitation (experimental group) vis-à-vis a similar group that receives traditional care (control group)?*

Monitoring Health outcomes:

PCRS: The patient competency rating scale (PCRS) measures the ability of the patient to performance on daily self-care activities, cognitive tasks, social interactions, and emotional control. The primary purpose of the PCRS is to evaluate self-awareness (the ability to appraise one's current strengths and weaknesses) following traumatic brain injury. The PCRS is a 30-item self-report instrument which asks the subject to use a 5-point Likert scale to rate his or her degree of difficulty in a variety of tasks and functions.

Patient Health Questionnaire: The patient health questionnaire (PHQ) is separated into three components: PHQ2, which was assessed in two different places on the survey and is a ultra-brief depression screen. (PHQ-2) screener is a two-item self-report that enquires about the frequency of depressed mood and anhedonia over the last 2 weeks. The purpose of the PHQ-2 is to screen for depression in a “first step” approach. The construct and criterion validity of the PHQ-2 make it an attractive measure for depression screening. PHQ8 and PHQ9 provide scores of depression severity, and PHQ15 scores somatic symptom severity. Higher scores on these subscales indicate poorer health outcomes. There was no evidence of treatment effects on any of these scales. The direction of treatment effect for all scales except PHQ15 was in the direction of improvement

Increased PCRS scores are associated with increased competence. There was no evidence of treatment effect on PCRS scores and the estimated effect of treatment was in the opposite direction than would be expected with patient improvement.

PCLC: This 6-item screen was derived empirically from the PCL-C for use in primary care settings. It contains the 2 items from each of the re-experiencing, avoidance, and hyper arousal clusters that correlated most highly with the individual cluster score on the PCL-C. The civilian version of the post traumatic stress disorder checklist (PCLC) measures the severity of patient struggles with common problems associated with stressful life events. Higher scores indicate increased severity of symptoms.

There was no evidence for a treatment effect on PCLC scores and the estimated effect was in the direction expected with patient improvement.

SPRINT: The Short PTSD Rating Interview (SPRINT) is an 8-item self-report measure that assesses the core symptoms of PTSD (intrusion, avoidance, numbing, arousal, somatic malaise, stress vulnerability, and role and social functional impairment). The SPRINT demonstrates solid psychometric properties and can serve as a reliable, valid, and homogeneous measure of PTSD illness severity and of global improvement. Symptoms are rates on 5 point scales from 0 (not at all) to 4 (very much). The SPRINT is responsive to symptom change over time and correlated with comparable PTSD symptom measures. In our analysis, we evaluated the overall severity score (SPRINT questions 1-8), where higher scores are associated with more severe impairment. There was no evidence for a treatment effect on the overall SPRINT severity score and the estimated effect was in the direction expected for patient improvement.

FIM + FAM: The functional independence measure and the functional assessment measure (FIM+FAM) are used to measure improvement as a result of rehabilitation interventions. The FIM is an 18-item, seven level ordinal scale. It consists of items concerning the degree of assistance needed for self-care, mobility, social interactions, and cognitive functions. Lower scores on this scale indicate greater impairment over time. There was no evidence of treatment effect on this measure and the direction of the estimated effect was in the direction of patient improvement.

CHART: The Craig Handicap Assessment and Reporting Technique Scoring Short Form (CHART) is used as a measure of handicap that captures the interaction of the person and the environment and of community reintegration and participation. The CHART includes domains to assess six dimensions of handicap and measures how much impairments lead to handicaps and can be used to assess the efficacy of rehabilitation. Lower scores on this scale indicate greater disability. There was no evidence of treatment effect on this scale and the estimated effect was in the opposite direction of patient improvement.

AUDIT: The Alcohol Use Disorders Identification Test (AUDIT) provides a means of identifying harmful patterns of alcohol use. The AUDIT was developed by the World Health Organization to identify persons whose alcohol consumption has become hazardous or harmful to their health. The AUDIT is a 10-item screening questionnaire with 3 questions on the amount and frequency of drinking, 3 questions on alcohol dependence, and 4 on problems caused by alcohol. Higher scores on this scale indicate greater risk of problematic alcohol use. There was no evidence of treatment effect on this scale and the estimated effect was in the opposite direction of patient improvement. This was the only scale that was not significantly impacted by the PTSD diagnosis at baseline.

SF-12: The short form survey version 1 (SF-12) consists of 12 items related to physical and mental impairment. Using a validated weighting scheme the same questions are used to derive physical and mental health scores. Higher scores on these scales indicate better physical and mental health. There was no evidence of treatment effect on this scale and the estimated effect was in the opposite direction of patient improvement.

MPAI: The Mayo-Portland Adaptability Inventory (MPAI) assures that the most frequent sequelae of TBI are considered for rehabilitation planning or other clinical interventions. MPAI-4 items represent the range of physical, cognitive, emotional, behavioral, and social problems that people may encounter after TBI. MPAI-4 items also provide an assessment of major obstacles to community integration which may result directly from TBI as well as features of the social and physical environment. The Mayo-Portland Adaptability Inventory (MPAI-4) is used to evaluate patients with acquired brain injury in the period

after hospital discharge. Subscales are can be calculated to measure problems with ability, adjustment, and participation. Higher scores on these scales indicate more impairment over time.

Data analysis:

To answer the first research question we conducted multivariate analysis to determine the effect of treatment on the change over time in summary scores for nine mental health outcome scales used in this study. Summary scores are obtained by aggregating sub domain scores on each of the survey instruments. Calculation of summary scores is outlined in the literature. Each of the models assumed linearity in the time response and normality of the errors conditional on time, site, and treatment. In addition, demographic variables for gender, race (black, white, other), ethnicity (Hispanic or not-Hispanic), age, and prior Post Traumatic Stress Disorders (PTSD) diagnosis were included as covariates in the model. The presence of PTSD is determined in a face to face interview where the veteran is questioned on common symptoms associated with the diagnosis. A positive diagnosis of PTSD results in higher disability payments resulting in a system rife with abuse. Nevertheless, we established a presence of PTSD by reviewing patient charts.

Statistical model: In order to account for repeated measures on individuals over time, random intercept effects at the subject level were incorporated into the model specification. This approach assumes that there is a constant correlation for measurements on the same individual but there is no autocorrelation structure in the measurements. The model specification to estimate the effect of the intervention is as follows:

$$Score_{ij} = \beta_0 + b_{0i} + \beta_1 site + \beta_2 treatment_i + \beta_3 month_j + \beta_4 treatment_i * month_j + \beta_5 (gender_i = female) + \beta_6 (race_i = black) + \beta_7 (race_i = white) + \beta_8 (ethnicity_i = Hispanic) + \beta_9 (PTSD_i = prior\ diagnosis) + \epsilon_{ij},$$

where $Score_{ij}$ is the outcome measure for individual, i , at time, j , $b_{0i} \sim N(0, \sigma_{b_0}^2)$, and $\epsilon_{ij} \sim N(0, \sigma^2)$. The effect of interest in this study is the estimated coefficient β_4 , the effect of treatment on the change in score over time.

Table 2 summarizes the effect of treatment on each of the scales and subscales in the study and shows the expected direction for patient improvement. The estimated effects of baseline PTSD diagnosis on baseline scores for each scale are given for reference. **Findings:** Though there is no evidence of statistically significant effects of treatment using multivariate analyses on any of the scales, the estimated effects for the adjustment and participation subscales were in the direction expected with patient improvement. Both the intervention group and veterans receiving usual and customary care (control) exhibited improvement on all measures over tome. PTSD as a comorbid condition was statistically significant in predicting PHQ composite scores. All data are self- reported and may be subject to bias. The effect of comorbid PTSD cannot be underestimated. At baseline the presence of Post Traumatic Stress Disorders contributed significantly to illness as measured by composite scores.

The clinical significance of the intervention, however, cannot be underestimated. Reminding veterans of appointments, refilling lost medications and obtaining urgent care for patients at risk for harming themselves are invaluable anecdotes that are not reflected in the health outcome measures captured by the health instruments. Veterans have rated the intervention highly in Patient Satisfaction Surveys.

Table 2. Effect of telerehabilitation over time on health scales with effect of baseline PTSD diagnosis for comparison.

Scale	Direction of improvement	Treatment effect per month			Baseline PTSD diagnosis effect		
		Estimate	Standard error	p-value	Estimate	Standard error	p-value
PHQ2A	negative	-0.02428	0.02507	0.3339	1.2299	0.3003	<.0001
PHQ2B	negative	-0.00146	0.02453	0.9527	1.3543	0.2967	<.0001
PHQ8	negative	-0.04645	0.07515	0.5372	4.1594	1.0025	<.0001
PHQ9	negative	-0.05500	0.08021	0.4937	4.3634	1.0932	<.0001
PHQ15	negative	0.06307	0.06653	0.3442	3.0427	0.9881	0.0023
PCRS	positive	-0.2887	0.2511	0.2516	-14.8043	3.9678	0.0002
PCLC	negative	-0.1519	0.1976	0.4428	12.3527	2.5624	<.0001
SPRINT	negative	-0.04051	0.1015	0.6903	6.4095	1.2368	<.0001
FIM+FAM	positive	0.02035	0.3343	0.9515	-16.6144	6.0932	0.0069
CHART	positive	-0.5062	1.0068	0.6157	-46.3994	16.6470	0.0058
AUDIT	negative	0.1353	0.08215	0.1013	-1.0889	1.4723	0.4606
SF-12 Physical	positive	-0.01643	0.1294	0.8991	-4.6043	2.0036	0.0225
SF-12 Mental	positive	-0.02638	0.1517	0.8621	-5.7622	1.8566	0.0022
MPAI-4 Ability	negative	0.03176	0.1253	0.8002	4.8980	1.8742	0.0096
MAPI-4 Adjustment	negative	-0.01568	0.1353	0.9079	6.8094	1.6473	<.0001
MPAI-4 Participation	negative	-0.04865	0.1943	0.8025	10.2351	2.5905	0.0001
MPAI-4 Total	negative	0.01916	0.1046	0.8548	5.6308	1.5012	0.0002

Research Question 2:

2a. What are the changes in resource utilization between the groups after enrollment in telerehab?

We analyzed outpatient and inpatient healthcare use amongst the 60 veterans of Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) with combat-related injuries who were treated at Tampa's Haley PRC in fiscal years 2015 and 2016 to determine outpatient resource use and costs to the VHA after discharge. VA cost and utilization data is not uniformly available. Data and software analysts at each individual site have to access resource utilization available at participating facilities. As we did not have any IT or software programmers at the Miami and Washington VA hospitals our analysis is limited to veterans enrolled at the Tampa VA.

Outpatient utilization and costs: We obtained national outpatient cost and use data from the Decision Support System National Data Extracts (DSS-NDE). Measures of healthcare use were the type and number of outpatient clinic stops and associated costs. Outpatient use and costs for veterans with combat related injuries. Clinic stops are DSS-NDE identifiers defining outpatient production units but may also be used to quantify healthcare use by patient. During the 2-year period of this analysis, over half the cohort was seen in six clinics. They comprised Social Work (n=57), Clinical Pharmacy (45), Prosthetic Supply (39), Primary Care (36), Lab work (34) and Ancillary services (34). The combination of social work service (94%) and clinical pharmacy (74%) indicate civilian adjustment issues, mental health needs, or both. Medications were used regularly by most of the cohort to treat war-related injuries and conditions.

The clinics generating the highest expenses are shown in Table 3. Some overlap existed with high use and high cost (social work service and pharmacy). The most expensive clinic stop was contract nursing home care, defined as the number of days the patient had VA-paid, vendor-provided care. Total outpatient costs were approximately \$1.75 million, an average of \$27,000 per patient over 2 years. Costs were about evenly distributed between the intervention and control group enrollees. We were unable to distinguish between clinic visits that were related to combat injury from those resulting from usual care. Costs were about evenly distributed between the intervention and control group enrollees. The intervention did not appear to have resulted in lower utilization.

Table 3 (n=60) Outpatient utilization and associated costs.

Clinic Stop	Total Cost
Nursing home days	\$ 193,200
Clinical Pharmacy	\$ 166,200
Physical therapy	\$ 139,800
Speech Pathology	\$ 126,000
Occupational therapy	\$ 99,000

Inpatient utilization and costs: The Tampa Decision Support System (DSS) was used to obtain data on health care utilization and costs. The Computerized Patient Record System in the VA allows for e-codes which can identify cause of trauma to combat wounded warriors. Table 4 details case of injury and associated median and mean costs of treatment in an inpatient setting. The skewness of the cost distribution characterizes the effect of severe Traumatic Brain Injury. At least one veteran incurred over a million dollars in treatment costs at the JAH. As with outpatient visits it was not possible to differentiate combat related trauma utilization from care received for other health conditions. Costs were similar between the participants in the two groups.

Table 4. Cause of combat injury, Inpatient Utilization and associated costs.

	Vehicle accidents (n=74)	Blast related (n=51)	Bullet injury (n=12)	Other (n=10)
Median cost	\$ 40,650	\$ 33.75 (k)	\$ 55.2 (k)	\$ 33 (k)
Mean cost	\$ 57,000	\$ 43.1 (k)	\$ 79.5 (k)	\$ 54 (k)
Median Length of stay (mean)	22 (29)	21 (25)	24.5 (30)	23 (28)

2b. Capture the cost effectiveness of rehabilitation as measured by a decrease in Disability Adjusted Life Years in the areas of reintegration into society and the adverse effects of comorbid conditions such as PTSD.

The disability-adjusted life year (DALYs) is a societal measure of the disease or disability burden in populations. DALYs are calculated by combining measures of life expectancy as well as the adjusted quality of life during a burdensome disease or disability for a population. DALYs are related to the quality-adjusted life year (QALY) measure; however QALYs only measure the benefit with and without medical intervention and therefore do not measure the total burden. Also, QALYs tend to be an individual measure, and not a societal measure.

Our hypothesis that disability burden would decrease as a result of the intervention has proven incorrect as no statistically significant changes occurred between the two groups as detailed earlier in the statistical analysis. Hence, a DALY analysis was not warranted as effectiveness of the rehabilitation could not be established.

Patient Satisfaction Questionnaire: We conducted a patient satisfaction survey of veterans receiving the care coordination at the VA hospitals in Miami and Tampa with a total of 45 veterans completing the survey at both sites. The surveys were administered after the enrollees had completed health outcome surveys at 18 months. As some veterans moved to another VISN health network and therefore did not complete the surveys. Listed below are the results of the survey. As clearly summarized the patients were appreciative of the telerehabilitation intervention and expressed satisfaction with the care coordination provided. Results of the survey are detailed in Table 5.

Table 5

Question	Mean	Median	Std. Dev
The telerehab website was easy for me to use.	1.40	1	0.495
I found the telerehab communications convenient.	1.40	1	0.495
I found the amount of time the telerehab communications take to be about right.	1.49	1	0.549
I found the time between telerehab communications about right.	1.71	2	0.757
The RN returned my messages in a timely manner.	1.14	1	0.347
The RN was able to provide the services requested.	1.22	1	0.420
The overall care and services provided by the RN met my needs.	1.18	1	0.442
When I had questions about care coordination the answers provided were helpful to me.	1.27	1	0.495
I had no concerns about whether the privacy of personal medical information was protected.	1.44	1	0.624
The telerehab care coordination was more convenient than arranging care through the VA Hospital.	1.33	1	0.477
The telerehab communications can substitute for some visits to the VA Hospital.	1.87	1	1.079
Overall, I am satisfied with the telerehab service I am enrolled in.	1.24	1	0.435

The Patient Satisfaction Questionnaire is based on a 5 point Likert Scale where:

- 1 - Strongly Agree
- 2 - Agree
- 3 - Uncertain
- 4 - Disagree
- 5 - Strongly Disagree

Impact

As may be observed, many of the domains that constitute functional, cognition and social interaction capabilities displayed statistically non-significant differences at the points of measurement in all instruments for both groups. However, this should not be construed as reflecting on the efficacy of the intervention. The number of missed diagnosis uncovered during care coordination were many and include life threatening conditions such as seizures, suicidal tendencies, depression and sleep disorders. On at least two occasions veterans with suicidal tendencies were referred to clinical psychologists who prevented the wounded warriors from harming themselves. Veterans frequently expressed appreciation on the help provided to obtain medications, make clinic appointments. We frequently receive notes via email expressing gratitude of our efforts. The feasibility of telerehabilitation for treating trauma and its effects is clearly demonstrated in our study.

Changes/Problems

Data collection at the Washington DC site: Late in the study DOD consented to adding the Washington VA site to our existing study. A total of 30 veterans were to be consented. Administrative issues resulted in the project being delayed. Eventually 30 patients were enrolled but due to time limitations only a few veterans completed the 6 month assessments. Also, the lack of a data analyst at the site precluded any data abstraction. Hence we have limited our reporting to the Tampa and Miami sites.

Products:

Publications:

1. Chapman P, Elnitsky C, Thurman R, Spehar A & Siddharthan K. Exploring Combat-Related Loss and Behavioral Health Among OEF/OIF Veterans with Chronic PTSD. *Journal of Traumatology*, 2013, Volume 19 (2), 154-157.
2. Siddharthan K, Spehar AM, Lapcevic WA, Rosada V. The effect of Post Traumatic Stress Disorders on Rehabilitation among combat wounded veterans. *Global TeleHealth*, Vol. 182, December 2012, 114-124.
3. Siddharthan K. Telerehabilitation for Veterans with Combat related TBI/PTSD. *Proceedings: NATO Symposium on Mental Health and Well Being across the Military Spectrum*. Bergen, Norway, April, 2011.

Presentations at professional meetings:

1. The Third Annual Trauma Spectrum Conference: "Telerehabilitation for combat wounded with Traumatic Brain Injury and Post Traumatic Stress Disorders", Bethesda, Maryland, December 7-8, 2011.

2. NATO Symposium on Mental Health and Well Being across the Military Spectrum. “Telerehabilitation for Veterans with Combat Related TBI/PTSD”, Bergen, Norway, April 2011.
3. Department of Defense Health Forum, “Telerehabilitation for OIF/OEF Returnees with Combat-Related Traumatic Brain Injury”, Fairfield, VA, July 2011.
4. 2011 VA Improvement Forum, “Redesigning Care Coordination for Combat-wounded Veterans via Telerehabilitation”, Las Vegas, NV, September 2011.
5. The VA HSR & D Cyber seminar Telehealth Conference on the [Management of TBI / Rehabilitation](#), “Telerehabilitation for Veterans with Combat Related Traumatic Brain Injury”, October 25, 2012.
6. The National Capital Area TBI Symposium, “Rehabilitation Trajectories for combat wounded veterans with Traumatic Brain Injury”, NIH Washington DC, March 6-7, 2018

APPENDIX

Functional Independence Measurement/Functional Assessment Measure: (FIMFAM)

TAMPA <i>MEAN ± STD</i>	BASELINE <i>N=30</i>	<i>N=29</i>	6 MO <i>N=28</i>	<i>N=28</i>	12 MO <i>N=26</i>	<i>N=27</i>
	STUDY	CONTROL	STUDY	CONTROL	STUDY	CONTROL
Feeding	6.6±1.07	6.6±1.01	6.8±0.57	6.8±0.65	6.9±0.27	6.7±0.67
Grooming	6.3±1.24	6.6±0.95	6.8±0.65	6.6±0.84	6.7±0.45	6.8±0.42
Bathing	6.4±1.33	6.5±1.02	6.7±0.67	6.4±1.1	6.6±0.86	6.6±0.69
Dressing - Upper Body	6.5±1.38	6.5±1.27	6.8±0.65	6.6±1.07	6.6±0.9	6.8±0.42
Dressing - Lower Body	6.3±1.24	6.4±1.29	6.6±0.84	6.5±1.26	6.4±1.1	6.6±0.69
Toileting	6.9±0.31	6.8±0.64	6.8±0.61	6.8±0.7	6.7±0.84	6.8±0.62
Swallowing	6.9±0.25	6.9±0.26	6.9±0.59	6.9±0.26	6.9±0.27	6.9±0.36
Bladder Management	6.9±0.31	6.7±0.45	6.7±0.72	6.8±0.39	6.8±0.4	6.9±0.32
Bowel Management	6.9±0.31	6.6±1.02	6.7±0.66	6.6±1.03	6.8±0.4	6.7±0.82
Bed	6.6±0.89	6.7±0.65	6.7±0.48	6.6±1.07	6.6±0.58	6.7±0.45
Chair	6.8±0.41	6.6±0.86	6.8±0.39	6.6±0.73	6.6±0.5	6.8±0.4
Wheelchair	6.9±0.25	6.8±0.77	6.9±0.45	6.9±0.26	6.9±0.33	6.9±0.27
Toiler	6.9±0.35	6.8±0.64	6.9±0.36	6.7±0.94	6.5±0.86	6.8±0.4
Tub or Shower	6.7±1.12	6.7±0.66	6.6±0.68	6.5±0.84	6.4±0.99	6.7±0.47
Car Transfer	6.8±0.63	6.6±0.78	6.8±0.42	6.6±0.84	6.7±0.49	6.8±0.4
Walking	6.4±1.04	6.3±1.07	6.5±0.96	6.4±0.96	6.4±0.98	6.5±0.7
Wheelchair	7±0.18	6.8±0.77	6.9±0.31	6.9±0.36	6.9±0.33	6.8±0.4
Stairs	6.3±1.06	5.9±1.5	6.5±0.79	6±1.57	6.2±1.16	6.2±1.33
Ability to Access the Community	6.6±0.81	6.3±1.08	6.5±0.88	6.5±1	6.5±0.86	6.5±0.8
Audio Comprehension	6.1±1.16	6.1±1.32	6±1	6.1±0.93	6.1±1.02	6.3±1.17
Visual Comprehension	6.4±1.07	6.1±1.01	6.5±0.69	6.4±0.78	6.3±0.88	6.4±1.08
Verbal Expression - What is your ability to express yourself verbally?	6.1±1.17	6.2±1.11	6.5±0.88	6.4±0.68	6.2±1.18	6.4±1.36
Nonverbal Expression	6.5±0.86	6.3±1.2	6.8±0.42	6.4±1.06	6.6±0.76	6.4±1.22
Reading	5.9±1.57	6.1±1.53	6.3±0.85	6.2±1.29	6.2±1.22	6±1.48
Writing	6.3±1.06	6.3±1.19	6.5±0.88	6.3±1.15	6.5±0.91	6.2±1.42
Speech Intelligibility	6.1±1.31	6.2±1.24	6.5±0.88	6.4±0.99	6.3±1.13	6.4±1.22
Social Interaction	5.2±1.98	5.5±1.84	5.1±1.91	5.5±1.29	5.5±1.42	5.4±1.55
Emotional Status	5.2±1.86	5±1.83	5.2±1.89	5.5±1.2	5.4±1.7	5.3±1.54
Adjustment to Limitations	5.4±1.69	5.6±1.72	5.3±1.84	5.6±1.31	5.5±1.68	5.6±1.55
Employability	5±2.4	4.7±2.33	4.8±2.28	5.2±2.11	4.8±2.34	5.3±1.98
Problem Solving	5.5±1.85	5.7±1.62	6±1.23	5.9±1.41	6±1.54	6±1.59
Memory	4.5±1.89	5.1±1.6	4.7±1.56	5±1.66	4.6±1.7	4.9±1.8
Orientation	5.3±1.66	5.5±1.62	5.8±1.45	5.6±1.62	5.7±1.41	5.7±1.54
Attention	5±1.87	5.2±1.61	4.9±1.54	5.5±1.6	5±1.93	5.3±1.92
Safety Judgment	6±1.63	5.8±1.54	6.1±1.24	6±1.4	6.5±0.76	5.9±1.68

Functional Independence Measurement/Functional Assessment Measure: (FIMFAM)

MIAMI <i>MEAN ± STD</i>	BASELINE <i>N=30</i>		6 MO <i>N=28</i>		12 MO <i>N=25</i>	
	STUDY	CONTROL	STUDY	CONTROL	STUDY	CONTROL
Feeding	6.9±0.25	6.5±1.31	6.5±1.2	6.6±1.05	6.4±1.15	6.3±1.39
Grooming	6.5±1.33	6.5±1.14	6.5±1.2	6.2±1.45	6.6±0.82	6.2±1.42
Bathing	6.7±0.92	6.4±1.3	6.4±1.23	6.2±1.47	6.5±1.08	6.1±1.75
Dressing - Upper Body	6.7±0.79	6.5±1.25	6.5±1.26	6.3±1.37	6.4±1.04	6.2±1.56
Dressing - Lower Body	6.6±0.94	6.3±1.28	6.3±1.24	6±1.74	6.4±1.04	5.9±1.74
Toileting	6.8±0.59	6.7±0.53	6.6±1.2	6.4±1.35	6.5±0.96	6.5±1.09
Swallowing	7±0.18	6.9±0.31	6.8±0.48	6.7±0.81	6.7±1.21	6.7±0.71
Bladder Management	6.8±0.91	6.8±0.48	6.6±1.2	6.5±0.99	6.5±1.23	6.6±1.05
Bowel Management	6.8±0.94	6.7±0.58	6.5±1.2	6.5±0.99	6.4±1.41	6.6±1.06
Bed	6.7±0.71	6.4±1.14	6.5±1.17	6.2±1.35	6.6±0.77	5.9±1.96
Chair	6.8±0.48	6.7±0.61	6.5±1.2	6.4±1.15	6.7±0.85	6.4±1.45
Wheelchair	6.9±0.4	7±0	6.8±1.14	6.9±0.56	6.6±1.32	7±0.19
Toiler	6.9±0.35	6.7±0.6	6.5±1.2	6.4±1.15	6.6±0.91	6.3±1.45
Tub or Shower	6.8±0.38	6.3±1.39	6.5±1.2	6.1±1.61	6.5±1.08	6±1.84
Car Transfer	6.8±0.5	6.5±1.2	6.6±1.17	6.3±1.32	6.3±1.44	6.4±1.24
Walking	6.5±1.07	6.3±1.09	6.3±1.08	6.4±0.95	6.4±0.77	6.2±1.47
Wheelchair	6.9±0.4	7±0	6.7±1.15	7±0	6.6±1.33	6.9±0.37
Stairs	6.3±1.31	6.2±1.23	6.1±1.2	6±1.46	6.3±0.79	5.8±1.82
Ability to Access the Community	6.8±0.82	6.4±1.07	6.5±1.2	6.4±1.12	6.2±1.09	6±1.8
Audio Comprehension	5.9±1.65	5.8±1.65	6.1±1.23	5.5±1.6	5.9±1.47	5.4±1.76
Visual Comprehension	6.5±1.04	6.1±1.48	6.6±0.74	6±1.45	6.4±0.82	6.1±1.56
Verbal Expression - What is your ability to express yourself verbally?	6.1±1.48	5.7±1.79	6.1±1.31	6.2±1.33	5.8±1.74	5.8±1.63
Nonverbal Expression	6.3±1.47	6.1±1.48	6.5±1.1	6.2±1.54	6.1±1.45	6±1.51
Reading	6±1.52	5.9±1.57	6.3±1.04	5.9±1.73	6.2±1.29	5.8±1.47
Writing	5.9±1.73	5.8±1.82	6.4±1.25	6.1±1.63	6.4±0.92	5.8±1.63
Speech Intelligibility	5.9±1.64	6.1±1.36	6.3±1.27	5.9±1.84	6±1.54	5.8±1.53
Social Interaction	4.7±2.23	4.9±2.33	5.3±1.8	5±1.79	5±1.9	5±2.02
Emotional Status	4.7±2.15	4.7±2.21	5.3±1.68	4.8±1.91	4.8±1.96	4.7±2.22
Adjustment to Limitations	4.9±2.07	5±2.17	5.5±1.6	5.1±2.03	5.3±1.74	4.9±2.13
Employability	4.4±2.54	4.7±2.45	4.5±2.5	5.4±1.99	4.8±2.39	4.7±2.48
Problem Solving	5.5±1.76	5.2±2.06	5.6±1.77	5.4±1.88	5.2±1.92	5.5±2.03
Memory	4.4±2.08	4.5±2.16	4.7±1.88	4.4±1.97	4.6±1.89	4.7±2.24
Orientation	5.4±1.87	5.2±2.1	5.3±1.88	5.3±1.99	5.5±1.85	5.4±2.01
Attention	5±1.86	5±1.93	4.9±1.74	4.7±1.91	5±1.78	4.8±2.09
Safety Judgment	5.7±1.79	5.8±1.76	5.6±1.87	5.7±2	5.7±1.81	5.5±1.88

Patient Competency Rating Scale (PCRS)

TAMPA <i>MEAN ± STD</i>	BASELINE <i>N=30</i>		6 MO <i>N=28</i>		12 MO <i>N=26</i>	
	STUDY	CONTROL	STUDY	CONTROL	STUDY	CONTROL
Repeated, disturbing memories, thoughts, or images of a stressful experience from the past?	3±1.19	2.5±1.12	3.1±1.21	2.6±1.03	3.2±0.99	2.7±1.06
Repeated, disturbing dreams of a stressful experience from the past?	3.1±1.25	2.8±1.18	3.1±1.15	2.8±1.17	3.3±0.98	2.9±1
Suddenly acting or feeling as if a stressful experience were happening again (as if you were reliving it)?	3.5±1.22	3.1±1.16	3.6±1.03	2.9±1.13	3.7±1.09	3.2±0.92
Feeling very upset when something reminded you of a stressful experience from the past?	2.9±1.06	2.6±1.21	3±1.05	2.7±1.16	3±1.02	2.8±0.93
Having physical reactions (e.g., heart pounding, trouble breathing, or sweating) when something reminded you of a stressful experience from the past?	3.1±1.09	2.8±1.2	3±1.19	2.8±1.2	3.1±1.18	2.9±0.93
Avoid thinking about or talking about a stressful experience from the past or avoid having feelings related to it?	2.8±1.37	2.7±1.28	2.8±1.45	3±1.37	2.9±1.2	2.7±1.46
Avoid activities or situations because they remind you of a stressful experience from the past?	3±1.41	2.7±1.42	2.8±1.26	3±1.47	3±1.31	3±1.34
Trouble remembering important parts of a stressful experience from the past?	3.2±1.27	3.4±1.24	3.4±1.26	3±1.17	3.3±1.15	3.4±0.97
Loss of interest in things that you used to enjoy?	2.6±1.25	2.4±1.4	2.6±0.87	2.5±1.29	2.9±1.35	2.8±1.3
Feeling distant or cut off from other people?	2.7±1.26	2.5±1.38	2.9±1.11	2.4±1.2	2.8±1.07	2.7±1.26
Feeling emotionally numb or being unable to have loving feelings for those close to you?	2.8±1.41	2.8±1.33	2.9±1.17	2.5±1.37	2.6±1.36	2.9±1.22
Feeling as if your future will somehow be cut short?	3.5±1.53	3.2±1.24	3.5±1.35	3±1.5	3.3±1.38	3±1.34
Trouble falling or staying	2.1±1.18	1.8±1.11	2.4±1.19	2±1.25	2.2±1.22	2.3±1.38

~ 20 ~

asleep?						
Feeling irritable or having angry outbursts?	2.6±1.25	2.4±1.15	3±0.9	2.7±1.09	2.8±1.23	2.8±1.09
Having difficulty concentrating?	2.5±1.14	2.3±1.17	2.6±1.03	2.3±1.22	2.6±1.1	2.6±1.31
Being super alert or watchful on guard?	2.3±1.24	2±1.24	2.4±1.13	2±1.09	2.5±1.27	2.1±1.33
Feeling jumpy or easily startled?	2.8±1.29	2.3±1.17	2.9±1.27	2.5±1.17	2.8±1.39	2.5±1.16

Patient Competency Rating Scale (PCRS)

MIAMI <i>MEAN ± STD</i>	BASELINE <i>N=30</i>	<i>N=30</i>	6 MO <i>N=28</i>	<i>N=29</i>	12 MO <i>N=25</i>	<i>N=29</i>
	STUDY	CONTROL	STUDY	CONTROL	STUDY	CONTROL
Repeated, disturbing memories, thoughts, or images of a stressful experience from the past?	2.4±1.07	2.1±1.2	2.5±1.2	2.2±1.1	2.6±1.26	2.4±1.18
Repeated, disturbing dreams of a stressful experience from the past?	2.6±1.22	2.2±1.28	2.8±1.4	2.2±1.07	2.8±1.33	2.6±1.33
Suddenly acting or feeling as if a stressful experience were happening again (as if you were reliving it)?	2.8±1.26	2.6±1.33	3.2±1.28	2.6±1.18	2.9±1.3	2.7±1.41
Feeling very upset when something reminded you of a stressful experience from the past?	2.6±1.22	2±1.22	2.6±1.23	2.1±1.25	2.5±1.26	2.4±1.3
Having physical reactions (e.g., heart pounding, trouble breathing, or sweating) when something reminded you of a stressful experience from the past?	2.6±1.25	2.4±1.38	2.8±1.13	2.3±1.23	2.6±1.29	2.5±1.35
Avoid thinking about or talking about a stressful experience from the past or avoid having feelings related to it?	2.2±1.13	1.9±1.2	2.6±1.2	2.2±1.15	2.6±1.29	2.3±1.19
Avoid activities or situations because they remind you of a stressful experience from the past?	2.6±1.25	2±1.25	2.8±1.27	2.1±1.13	2.8±1.49	2.5±1.38
Trouble remembering important parts of a stressful experience from the past?	2.9±1.36	3.6±1.19	3±1.35	3.2±1.28	2.8±1.3	3.3±1.31
Loss of interest in things that you used to enjoy?	1.9±1.06	2.1±1.08	2±1.14	2.1±1.14	2.2±1.25	2.3±1.14
Feeling distant or cut off from other people?	2.1±1.17	1.9±1.17	2.2±1.12	2.2±1.2	2±1.08	2.3±1.16
Feeling emotionally numb or being unable to have loving feelings for those close to you?	2.1±1.17	2.1±1.23	2.5±1.29	2±1.15	2.2±1.2	2.1±1.31
Feeling as if your future will somehow be cut short?	2.4±1.3	2.8±1.64	2.8±1.38	2.6±1.5	2.6±1.32	3.1±1.62
Trouble falling or staying asleep?	1.6±0.73	1.8±1.09	1.8±0.92	1.9±1.11	1.8±0.85	2.3±1.36

~ 22 ~

Feeling irritable or having angry outbursts?	2.1±1.03	2.2±1.25	2.5±1.14	2.2±1.11	2.2±1.01	2.5±1.3
Having difficulty concentrating?	1.9±1.03	2±1.14	2.3±1.11	2.1±0.99	2.2±1.08	2.2±1.3
Being super alert or watchful on guard?	1.8±1.02	1.7±1.09	2.4±1.29	1.8±1.21	2.3±1.02	2±1.16
Feeling jumpy or easily startled?	2.2±1.23	2.1±1.23	2.6±1.14	2±1.05	2.4±1.16	2.3±1.19

Short Form of the PTSD Checklist - Civilian Version (PCL-C)

TAMPA <i>MEAN ± STD</i>	BASELINE <i>N=30</i>	<i>N=29</i>	6 MO <i>N=28</i>	<i>N=28</i>	12 MO <i>N=26</i>	<i>N=27</i>
	STUDY	CONTROL	STUDY	CONTROL	STUDY	CONTROL
How much of a problem do I have in preparing my own meals?	4.3±0.88	4.2±0.8	4.3±0.85	4.2±0.92	4.3±0.93	4.3±0.81
How much of a problem do I have in dressing myself?	4.5±0.94	4.3±0.94	4.5±0.74	4.4±0.95	4.5±0.81	4.3±0.82
How much of a problem do I have in taking care of my personal hygiene?	4.5±0.78	4.4±0.83	4.6±0.69	4.4±0.79	4.7±0.45	4.3±0.78
How much of a problem do I have in washing the dishes?	4.2±1.1	4.1±1.18	4.4±1.03	4.3±0.89	4.2±1.16	4.2±0.96
How much of a problem do I have in doing the laundry?	4.3±0.88	4.1±1.22	4.2±1.1	4.2±0.94	4.3±1.19	4.1±0.99
How much of a problem do I have in taking care of my finances?	3.8±1.16	3.3±1.28	4±0.96	3.5±1.17	3.8±1.17	3.6±1.18
How much of a problem do I have in keeping appointments on time?	3.5±1.04	3.3±1.07	3.5±0.92	3.7±1.05	3.6±1.1	3.6±1.12
How much of a problem do I have in starting conversation in a group?	3±1.05	3.1±1.25	2.9±1.31	3.1±1.24	3.4±1.17	3.6±1.25
How much of a problem do I have in staying involved in work activities even when bored or tired?	3.2±1.12	2.9±1.19	3.1±1.23	2.8±1.26	3.3±1.09	3.1±1.2
How much of a problem do I have in remembering what I had for dinner last night?	3.1±1.01	3.4±1.24	3.4±0.99	3.3±1.21	3.6±1.06	3.8±1.18
How much of a problem do I have in remembering names of people I see often?	2.9±1.17	3.1±0.94	2.9±0.98	2.8±1.02	3.1±1.03	3.1±1.09
How much of a problem do I have in remembering my daily schedule?	3±0.96	3±0.89	3.1±0.79	3.1±0.94	3.4±0.85	3.2±1.04
How much of a problem do I have in remembering important things I must do?	2.8±0.85	3.1±0.86	3.1±0.83	3±0.88	3.3±0.88	3.1±1.14
How much of a problem would I have driving a car if I had to?	4.4±0.73	4.3±0.86	4.6±0.69	4.3±0.81	4.5±0.81	4.3±0.78

How much of a problem do I have in getting help when I'm confused?	3.7±0.87	3.6±0.98	3.9±1.01	3.6±1.03	3.9±1.03	3.6±1.05
How much of a problem do I have in adjusting to unexpected changes?	3.2±0.99	3.1±0.92	3.4±1.03	3.1±0.92	3.3±1.09	3.2±0.96
How much of a problem do I have in handling arguments with people I know well?	3.1±1.07	2.9±1.09	3.2±1.19	2.9±1.01	3.1±0.99	3.2±1.09
How much of a problem do I have in accepting criticism from other people?	3.3±1.06	2.9±0.99	3.3±1.16	3±1.14	3.2±1.14	3.2±1.05
How much of a problem do I have in controlling crying?	4.2±0.91	3.8±1.15	3.9±1.07	3.6±1.34	4.2±1.19	3.9±1.17
How much of a problem do I have in acting appropriately when I'm around friends?	4.1±0.78	3.9±0.92	4±0.79	3.9±0.92	4.1±0.93	3.9±1.22
How much of a problem do I have in showing affection to people?	3±1.1	3±1.09	2.9±0.93	2.8±1.06	2.8±0.95	3±1.06
How much of a problem do I have in participating in group activities?	3±1.07	3.1±1.13	2.9±1.03	3±1.1	3.1±1.03	3.3±1.06
How much of a problem do I have in recognizing when something I say or do has upset someone else?	3.3±0.92	3.1±1.06	3.1±1.13	3±1.07	3.3±1.09	3.4±1.01
How much of a problem do I have in scheduling daily activities?	3.5±0.94	3.2±0.91	3.6±0.83	3.3±1.01	3.5±1.1	3.4±1.01
How much of a problem do I have in understanding new instructions?	3.7±0.88	3.4±0.82	3.8±0.86	3.4±1.1	3.8±0.98	3.5±0.98
How much of a problem do I have in consistently meeting my daily responsibilities?	3.7±0.95	3.3±1.04	3.5±0.92	3.4±1.03	3.6±1.06	3.7±1.11
How much of a problem do I have in controlling my temper when something upsets me?	2.8±0.97	2.7±1.01	2.7±0.9	2.8±0.82	3±1.22	3±1.06
How much of a problem do I have in keeping from being depressed?	3.3±1.12	2.7±1.13	3±0.92	2.8±1.04	3.3±1.4	3.1±1
How much of a problem do I have in keeping my emotions from affecting my ability to go about the day's	3.4±1.07	3±1.2	3.4±1.07	2.9±0.86	3.6±1.21	3.1±1.12

activities?						
How much of a problem do I have in controlling my laughter?	4.3±0.94	4±0.96	4.3±0.86	4±0.9	4.3±0.93	3.9±1.3

Short Form of the PTSD Checklist - Civilian Version (PCL-C)

MIAMI <i>MEAN ± STD</i>	BASELINE <i>N=30</i>	<i>N=30</i>	6 MO <i>N=28</i>	<i>N=29</i>	12 MO <i>N=25</i>	<i>N=29</i>
	STUDY	CONTROL	STUDY	CONTROL	STUDY	CONTROL
How much of a problem do I have in preparing my own meals?	4.1±1.11	4.2±0.96	4±1.07	4.1±1.13	3.8±1.27	3.9±1.08
How much of a problem do I have in dressing myself?	4.4±0.86	4.1±1.14	4.2±1.02	4.2±1.07	4.3±0.79	3.9±1.19
How much of a problem do I have in taking care of my personal hygiene?	4.4±0.81	4.3±0.87	4.1±1.01	4.4±0.82	4±1.04	4.2±1.01
How much of a problem do I have in washing the dishes?	4.3±0.95	4.1±1.17	4±1.12	4.1±1.13	3.7±1.4	3.7±1.16
How much of a problem do I have in doing the laundry?	4.2±0.89	4±1.22	4.1±1.21	4±1.2	3.6±1.41	3.8±1.24
How much of a problem do I have in taking care of my finances?	3.7±1.08	3.6±1.28	3.4±0.88	3.7±1.19	3.6±1.19	3.2±1.3
How much of a problem do I have in keeping appointments on time?	3.1±1.06	3.5±1.07	2.9±0.85	3.5±1.02	3.1±1.09	3.4±1.37
How much of a problem do I have in starting conversation in a group?	2.9±1.26	3.2±1.3	3.2±0.86	2.9±1.27	3±1.12	2.7±1.53
How much of a problem do I have in staying involved in work activities even when bored or tired?	2.6±1.25	2.9±1.38	3.1±1.11	2.8±1.2	3.2±1.23	2.8±1.38
How much of a problem do I have in remembering what I had for dinner last night?	3±1.1	3.3±1.39	3±0.96	3.5±1.15	3.2±1.18	3.3±1.26
How much of a problem do I have in remembering names of people I see often?	2.8±1.16	2.8±1.25	2.9±1.02	3.1±1.06	2.8±0.88	3±1.07
How much of a problem do I have in remembering my daily schedule?	3±1.08	3.1±1.11	3.1±0.86	3.3±1	2.9±0.95	3.2±1.28
How much of a problem do I have in remembering important things I must do?	2.9±1.03	3±1.07	3.1±0.93	3.1±1.1	2.8±0.83	2.9±1.1
How much of a problem would I have driving a car if I had to?	4.2±0.9	4.1±1.07	4.1±0.97	4.2±0.99	4.2±1.01	3.9±1.13
How much of a problem do I have in getting help when	3.3±1.06	3.7±1.18	3.8±0.99	3.8±1.12	3.7±1.03	3.4±1.21

I'm confused?						
How much of a problem do I have in adjusting to unexpected changes?	3.1±1.31	3.4±1.16	3.2±1.1	3.4±1.12	3.2±1.22	3±1.31
How much of a problem do I have in handling arguments with people I know well?	2.6±0.97	3.2±1.44	3±1	3.3±1.11	3.1±1.24	2.9±1.19
How much of a problem do I have in accepting criticism from other people?	3.1±1.23	3.1±1.22	3.1±1.02	3.3±1.17	3.2±1.26	3±1.3
How much of a problem do I have in controlling crying?	3.4±1.3	3.7±1.28	3.3±1.24	3.6±1.27	3.4±1.39	3.6±1.24
How much of a problem do I have in acting appropriately when I'm around friends?	3.8±0.9	3.7±1.23	3.7±0.9	3.5±1.27	3.6±1.08	3.3±1.31
How much of a problem do I have in showing affection to people?	2.7±0.96	2.8±1.16	2.6±1.03	2.5±1.09	2.7±1.11	2.3±1
How much of a problem do I have in participating in group activities?	2.9±0.94	3±1.25	2.8±0.84	2.8±1.02	2.9±1.08	2.4±1.06
How much of a problem do I have in recognizing when something I say or do has upset someone else?	3±1.14	3.1±1.22	3.1±0.94	3±1	3±1.1	3±0.98
How much of a problem do I have in scheduling daily activities?	3.1±1.06	3.2±1.18	3.2±0.98	3.2±1.11	3.3±1.35	3.2±1.1
How much of a problem do I have in understanding new instructions?	3.3±1.03	3.5±1.25	3.6±1.17	3.4±1.09	3.5±1.19	3.4±1.32
How much of a problem do I have in consistently meeting my daily responsibilities?	3.1±0.92	3.3±1.28	3.4±1.03	3.3±1.19	3.5±1.05	3.2±1.02
How much of a problem do I have in controlling my temper when something upsets me?	2.5±0.94	2.7±1.15	2.6±1.06	2.6±1.12	2.6±1.19	2.7±1.14
How much of a problem do I have in keeping from being depressed?	2.5±1.07	2.5±1.01	2.7±1.12	2.6±0.82	2.8±1.15	2.4±0.83
How much of a problem do I have in keeping my emotions from affecting my ability to go about the day's activities?	2.8±1.15	2.9±1.25	2.6±1.23	2.6±1.05	3±1.4	2.6±1.05

~ 28 ~

How much of a problem do I have in controlling my laughter?	4±0.95	4.2±0.89	4.1±0.69	3.9±1.07	4.2±0.87	4±0.94
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Patient Health Questionnaire (PHQ15, PHQ 2, PHQ 8, PHQ 9)

Full PHQ - Used to establish provisional diagnoses for selected DSM-IV disorders

PHQ-9 & PHQ-8 - Depression symptom severity

PHQ-2 – Ultra brief screener

PHQ-15 – Somatoform disorders

TAMPA	Baseline		6 MO		12 MO	
<i>MEAN±STD</i>	<i>N=30</i>	<i>N=29</i>	<i>N=28</i>	<i>N=28</i>	<i>N=26</i>	<i>N=27</i>
Lower Mean is Better	STUDY	CONTROL	STUDY	CONTROL	STUDY	CONTROL
Patient Health Questionnaire 15 Score	11.2±4.23	12.5±5.35	11.3±4.59	12.6±6.12	11.8±5.03	11.8±5.94
Patient Health Questionnaire 2 Score	2.5±1.78	3.2±1.87	2.5±1.6	3.1±1.82	2.2±1.83	2.7±1.8
Patient Health Questionnaire 8 Score	9.3±5.2	10.8±6.58	8.6±4.4	10.4±5.67	8.6±5.97	9.8±6.5
Patient Health Questionnaire 9 Score	9.7±5.59	11.3±7.2	8.9±4.68	10.9±6.22	9±6.44	10.3±6.89
<i>During the last 4 weeks, how much have you been bothered by any of the following problems?</i>						
Stomach pain	0.4±0.57	0.7±0.67	0.6±0.68	0.8±0.77	0.6±0.64	0.7±0.76
Back pain	1.4±0.72	1.5±0.83	1.5±0.69	1.4±0.78	1.6±0.64	1.4±0.79
Pain in your arms, legs, or joints (knees, hips, etc.)	1.5±0.68	1.4±0.78	1.5±0.64	1.3±0.82	1.5±0.71	1.3±0.62
Pain or problems during sexual intercourse	0.5±0.78	0.5±0.69	0.4±0.79	0.6±0.84	0.6±0.81	0.5±0.58
Headaches	1.5±0.68	1.4±0.69	1.4±0.63	1.3±0.76	1.5±0.71	1.3±0.68
Chest pain	0.4±0.49	0.5±0.63	0.4±0.56	0.6±0.69	0.5±0.65	0.4±0.56
Dizziness	0.9±0.66	0.9±0.62	0.7±0.6	1±0.58	0.7±0.69	0.9±0.6
Fainting spells	0.2±0.5	0.2±0.49	0.1±0.26	0.3±0.44	0.3±0.53	0.2±0.48
Feeling your heart pound or race	0.7±0.58	0.9±0.8	0.9±0.45	0.9±0.8	0.6±0.5	0.8±0.64
Shortness of breath	0.5±0.57	0.7±0.65	0.5±0.58	0.8±0.65	0.6±0.58	0.7±0.68
Constipation, loose bowels, or diarrhea	0.5±0.63	0.6±0.73	0.7±0.71	0.6±0.83	0.7±0.67	0.6±0.79
Nausea, gas, or indigestion	0.7±0.66	0.9±0.64	1±0.69	0.9±0.69	1±0.66	0.8±0.68
<i>Over the last 2 weeks, how often have you been bothered by any of the following problems?</i>						
Little interest or pleasure in doing things	1.5±0.94	1.6±1.01	1.4±0.96	1.5±0.92	1.3±1.05	1.4±0.97
Feeling down, depressed, or	1±0.96	1.6±0.99	1.1±0.76	1.5±0.96	0.9±0.95	1.2±1.01

hopeless						
Trouble falling or staying asleep, or sleeping too much	1.2±0.83	1.4±0.82	1±0.88	1.3±0.9	1.2±0.83	1.1±0.85
Feeling tired or having little energy	0.7±0.79	0.9±0.88	0.6±0.73	0.9±0.83	0.7±0.8	1±0.81
Poor appetite or overeating	1.1±0.94	1.1±1.18	1.3±0.98	1.2±1.06	1.2±0.97	1.3±1.24
Feeling bad about yourself, or that you are a failure, or have let yourself or your family down	1.1±1.05	1.6±1.3	1.1±0.83	1.3±1.02	1±1.15	1.3±1.18
Trouble concentrating on things, such as reading the newspaper or watching television	1.7±0.98	1.7±1.22	1.4±0.99	1.5±1	1.6±1.06	1.4±1.12
Moving or speaking so slowly that other people could have noticed? Or the opposite being so fidgety or restless that you have been moving around a lot more than usual	1±0.95	1±1.2	0.7±0.67	1.2±0.98	0.9±0.91	1±1.06
Thoughts that you would be better off dead or of hurting yourself in some way	0.4±0.72	0.5±0.91	0.3±0.6	0.4±0.92	0.4±0.75	0.4±0.8
<i>Over the last 4 weeks, how often have you been bothered by any of the following problems? Feeling nervous, anxious, on edge, or worrying a lot about different things.</i>	1±0.61	1.4±0.57	1.2±0.63	1.4±0.63	1.1±0.69	1.4±0.69
Select the best answer in regards to feeling nervous, anxious, on edge, or worrying a lot about different things over the past 4 weeks.						
Feeling restless so that it is hard to sit still	0.9±0.65	1.3±0.65	0.8±0.55	1±0.49	0.9±0.65	1.1±0.78
Getting tired very easily	1.1±0.72	1.3±0.7	1±0.68	1.2±0.57	1.2±0.68	1.3±0.64
Muscle tension, aches, or soreness	1.5±0.66	1.3±0.67	1.3±0.69	1.4±0.64	1.3±0.72	1.5±0.66

Trouble falling asleep or staying asleep	1.7±0.48	1.7±0.55	1.5±0.59	1.8±0.43	1.6±0.59	1.5±0.59
Trouble concentrating on things, such as reading a book or watching TV	1.4±0.58	1.3±0.7	1.2±0.55	1.5±0.58	1.3±0.73	1.3±0.7
Becoming easily annoyed or irritable	1.5±0.51	1.5±0.58	1.4±0.58	1.4±0.58	1.3±0.66	1.5±0.59
<i>In the last 4 weeks, how much have you been bothered by any of the following problems?</i>						
Worrying about your health	1.1±0.69	1.2±0.77	1.1±0.74	0.8±0.75	1.1±0.56	1±0.78
Your weight or how you look	0.9±0.76	1.2±0.76	1.1±0.71	1±0.74	1.1±0.77	1.3±0.72
Little or no sexual desire or pleasure during sex	1.1±0.83	1±0.91	0.9±0.86	1.1±0.86	0.9±0.84	1.1±0.78
Difficulties with husband/wife, partner/lover or boyfriend/girlfriend	1±0.85	0.9±0.83	1±0.77	0.9±0.74	0.9±0.86	1±0.68
The stress of taking care of children, parents, or other family members	0.6±0.76	0.5±0.63	0.6±0.69	0.6±0.79	0.7±0.69	0.5±0.64
Stress at work outside of the home or at school	0.6±0.67	0.6±0.62	0.7±0.76	0.9±0.85	0.8±0.86	0.8±0.7
Financial problems or worries	0.9±0.64	1±0.87	1.1±0.69	1.3±0.81	1.2±0.78	1±0.71
Having no one to turn to when you have a problem	0.6±0.72	0.8±0.86	0.8±0.65	0.9±0.74	0.7±0.8	0.8±0.79
Something bad that happened recently	0.3±0.55	1±0.87	0.6±0.68	0.9±0.85	0.3±0.63	0.7±0.81
Thinking or dreaming about something terrible that happened to you in the past like your house being destroyed, a severe accident, being hit or assaulted, or being forced to commit a sexual act	0.8±0.7	1.1±0.84	0.9±0.83	0.9±0.85	0.7±0.75	0.8±0.79

Patient Health Questionnaire (PHQ15, PHQ 2, PHQ 8, PHQ 9)

MIAMI <i>MEAN±STD</i> Lower Mean is Better	Baseline <i>N=30</i>	<i>N=30</i>	6 MO <i>N=28</i>	<i>N=29</i>	12 MO <i>N=25</i>	<i>N=29</i>
	STUDY	CONTROL	STUDY	CONTROL	STUDY	CONTROL
Patient Health Questionnaire 15 Score	14.1±4.86	13.5±7	14.2±4.55	12.9±6.59	13.8±5.86	13±7.54
Patient Health Questionnaire 2 Score	4.1±1.86	4±1.77	3.4±1.77	3.7±1.7	3.3±1.77	3.4±1.68
Patient Health Questionnaire 8 Score	14.5±6.3	12.7±5.71	13.3±5.05	12±5.71	12±5.56	11.6±6.43
Patient Health Questionnaire 9 Score	15.2±6.83	13.3±6.39	13.7±5.38	12.7±6.22	12.6±5.85	12.3±7.05
<i>During the last 4 weeks, how much have you been bothered by any of the following problems?</i>						
Stomach pain	0.5±0.68	0.7±0.83	0.7±0.71	0.6±0.63	0.7±0.74	0.6±0.69
Back pain	1.5±0.73	1.4±0.77	1.5±0.69	1.6±0.68	1.5±0.71	1.5±0.63
Pain in your arms, legs, or joints (knees, hips, etc.)	1.5±0.51	1.5±0.73	1.5±0.51	1.4±0.78	1.5±0.59	1.4±0.73
Pain or problems during sexual intercourse	0.5±0.68	0.9±0.9	0.6±0.78	0.8±0.8	0.5±0.77	0.9±0.84
Headaches	1.6±0.56	1.4±0.77	1.6±0.57	1.4±0.68	1.5±0.65	1.2±0.74
Chest pain	0.7±0.74	0.4±0.67	0.6±0.74	0.3±0.61	0.7±0.79	0.5±0.69
Dizziness	0.9±0.52	0.8±0.73	1.1±0.6	0.8±0.62	0.9±0.6	0.7±0.7
Fainting spells	0.5±0.63	0.3±0.6	0.4±0.5	0.4±0.57	0.5±0.71	0.3±0.54
Feeling your heart pound or race	0.9±0.64	1.1±0.76	1±0.67	0.8±0.73	1±0.71	1±0.8
Shortness of breath	0.8±0.81	0.7±0.69	0.9±0.76	0.7±0.72	0.8±0.69	0.8±0.77
Constipation, loose bowels, or diarrhea	0.9±0.78	0.6±0.89	0.9±0.86	0.8±0.86	0.8±0.8	0.8±0.85
Nausea, gas, or indigestion	0.9±0.73	0.8±0.9	1±0.69	0.9±0.92	0.8±0.78	1±0.85
<i>Over the last 2 weeks, how often have you been bothered by any of the following problems?</i>						
Little interest or pleasure in doing things	2.2±0.95	2.1±0.92	1.8±0.89	1.9±0.95	1.7±0.95	1.8±0.9
Feeling down, depressed, or hopeless	1.9±0.98	1.9±0.94	1.7±0.9	1.8±0.86	1.6±0.91	1.6±0.87
Trouble falling or staying asleep, or sleeping too much	1.4±0.77	1.5±0.73	1.3±0.89	1.4±0.78	1.3±0.74	1.1±0.92

Feeling tired or having little energy	1.4±0.81	1.2±0.77	1.1±0.79	0.9±0.92	1.2±0.71	1±0.87
Poor appetite or overeating	2.1±0.98	1.7±1.14	2±1.1	1.7±1.19	1.9±0.95	1.6±1.18
Feeling bad about yourself, or that you are a failure, or have let yourself or your family down	1.9±1.14	1.7±1.15	1.9±0.86	1.6±0.95	1.8±1	1.6±1.02
Trouble concentrating on things, such as reading the newspaper or watching television	2.2±0.96	1.6±1.07	2.2±0.88	1.7±1.07	1.6±0.91	1.7±1.07
Moving or speaking so slowly that other people could have noticed? Or the opposite being so fidgety or restless that you have been moving around a lot more than usual	1.4±1.13	0.9±1.06	1.4±0.96	1±1.15	1±1.02	1.2±1.21
Thoughts that you would be better off dead or of hurting yourself in some way	0.7±1.09	0.6±1	0.4±0.79	0.7±0.94	0.5±0.65	0.7±0.96
Over the last 4 weeks, how often have you been bothered by any of the following problems? Feeling nervous, anxious, on edge, or worrying a lot about different things.	1.5±0.57	1.5±0.63	1.3±0.6	1.4±0.5	1.4±0.57	1.3±0.67
Select the best answer in regards to feeling nervous, anxious, on edge, or worrying a lot about different things over the past 4 weeks.						
Feeling restless so that it is hard to sit still	1.3±0.65	1.4±0.63	1.1±0.63	1±0.82	1±0.59	1.3±0.68
Getting tired very easily	1.5±0.57	1.3±0.71	1.2±0.59	1.1±0.69	1.3±0.62	1.2±0.82
Muscle tension, aches, or soreness	1.6±0.63	1.4±0.69	1.3±0.69	1.3±0.7	1.3±0.7	1.3±0.75
Trouble falling asleep or staying asleep	1.8±0.44	1.9±0.36	1.6±0.58	1.5±0.74	1.7±0.46	1.6±0.58
Trouble concentrating on	1.6±0.57	1.4±0.73	1.5±0.58	1.3±0.72	1.4±0.72	1.4±0.7

things, such as reading a book or watching TV						
Becoming easily annoyed or irritable	1.6±0.49	1.7±0.55	1.6±0.5	1.4±0.68	1.5±0.66	1.6±0.5
<i>In the last 4 weeks, how much have you been bothered by any of the following problems?</i>						
Worrying about your health	1.3±0.71	1.2±0.76	1.4±0.63	1.2±0.76	1.4±0.65	1.2±0.8
Your weight or how you look	1.3±0.8	1.3±0.84	1.5±0.69	1.3±0.81	1.4±0.7	1.3±0.86
Little or no sexual desire or pleasure during sex	1.1±0.66	1.1±0.94	1.1±0.81	1.2±0.82	1±0.82	1.3±0.8
Difficulties with husband/wife, partner/lover or boyfriend/girlfriend	1.1±0.84	1.4±0.81	1.3±0.8	1.3±0.72	1.2±0.83	1.3±0.75
The stress of taking care of children, parents, or other family members	1.1±0.84	1.2±0.85	1.2±0.61	1.1±0.7	0.9±0.76	1.1±0.74
Stress at work outside of the home or at school	1.1±0.68	1±0.89	1±0.74	1.2±0.77	0.8±0.8	1.3±0.7
Financial problems or worries	1.5±0.57	1.3±0.71	1.5±0.58	1.3±0.66	1.3±0.75	1.4±0.63
Having no one to turn to when you have a problem	1.1±0.69	1.2±0.86	1.1±0.77	1.4±0.78	1.2±0.75	1.2±0.73
Something bad that happened recently	0.8±0.75	0.7±0.8	0.8±0.74	0.9±0.77	0.8±0.87	0.9±0.79
Thinking or dreaming about something terrible that happened to you in the past like your house being destroyed, a severe accident, being hit or assaulted, or being forced to commit a sexual act	1±0.79	1.1±0.9	1±0.79	1.3±0.84	1.2±0.75	1.2±0.82

Mayo-Portland Adaptability Inventory-4 (Tampa)

Mean ± STD	BASELINE		6 MO		12 MO	
	N=30 STUDY	N=29 CONTROL	N=28 STUDY	N=28 CONTROL	N=26 STUDY	N=27 CONTROL
MPAI-4: Ability Index Score	17.2±9.39	17.4±10.06	15.9±8.47	16.1±8.37	15.5±8.55	16.2±10.52
MPAI-4: Adjustment Index Score	21±9.7	24.3±10.69	20.1±8.54	23.1±9.78	19.7±8.93	22±11.49
MPAI-4: Participation Index Score	8±6.39	9.9±7.28	8.1±5.36	9.2±5.81	8.5±5.72	9±5.89
MPAI-4: Total Score	41±20.92	46±22.63	39±18.08	42.9±18.82	38.6±18.76	41.9±22.63
MPAI-4: Total T-Score	50.7±7.85	52.5±8.39	50.3±6.37	51.4±7.42	50±7	51.1±8.56
MPAI-4: Ability Index T-Score	50.2±9.43	49.7±11.08	49.3±7.79	48.9±9.55	48.7±8.39	49±10.66
MPAI-4: Adjustment Index T-Score	52.7±8.29	55.8±9.25	52.4±6.95	54.6±8.15	51.8±7.43	52.9±11.95
MPAI-4: Participation Index T-Score	40.8±15.25	44.4±15.78	42.1±12.42	43.3±14.67	43.7±10.63	42.6±14.74
Mobility: Problems walking or moving; balance problems that interfere with moving about.	1.6±1.22	1.7±1.2	1.6±1.1	1.6±1.2	1.8±1.27	1.4±1.18
Use of hands: Impaired strength or coordination in one or both hands	1±1.25	1.1±1.25	0.6±0.87	0.9±1.02	0.8±1.19	0.9±1.23
Vision: Problems seeing; double vision; eye, brain, or nerve injuries that interfere with seeing	1±1	1.4±1.21	0.9±1.02	1.2±0.94	1.2±1.08	1.3±0.94
Audition: Problems hearing; ringing in the ears	1.8±1.19	1.7±1.07	1.9±1.21	1.6±0.92	1.8±1.18	1.9±1.1
Dizziness: Feeling unsteady, dizzy, light-headed	1.4±1.13	1.4±1.09	1.4±1.23	1.5±1.07	1.2±1.07	1.4±1.08
Motor speech: Abnormal clearness or rate of speech; stuttering	1±1.07	0.8±0.99	0.9±0.88	0.8±0.92	0.7±0.94	0.9±1.05
Verbal communication: Problems expressing or understanding language	0.9±1.06	0.8±0.94	0.8±0.99	0.8±0.79	0.8±1.02	0.9±1.06
Nonverbal communication: Restricted or unusual gestures or facial expressions; talking too much or not enough; missing nonverbal cues from others	1±1.08	0.9±1.07	1±1.14	0.8±1.02	0.6±0.9	1.1±1.21
Attention/Concentration: Problems ignoring distractions, shifting attention, keeping more than one thing in mind at a time	2.5±1.17	2.2±1.32	2.1±0.99	2.1±1.17	2.2±1.19	1.9±1.27
Memory: Problems learning	2.4±1.22	2.3±1.14	2.3±1.17	2.3±1.08	2.3±1	2.3±1.23

and recalling new information						
Fund of Information: Problems remembering information learned in school or on the job; difficulty remembering information about self and family from years ago	2±1.1	2±1.4	1.8±1.2	1.8±1.11	1.6±1.13	1.7±1.18
Novel problem-solving: Problems thinking up solutions or picking the best solution to new problems	1.3±1.09	1.4±1.21	1.2±1.03	1.1±0.98	1±1.15	1.2±1.12
Visuospatial abilities: Problems drawing, assembling things, route-finding, being visually aware on both the left and right sides	0.8±1.03	1±1.15	0.6±0.95	0.9±0.94	0.7±0.96	1±1.07
Anxiety: Tense, nervous, fearful, phobias, nightmares, flashbacks of stressful events	2.4±1.16	2.9±1.08	2.2±1.26	2.8±0.8	2.4±0.99	2.6±0.89
Depression: Sad, blue, hopeless, poor appetite, poor sleep, worry, self-criticism	2.1±1.14	2.5±1.24	1.9±0.99	2.5±0.92	1.8±1.27	2.3±1.26
Irritability, anger, aggression: Verbal or physical expressions of anger	2.3±1.12	2.5±1.27	2±1.09	2.4±0.92	2±1.34	2.1±1.12
Pain and headache: Verbal and nonverbal expressions of pain; activities limited by pain	2.8±1.04	2.9±0.94	2.2±1.1	2.4±1.23	2.6±1.2	2.2±1.27
Fatigue: Feeling tired; lack of energy; tiring easily	2.1±1.25	2.6±1.18	1.9±1.09	2.3±0.98	1.7±1.12	2.3±1.3
Sensitivity to mild symptoms: Focusing on thinking, physical or emotional problems attributed to brain injury; rate only how concern or worry about these symptoms affects current functioning over and above the effects of the symptoms themselves	1.9±1.11	2.2±1.18	1.7±1.06	1.8±1.13	1.8±1.06	2±1.16
Inappropriate social interaction: Acting childish, silly, rude, behavior not fitting for time and place	1±0.93	1.3±1.39	1.3±1	1.3±1.16	0.9±1.06	1.3±1.26
Impaired self-awareness: Lack of recognition of personal limitations and disabilities and how they interfere with everyday activities and work or school	1.1±1.05	1.3±1.46	1.3±1.17	1.3±1.12	0.9±1.06	1.2±1.12

Family/significant relationships: Interactions with close others; describe stress within the family or those closest to the person with brain injury; “family functioning” means cooperating to accomplish those tasks that need to be done to keep the household...	1.7±1.06	1.7±1.31	1.5±1.07	1.8±1.08	1.5±1.3	1.7±1.32
Initiation: Problems getting started on activities without prompting	1.4±1.38	1.6±1.18	1.5±1.11	1.7±1.15	1.3±1.13	1.4±1.15
Social contact with friends, work associates, and other people who are not family, significant others, or professionals	1.7±1.23	1.9±1.41	1.9±1.17	2±1.28	1.8±1.17	2±1.4
Leisure and recreational activities	2±1.35	2.1±1.36	1.7±1.06	1.8±1.4	1.9±1.26	1.8±1.42
Self-care: Eating, dressing, bathing, hygiene	0.5±0.86	0.6±0.9	0.4±0.79	0.5±0.64	0.4±0.81	0.6±0.85
Residence: Responsibilities of independent living and homemaking (such as, meal preparation, home repairs and maintenance, personal health maintenance beyond basic hygiene including medication management) but NOT including managing money	0.6±1.07	0.7±1.25	0.9±1.08	0.7±0.85	0.8±1.33	0.6±0.88
Transportation	0.3±0.7	0.6±0.9	0.3±0.44	0.5±0.88	0.2±0.43	0.4±0.74
PAID EMPLOYMENT: Select the best answer which describes your paid employment. Support means special help from another person with responsibilities (such as, a job coach or shadow, tutor, helper) or reduced responsibilities. Modifications to the physical	0.9±1.56	0.7±1.32	1±1.59	1.3±1.7	1±1.5	0.6±1.36
OTHER EMPLOYMENT: Involved in constructive, role-appropriate activity other than paid employment such as child rearing/care-giving homemaker, no childrearing or care-giving, Student Volunteer or Retired. Support means special help from another person with	2±1.87	2.4±1.82	1.3±1.72	1.5±1.68	2.3±1.75	2.7±1.49

Managing money and finances: Shopping, keeping a check book or other bank account, managing personal income and investments; if independent with small purchases but not able to manage larger personal finances or investments, rate 3 or 4.	0.9±1.24	1.5±1.38	0.9±1.13	1.3±1.08	1.1±1.26	1.4±1.21
Pre-injury Alcohol use: Use of alcoholic beverages.	0.4±0.93	0.7±0.84	0.4±0.57	0.6±0.84	0.4±0.58	0.4±0.64
Post-injury Alcohol use: Use of alcoholic beverages.	0.6±0.72	0.9±0.96	0.9±0.92	0.9±1.21	0.8±0.86	0.9±1.13
Pre-injury Drug use: Use of illegal drugs or abuse of prescription drugs.	0.1±0.51	0±0.19	0.2±0.5	0±0	0±0.2	0±0.19
Post-injury Drug use: Use of illegal drugs or abuse of prescription drugs.	0.2±0.61	0.2±0.79	0.2±0.39	0.3±0.53	0.1±0.27	0.3±0.81
Pre-injury Psychotic Symptoms: Hallucinations, delusions, other persistent severely distorted perceptions of reality.	0±0.18	0.2±0.68	0.3±0.8	0.2±0.5	0.2±0.82	0.1±0.6
Post-injury Psychotic Symptoms: Hallucinations, delusions, other persistent severely distorted perceptions of reality.	0.9±1.07	1.1±1.29	0.8±1.04	1±1.1	0.6±0.94	1±1.27
Pre-injury Law violations: History before and after injury.	0±0.18	0.1±0.41	0±0.19	0.2±0.61	0.1±0.43	0.1±0.42
Post-injury Law violations: History before and after injury.	0.2±0.63	0.2±0.62	0.2±0.63	0.3±0.65	0.2±0.65	0.3±0.78
Pre-injury - Other condition causing physical impairment: Physical disability due to medical conditions other than brain injury, such as, spinal cord injury, amputation.	0.2±0.57	0.4±0.86	0.2±0.55	0.3±0.72	0.3±0.98	0.2±0.7
Post-injury - Other condition causing physical impairment: Physical disability due to medical conditions other than brain injury, such as, spinal cord injury, amputation.	1.7±1.32	1.6±1.38	1.6±1.26	1.7±1.51	1.7±1.49	1.7±1.39
Pre-injury - Other condition causing cognitive impairment: Cognitive disability due to non-psychiatric medical conditions other than brain injury, such as, dementia, stroke, developmental	0.1±0.43	0.2±0.68	0.1±0.26	0.2±0.57	0.2±0.86	0.1±0.42

disability.						
Post-injury - Other condition causing cognitive impairment: Cognitive disability due to non-psychiatric medical conditions other than brain injury, such as, dementia, stroke, developmental disability.	0.4±0.72	0.8±1.18	1±1.2	0.8±1.1	0.7±0.93	0.6±0.93

Mayo-Portland Adaptability Inventory-4 (Miami)

Mean ± STD	BASELINE N=30 STUDY	N=29 CONTROL	6 MO N=28 STUDY	N=28 CONTROL	12 MO N=26 STUDY	N=27 CONTROL
MPAI-4: Ability Index Score	18.7±9.81	17.5±10.76	18.4±8.74	16.7±10.49	17.2±10.59	16.9±12.43
MPAI-4: Adjustment Index Score	27.3±10.25	25.1±12.19	24.9±10.14	25.8±11.94	24.6±11.14	24.9±13.16
MPAI-4: Participation Index Score	10.8±6.55	10±7.48	10.3±6.21	11±7.71	10±7.44	11.1±8.45
MPAI-4: Total Score	50.4±22.19	46.8±24.66	47.7±20.55	47.2±24.97	46.1±24.86	47±29.07
MPAI-4: Total T-Score	54.1±8.19	52.7±9.15	53.2±7.73	52.6±10.24	52.3±10.08	52±12.31
MPAI-4: Ability Index T-Score	51.6±9.22	50.1±11.19	51.3±8.3	48.1±13.37	49.6±11.72	48.1±14.9
MPAI-4: Adjustment Index T-Score	58.1±8.71	56.4±11.83	56.2±9.34	56.3±12.86	55.8±9.71	56.1±11.86
MPAI-4: Participation Index T-Score	47±12.64	45.1±16.68	45.9±14.06	47.7±15.94	45.4±16.93	45.6±19.53
Mobility: Problems walking or moving; balance problems that interfere with moving about.	1.5±1.17	1.5±1.43	1.6±1.17	1.5±1.27	1.3±1.07	1.4±1.35
Use of hands: Impaired strength or coordination in one or both hands	0.9±0.94	0.8±1.25	1.1±1.12	1.1±1.19	0.9±1.19	1±1.15
Vision: Problems seeing; double vision; eye, brain, or nerve injuries that interfere with seeing	0.9±1.03	0.9±1.17	0.9±0.9	0.9±1.16	1±1.08	0.9±1.13
Audition: Problems hearing; ringing in the ears	2.5±1.17	2.3±1.32	2.1±1.18	2.1±1.28	1.8±1.34	1.9±1.35
Dizziness: Feeling unsteady, dizzy, light-	1.6±1.1	1.7±1.06	1.6±0.91	1.2±1.11	1.3±1.07	1.2±1.09

headed						
Motor speech: Abnormal clearness or rate of speech; stuttering	1.1±0.99	0.9±1.08	0.9±0.86	0.8±0.94	0.9±1.17	1.1±1.18
Verbal communication: Problems expressing or understanding language	1.2±1.1	1.1±1.16	1.3±0.84	1±1.09	1.2±1.25	1.1±1.22
Nonverbal communication: Restricted or unusual gestures or facial expressions; talking too much or not enough; missing nonverbal cues from others	1.2±1.22	1.1±1.06	1.1±0.98	0.7±1.04	1±1.26	1.1±1.31
Attention/Concentration: Problems ignoring distractions, shifting attention, keeping more than one thing in mind at a time	2.6±1.14	2.3±1.21	2.3±1	2.2±1.21	2.3±1.14	2.3±1.34
Memory: Problems learning and recalling new information	2.5±1.22	2.4±1.33	2.6±1.23	2.3±1.34	2.4±1.25	2.2±1.43
Fund of Information: Problems remembering information learned in school or on the job; difficulty remembering information about self and family from years ago	2.2±1.22	1.9±1.48	2.4±0.99	2±1.39	2.1±1.26	1.9±1.45
Novel problem-solving: Problems thinking up solutions or picking the best solution to new problems	1.4±1.19	1.5±1.41	1.3±1.09	1.6±1.24	1.5±1.29	1.3±1.34
Visuospatial abilities: Problems drawing, assembling things, route-finding, being visually aware on both the left and right sides	0.9±1.3	0.8±1.03	1.1±1.31	1±1.24	1±1.26	1.2±1.23
Anxiety: Tense, nervous, fearful, phobias, nightmares, flashbacks of stressful events	3±1.03	3±1.17	2.6±1.17	2.9±1.16	2.7±1.17	2.6±1.24
Depression: Sad, blue, hopeless, poor appetite, poor sleep, worry, self- criticism	2.7±1.11	2.7±1.02	2.6±1.13	2.7±1.07	2.6±1.23	2.6±1.3

Irritability, anger, aggression: Verbal or physical expressions of anger	2.9±1.06	2.8±1.12	2.5±1.17	2.7±1.26	2.8±1.14	2.6±1.24
Pain and headache: Verbal and nonverbal expressions of pain; activities limited by pain	2.9±1.14	2.5±1.22	2.5±1.1	2.4±1.15	2.6±1.12	2.3±1.4
Fatigue: Feeling tired; lack of energy; tiring easily	2.8±1.02	2.5±1.14	2.5±0.92	2.3±1.26	2.6±0.95	2.3±1.39
Sensitivity to mild symptoms: Focusing on thinking, physical or emotional problems attributed to brain injury; rate only how concern or worry about these symptoms affects current functioning over and above the effects of the symptoms themselves	2.4±1.25	2.1±1.41	2.2±1.16	2.3±1.32	2±1.26	2.1±1.44
Inappropriate social interaction: Acting childish, silly, rude, behavior not fitting for time and place	1.4±1.3	1.4±1.38	1.5±1.14	1.3±1.46	1.5±1.08	1.7±1.53
Impaired self-awareness: Lack of recognition of personal limitations and disabilities and how they interfere with everyday activities and work or school	1.5±1.36	1.4±1.45	1.5±1.23	1.5±1.4	1.4±1.32	1.7±1.49
Family/significant relationships: Interactions with close others; describe stress within the family or those closest to the person with brain injury; “family functioning” means cooperating to accomplish those tasks that need to be done to keep the household...	2.6±0.93	2±1.45	2.1±1.03	2.1±1.41	1.7±1.28	2±1.38
Initiation: Problems getting started on activities without prompting	1.9±1.34	1.9±1.31	1.9±1.15	2.2±1.34	1.6±1.19	1.9±1.37

Social contact with friends, work associates, and other people who are not family, significant others, or professionals	2.1±1.38	2±1.6	2.1±1.35	2.1±1.4	2.2±1.3	2.1±1.46
Leisure and recreational activities	2.3±1.45	1.8±1.44	2±1.37	2±1.43	1.9±1.41	1.8±1.47
Self-care: Eating, dressing, bathing, hygiene	0.5±0.94	0.7±1.08	0.8±1.04	0.9±1.36	0.8±1.09	1.2±1.37
Residence: Responsibilities of independent living and homemaking (such as, meal preparation, home repairs and maintenance, personal health maintenance beyond basic hygiene including medication management) but NOT including managing money	0.9±1.11	1±1.27	1±1.17	1±1.48	0.8±1.19	1.4±1.48
Transportation	0.4±0.96	0.5±0.9	0.5±1	1±1.39	0.8±1.35	0.9±1.28
PAID EMPLOYMENT: Select the best answer which describes your paid employment. Support means special help from another person with responsibilities (such as, a job coach or shadow, tutor, helper) or reduced responsibilities. Modifications to the physical	1.7±1.74	1.3±1.73	0.9±1.61	1.3±1.65	1.4±1.78	0.5±1.07
OTHER EMPLOYMENT: Involved in constructive, role-appropriate activity other than paid employment such as child rearing/care-giving homemaker, no childrearing or care-giving, Student Volunteer or Retired. Support means special help from another person with	2.1±1.68	2±1.75	2±2.09	1.5±1.29	1.7±2	2.4±1.51

Managing money and finances: Shopping, keeping a check book or other bank account, managing personal income and investments; if independent with small purchases but not able to manage larger personal finances or investments, rate 3 or 4.	1.4±1.59	1.1±1.22	1.3±1.42	1.4±1.48	1.2±1.55	1.4±1.4
Pre-injury Alcohol use: Use of alcoholic beverages.	0.3±0.53	0.4±0.81	0.4±0.63	0.5±0.87	0.5±0.77	0.1±0.44
Post-injury Alcohol use: Use of alcoholic beverages.	0.7±1.02	1±1.19	0.8±1.26	0.6±0.82	0.5±0.71	0.9±0.99
Pre-injury Drug use: Use of illegal drugs or abuse of prescription drugs.	0±0.18	0.1±0.55	0.1±0.42	0±0.19	0±0.2	0.1±0.37
Post-injury Drug use: Use of illegal drugs or abuse of prescription drugs.	0±0.18	0.1±0.25	0.3±0.84	0.1±0.31	0.1±0.44	0.1±0.35
Pre-injury Psychotic Symptoms: Hallucinations, delusions, other persistent severely distorted perceptions of reality.	0.2±0.66	0.1±0.73	0.2±0.67	0.2±0.77	0.2±0.62	0.1±0.52
Post-injury Psychotic Symptoms: Hallucinations, delusions, other persistent severely distorted perceptions of reality.	0.5±0.94	0.8±1.3	0.4±1.03	0.7±0.93	0.4±0.87	1±1.21
Pre-injury Law violations: History before and after injury.	0.2±0.59	0±0	0.1±0.57	0.1±0.37	0±0	0±0
Post-injury Law violations: History before and after injury.	0.1±0.31	0.4±0.67	0.2±0.39	0.2±0.38	0.2±0.5	0.4±0.78
Pre-injury - Other condition causing physical impairment: Physical disability due to medical conditions other than brain injury, such as, spinal cord	0.1±0.43	0.3±0.69	0.3±0.8	0.4±1.09	0.3±0.74	0±0

injury, amputation.						
Post-injury - Other condition causing physical impairment: Physical disability due to medical conditions other than brain injury, such as, spinal cord injury, amputation.	1.5±1.38	1.4±1.45	1.3±1.44	1.6±1.38	1.8±1.25	1.4±1.57
Pre-injury - Other condition causing cognitive impairment: Cognitive disability due to non-psychiatric medical conditions other than brain injury, such as, dementia, stroke, developmental disability.	0±0.18	0.2±0.53	0.2±0.79	0.3±0.75	0.2±0.66	0.2±0.83
Post-injury - Other condition causing cognitive impairment: Cognitive disability due to non-psychiatric medical conditions other than brain injury, such as, dementia, stroke, developmental disability.	0.8±1.19	1.2±1.47	0.9±1.36	0.9±1.35	1.4±1.47	1.1±1.42

The Alcohol Use Disorders Identification Test: (AUDIT/Tampa)

<i>MEAN ± STD</i> <i>Lower Mean denotes better outcome</i>	BASELINE <i>N=30</i> STUDY	<i>N=29</i> CONTROL	6 MO <i>N=28</i> STUDY	<i>N=28</i> CONTROL	12 MO <i>N=26</i> STUDY	<i>N=27</i> CONTROL
AUDIT SCORE	7.4±6.94	8±8	6.5±5.5	8.2±8.15	5.7±3.84	7.4±7.88
How often do you have a drink containing alcohol?	0.3±0.92	0.3±0.77	0.1±0.38	0.4±1.14	0±0	0.4±1.11
How many alcoholic drinks do you have on a typical day when you are drinking?	1.1±1.72	0.6±1.32	0.8±1.47	0.9±1.49	0.6±1.24	0.6±1.45
How often do you have 6 or more drinks on one occasion?	1.1±1.27	1.3±1.39	1±0.87	1.2±1.18	1.1±1.08	1.2±1.12
How often during the past year have you found that you drank more or for a longer time than you intended?	0.9±1.31	1±1.2	0.8±0.91	1±1.17	0.7±0.96	1±1.11
How often during the past year have you failed to do what was normally expected of you because of your drinking?	0.4±0.86	0.5±0.87	0.3±0.75	0.5±0.96	0.3±0.76	0.6±0.77
How often during the past year have you had a drink in the morning to get yourself going after a heavy drinking session?	0±0.18	0.4±1.09	0.2±0.47	0.3±0.84	0±0.2	0.4±0.96
How often during the past year have you felt guilty or remorseful after drinking?	0.4±0.86	0.7±1.23	0.4±0.64	0.6±1.08	0.3±0.53	0.7±1.06
How often during the past year have you been unable to remember what happened the night before because of your drinking?	0.4±0.86	0.6±1.01	0.4±0.76	0.8±1.13	0.3±0.53	0.6±1.07
Have you or anyone else been injured as a result of your drinking?	1.2±0.46	1.2±0.38	1±0.19	1.2±0.57	1±0	1.2±0.56
Has a relative, friend, doctor, or health care worker been concerned about your drinking, or suggested that you cut down?	1.6±0.86	1.3±0.66	1.4±0.74	1.5±0.74	1.3±0.62	1.3±0.72

The Alcohol Use Disorders Identification Test: (AUDIT/Miami)

<i>MEAN ± STD</i> <i>Lower Mean denotes better outcome</i>	BASELINE N=30 STUDY	N=30 CONTROL	6 MO N=28 STUDY	N=29 CONTROL	12 MO N=25 STUDY	N=29 CONTROL
AUDIT SCORE	7.8±6.28	6.8±5.74	9.2±5.71	7.1±5.63	6.3±4.43	6.5±6.67
How often do you have a drink containing alcohol?	0.3±0.76	0.2±0.61	0.4±0.78	0.1±0.37	0.2±0.66	0±0
How many alcoholic drinks do you have on a typical day when you are drinking?	0.8±1.45	1.1±1.64	0.9±1.38	0.8±1.36	0.4±1	0.7±1.34
How often do you have 6 or more drinks on one occasion?	1±1.07	1±1.08	1.4±1.01	1±1.13	1±0.85	1±1.11
How often during the past year have you found that you drank more or for a longer time than you intended?	1±0.91	0.8±0.82	0.8±0.83	0.8±1.1	0.8±0.86	0.7±0.99
How often during the past year have you failed to do what was normally expected of you because of your drinking?	0.6±0.74	0.3±0.64	0.6±0.83	0.4±0.7	0.1±0.35	0.4±0.73
How often during the past year have you had a drink in the morning to get yourself going after a heavy drinking session?	0.2±0.51	0.1±0.57	0.5±0.96	0.2±0.49	0.3±0.46	0.2±0.75
How often during the past year have you felt guilty or remorseful after drinking?	0.7±0.85	0.3±0.53	0.8±1.13	0.5±0.81	0.5±0.99	0.4±0.8
How often during the past year have you been unable to remember what happened the night before because of your drinking?	0.6±0.98	0.4±0.68	0.5±0.61	0.6±1.06	0.3±1.05	0.5±0.8
Have you or anyone else been injured as a result of your drinking?	1.2±0.38	1.1±0.31	1.2±0.39	1±0.19	1.1±0.33	1±0
Has a relative, friend, doctor, or health care worker been concerned about your drinking, or suggested that you cut down?	1.4±0.72	1.5±0.82	1.4±0.69	1.4±0.68	1.2±0.5	1.3±0.67

Craig Handicap Assessment and Reporting Technique - Short Form (CHART-SF/Tampa)

<i>Mean ± STD</i> Higher Mean denotes better outcomes	Baseline <i>N=30</i>	<i>N=29</i>	6 MO <i>N=28</i>	<i>N=28</i>	12 MO <i>N=26</i>	<i>N=27</i>
	STUDY	CONTROL	STUDY	CONTROL	STUDY	CONTROL
Cognitive Independence	77.5±26.27	69.9±28.65	73.2±26.26	62.9±30.26	74.7±29.75	70.7±26.35
Economic Self Sufficiency	81.4±25.9	83.3±26.26	82.7±24.27	86.7±25.67	80.4±29.17	77.4±22.75
Mobility	88.8±15.34	85.6±19.51	86.3±18.62	85.6±16.96	88.3±14.1	87.1±19.11
Occupation	83.1±29.79	75.4±35.05	81.7±29.11	72.9±36.43	85.4±26.68	82.2±30.96
Physical Independence	89.6±25.22	81.7±39.27	86.1±25.57	95.4±13.1	89.2±21.67	83.9±29.4
Social Integration	82.4±21.06	79.3±25.22	83.7±18.62	74.1±27.04	85.2±19.64	76.4±25.93

Craig Handicap Assessment and Reporting Technique - Short Form (CHART-SF/Miami)

<i>Mean ± STD</i> Better outcome	Baseline <i>N=30</i>	<i>N=30</i>	6 MO <i>N=28</i>	<i>N=29</i>	12 MO <i>N=25</i>	<i>N=29</i>
	STUDY	CONTROL	STUDY	CONTROL	STUDY	CONTROL
Cognitive Independence	76.4±25.16	74.4±28.79	73.3±27.87	62.9±32.15	73±32.57	64.4±30.35
Economic Self Sufficiency	71.5±31.94	82.1±22.89	74.4±29.3	82.1±18.82	69.6±30.06	82.1±25.7
Mobility	84.5±22.92	84.6±18.67	80.4±24.47	74.7±25.75	79.2±20.46	77.4±22.5
Occupation	77.2±35.24	79.1±35.63	72.6±34.62	86.3±32.36	73.7±38.23	81.8±34.98
Physical Independence	87.6±23.68	85.9±26.78	86±41.75	79.3±40.53	51.2±126.71	68.6±58.61
Social Integration	75.5±28.64	77.2±30.77	72.8±27.23	71.4±29.41	68.3±31.47	73.6±31.42

Short PTSD Rating Interview (SPRINT/Tampa)

<i>MEAN ± STD</i> <i>Lower Mean denotes better outcome</i>	BASELINE <i>N=30</i> STUDY	<i>N=29</i> CONTROL	6 MO <i>N=28</i> STUDY	<i>N=28</i> CONTROL	12 MO <i>N=26</i> STUDY	<i>N=27</i> CONTROL
SPRINT SCORE	17.9±8.12	20±7.49	17±5.57	18.6±7.56	18±5.67	17.9±8.71
How much have you been bothered by unwanted memories, nightmares, or reminders of the event?	1.7±1.18	2.2±1.24	1.6±1.14	2±1.23	1.6±1.17	1.9±1.34
How much effort have you made to avoid thinking or talking about the event, or doing things which remind you of what happened?	1.9±1.43	2.3±1.32	2±1.32	2±1.25	1.7±1.26	2±1.54
To what extent have you lost enjoyment for things, kept your distance from people, or found it difficult to experience feelings?	2.1±1.22	2.4±1.21	2±1.02	2.3±1.21	2.1±1.2	2±1.37
How much have you been bothered by poor sleep, poor concentration, jumpiness, irritability, or feeling watchful around you?	2.9±1.09	3±1.05	2.8±0.92	2.7±1.21	2.7±1.08	2.8±1.36
How much have you been bothered by pain, aches, or tiredness?	2.8±1.13	3±0.96	2.6±0.88	2.7±1.15	3.1±0.89	2.7±1.35
How much would you get upset when stressful events or setbacks happen to you?	2.4±1.25	2.4±1.09	1.8±1	2.2±1.16	2.2±0.95	2.4±1.31
How much have the above symptoms interfered with your ability to work or carry out daily activities?	2±1.27	2.1±1.25	2±1	2.3±1.22	2.4±1.17	1.9±1.3
How much have the above symptoms interfered with your relationships with family or friends?	2.1±1.35	2.4±1.24	2.4±1.07	2.4±1.22	2.2±1.02	2±1.22
How much have the above symptoms improved since starting treatment? (<i>Higher Mean is better</i>)	3.4±2.33	3±2.11	3.5±1.77	3.3±1.8	3.6±2.42	4±2.67
How much better do you feel since beginning treatment? (As a percentage) (%)	48.7±34.71	45.2±33.55	24.6±24.72	31.8±28.29	28.5±24.44	38.9±31.42

Short PTSD Rating Interview (SPRINT/Miami)

<i>MEAN ± STD</i> <i>Lower Mean denotes better outcomes</i>	BASELINE N=30 STUDY	N=30 CONTROL	6 MO N=28 STUDY	N=29 CONTROL	12 MO N=25 STUDY	N=29 CONTROL
SPRINT SCORE	22.8±7.07	23.2±8.29	20.3±7.57	22.8±7.88	19.6±8.05	21.5±8.83
How much have you been bothered by unwanted memories, nightmares, or reminders of the event?	2.4±1.1	2.6±1.28	2.1±1.33	2.7±1.19	2±1.24	2.5±1.35
How much effort have you made to avoid thinking or talking about the event, or doing things which remind you of what happened?	2.5±1.07	2.9±1.36	2.2±1.26	2.8±1.21	2.2±1.45	2.7±1.26
To what extent have you lost enjoyment for things, kept your distance from people, or found it difficult to experience feelings?	2.8±1.09	2.8±1.16	2.6±1.26	2.9±1.16	2.5±1.08	2.6±1.37
How much have you been bothered by poor sleep, poor concentration, jumpiness, irritability, or feeling watchful around you?	3.3±0.99	3.3±1.06	2.9±1.01	3.2±1.05	2.8±1	2.9±1.14
How much have you been bothered by pain, aches, or tiredness?	3.3±0.98	2.9±1.17	2.9±0.97	3±1.12	2.8±1.01	2.8±1.35
How much would you get upset when stressful events or setbacks happen to you?	2.9±1.2	2.9±1.3	2.6±1	2.8±1.28	2.6±1.04	2.7±1.29
How much have the above symptoms interfered with your ability to work or carry out daily activities?	2.5±1.25	2.8±1.33	2.3±1.39	2.5±1.18	2.1±1.42	2.5±1.35
How much have the above symptoms interfered with your relationships with family or friends?	3±1.03	3±1.07	2.7±1.16	2.9±1.21	2.6±1.36	2.9±1.03
How much have the above symptoms improved since starting treatment? (<i>Higher Mean is better</i>)	2.6±1.57	3±1.77	3.5±1.99	2.9±1.43	3.8±2.48	3.3±1.87
How much better do you feel since beginning treatment? (As a percentage) (%)	43±34.36	41.7±32.7	31.4±25.2	47.6±33.88	32±26.93	32.1±28.08

The Alcohol Use Disorders Identification Test: (AUDIT)

MIAMI <i>MEAN ± STD</i> <i>Lower Mean is Better</i>	BASELINE N=30 STUDY	N=30 CONTROL	6 MO N=28 STUDY	N=29 CONTROL	12 MO N=25 STUDY	N=29 CONTROL
AUDIT SCORE	7.8±6.28	6.8±5.74	9.2±5.71	7.1±5.63	6.3±4.43	6.5±6.67
How often do you have a drink containing alcohol?	0.3±0.76	0.2±0.61	0.4±0.78	0.1±0.37	0.2±0.66	0±0
How many alcoholic drinks do you have on a typical day when you are drinking?	0.8±1.45	1.1±1.64	0.9±1.38	0.8±1.36	0.4±1	0.7±1.34
How often do you have 6 or more drinks on one occasion?	1±1.07	1±1.08	1.4±1.01	1±1.13	1±0.85	1±1.11
How often during the past year have you found that you drank more or for a longer time than you intended?	1±0.91	0.8±0.82	0.8±0.83	0.8±1.1	0.8±0.86	0.7±0.99
How often during the past year have you failed to do what was normally expected of you because of your drinking?	0.6±0.74	0.3±0.64	0.6±0.83	0.4±0.7	0.1±0.35	0.4±0.73
How often during the past year have you had a drink in the morning to get yourself going after a heavy drinking session?	0.2±0.51	0.1±0.57	0.5±0.96	0.2±0.49	0.3±0.46	0.2±0.75
How often during the past year have you felt guilty or remorseful after drinking?	0.7±0.85	0.3±0.53	0.8±1.13	0.5±0.81	0.5±0.99	0.4±0.8
How often during the past year have you been unable to remember what happened the night before because of your drinking?	0.6±0.98	0.4±0.68	0.5±0.61	0.6±1.06	0.3±1.05	0.5±0.8
Have you or anyone else been injured as a result of your drinking?	1.2±0.38	1.1±0.31	1.2±0.39	1±0.19	1.1±0.33	1±0
Has a relative, friend, doctor, or health care worker been concerned about your drinking, or suggested that you cut down?	1.4±0.72	1.5±0.82	1.4±0.69	1.4±0.68	1.2±0.5	1.3±0.67