THE BENEFITS OF EQUINE ASSISTED THERAPY FOR VETERANS IN THE RESIDENTIAL SUBSTANCE USE DISORDER TREATMENT SETTING

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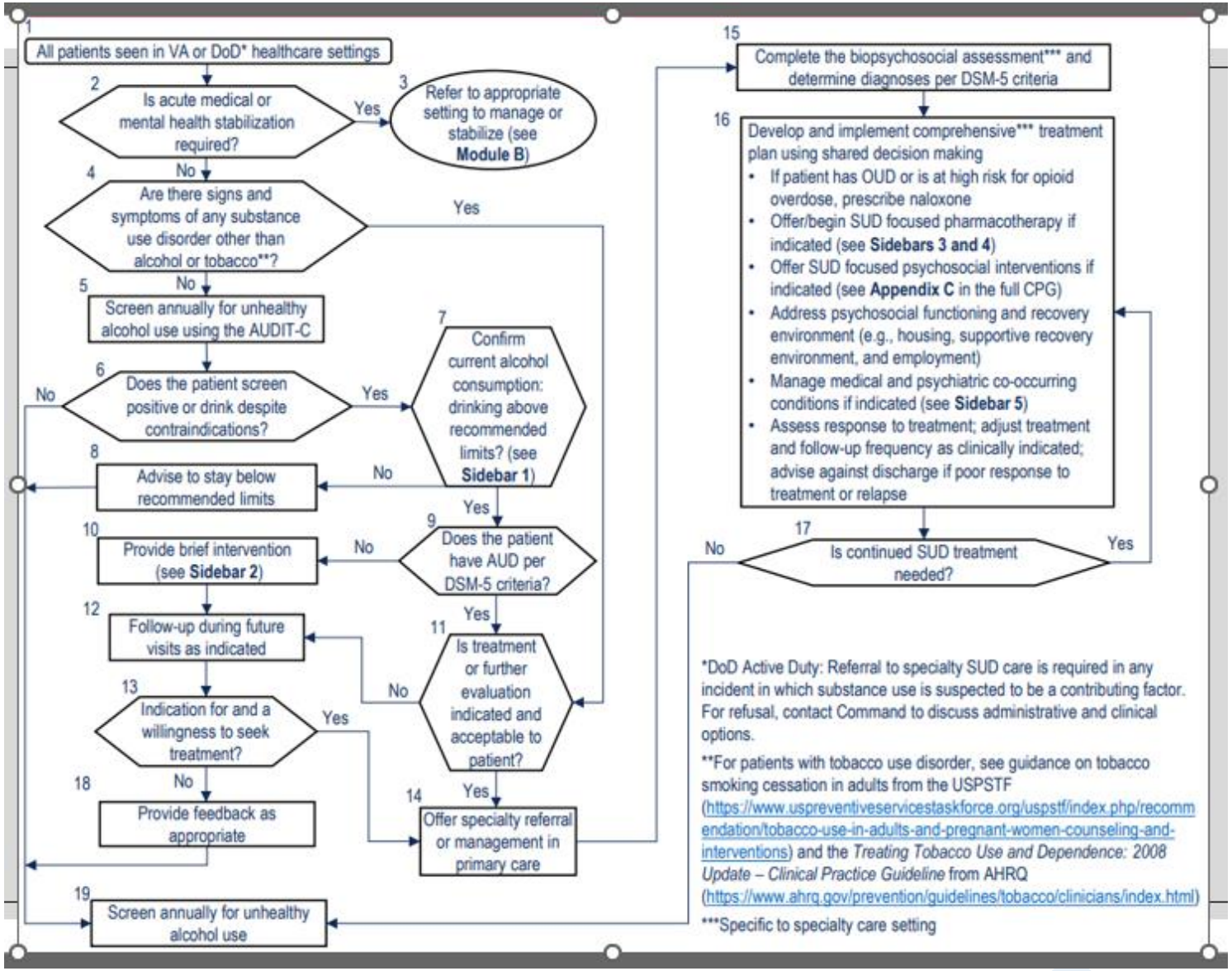
SARRTP: ABOUT US

- The Substance Abuse Residential Rehabilitation Treatment Program (SARRTP) at the George E.Wahlen Department of Veterans Affairs Medical Center.

- The primary goal of the SARRTP is to provide treatment and rehabilitation services to Veterans.

- Specifically, those have mental health and substance use disorders that are often complex and co-occurring with medical concerns and psychosocial needs, such as employment and housing.

- This is accomplished through providing services designed to improve functional status, sustained treatment and rehabilitation gains, recovery, community integration, and breaking the cycle of addiction.


1
All patients seen in VA or DoD* healthcare settings
2
Is acute medical or mental health stabilization required?
Yes
3
Refer to appropriate setting to manage or stabilize (see Module B)
No
4
Are there signs and symptoms of any substance use disorder other than alcohol or tobacco**?
Yes
No
5
Screen annually for unhealthy alcohol use using the AUDIT-C
6
Does the patient screen positive or drink despite contraindications?
No
Yes
7
Confirm current alcohol consumption: drinking above recommended limits? (see Sidebar 1)
No
8
Advise to stay below recommended limits
Yes
9
Does the patient have AUD per DSM-5 criteria?
No
10
Provide brief intervention (see Sidebar 2)
Yes
11
Is treatment or further evaluation indicated and acceptable to patient?
No
12
Follow-up during future visits as indicated
Yes
13
Indication for and a willingness to seek treatment?
No
18
Provide feedback as appropriate
Yes
14
Offer specialty referral or management in primary care
15
Complete the biopsychosocial assessment*** and determine diagnoses per DSM-5 criteria
16
Develop and implement comprehensive*** treatment plan using shared decision making
• If patient has OUD or is at high risk for opioid overdose, prescribe naloxone
• Offer/begin SUD focused pharmacotherapy if indicated (see Sidebars 3 and 4)
• Offer SUD focused psychosocial interventions if indicated (see Appendix C in the full CPG)
• Address psychosocial functioning and recovery environment (e.g., housing, supportive recovery environment, and employment)
• Manage medical and psychiatric co-occurring conditions if indicated (see Sidebar 5)
• Assess response to treatment; adjust treatment and follow-up frequency as clinically indicated; advise against discharge if poor response to treatment or relapse
17
Is continued SUD treatment needed?
No
Yes
19
Screen annually for unhealthy alcohol use
*DoD Active Duty: Referral to specialty SUD care is required in any incident in which substance use is suspected to be a contributing factor. For refusal, contact Command to discuss administrative and clinical options.
**For patients with tobacco use disorder, see guidance on tobacco smoking cessation in adults from the USPSTF (https://www.uspreventiveservicestaskforce.org/uspstf/index.php/recommendation/tobacco-use-in-adults-and-pregnant-women-counseling-and-interventions) and the Treating Tobacco Use and Dependence: 2008 Update – Clinical Practice Guideline from AHRQ (https://www.ahrq.gov/prevention/guidelines/tobacco/clinicians/index.html)
***Specific to specialty care setting

WHO WE SERVE

DIAGNOSIS

Substance Use Disorders

PTSD

Mood Disorders

Anxiety Disorders

Psychotic Disorders

Personality Disorders

Chronic Pain

Sleep Disorders

VETERANS

Gender Identity:

86% Male

12% Female

2% Transgender Female

Race/ethnicity:

78% White-Not Hispanic

15% Hispanic

2% Native American

2% African-American

3% Multi-racial

Age:

Average=45.64 Years

Youngest=26; Oldest=73

ADDICTIVE SUBSTANCES

- Alcohol
- Caffeine
- Cannabis
- Hallucinogens
- Inhalants
- Opioids
- Sedatives, Hypnotics, and Anxiolytics
- Stimulants (amphetamine-type substances, cocaine, and other stimulants)
- Tobacco
- Other (or unknown) substances

INTERVENTIONS

ADDICTION

Relapse Prevention
CBT-SUD
Motivational Enhancement Therapy
Motivational Interviewing
12 Step Facilitation
SMART Recovery
Mindfulness Based Relapse Prevention
Acceptance and Commitment Therapy
Equine Assisted Therapies

RECOVERY ORIENTED MODEL OF CARE

- Veteran-centered care planning
- Medication assisted treatment (MAT)
- Psychiatric care for co-occurring disorders
- Creative Wellness
- Therapeutic Recreation
- Couples and Family Therapy
- Occupational Therapy
- Vocational Rehab

TRAUMA FOCUSED INTERVENTIONS

Prolonged Exposure (PE)
Cognitive Processing Therapy (CPT)
EMDR
Written Exposure Therapy (WET)
Skills Training for Affective and Interpersonal Regulation

UTAH STATE UNIVERSITY

- Department of Veterans Affairs Adaptive Sports Grant
- Bi-Weekly 4 Hour Combined Equine Assisted Learning and Equine Assisted Psychotherapy
- Pathway to Horsemanship
- EGALA Based Interventions
- Rare opportunity for interpersonal connections in the height of COVID restrictions

Poor Self-Esteem
Poor Trust in Self and Others
Poor Social Skills
Poor Capacity to Regulate or Manage Distress
Poor Impulse Control
Comorbid MH Conditions
Common Presenting Concerns of Individuals with SUDs

Issues within Treatment

- Working Alliance
  - Trust – "What do YOU know?"
  - Safety – Attachment
  - Transference and Countertransference
- Avoidance
- Interpersonal Dynamics
  - Transference
    - Beware of being pulled into patients' dynamics/patterns/roles
    - Relationship "Tests"
    - Taking of inventories
- Stages of Change
  - Ongoing assessment and discussion

WHAT WE OBSERVED

Qualitative Benefits of the Equine-Veteran Bond

INTRODUCED NON-JUDGMENTAL INTERACTIONS

Challenged baseline issues with trust in self and other while supporting the development of interpersonal bonds. Augmented confidence and resiliency.

INTEGRATED MINDFULNESS & DISTRESS TOLERANCE

Utilized mindfulness practices to manage emotions and encouraged the practice of challenging automatic maladaptive thoughts to reduce anxiety.

PROMOTED VULNERABILITY & IDENTIFICATION OF EMOTIONS

Projective practice and the narrative structure of EGALA introduced dialog around Veteran identified emotions and created a safe outlet to sit with strong feelings which generalized to other settings.

CASE EXAMPLE

Stimulant Use Disorder

PTSD, Chronic

Psychosocial Issues

Chronic Pain

Alcohol Use Disorder

MDD, Moderate

Complex Medical Issues

Wernicke's Encephalopathy

RESEARCH
OVERVIEW

A PILOT OBSERVATIONAL STUDY OF IMPLEMENTING AN EQUINE-ASSISTED SERVICES PROGRAM WITHIN A VA MEDICAL CENTER RESIDENTIAL SUBSTANCE USE DISORDER TREATMENT PROGRAM

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INTRODUCTION

Observational pilot study for Veterans with addictive disorders

- assess the safety, feasibility, preliminary outcomes, and predictors of participant response
- evaluate psychological instruments for use in future, more rigorous studies.
- The overarching goal was to complete the necessary work to prepare for a large randomized controlled trial of this intervention.

METHODS

Participants

-33 Veterans, 29 males and 4 females

- one 4-hour session
- combined equine assisted learning and equine-assisted psychotherapy during an admission to a residential substance abuse treatment program.
- Preintervention and postintervention instruments were utilized to assess changes in affect, anxiety, and craving.
- Demographic and diagnostic variables were evaluated for the potential to predict outcomes.

PATH International Standards for EAL/EAP Adhered to before during and after

VALIDATED INSTRUMENTS USED

STRAIGHT STATE INVENTORY (STAI:16)

6-item instrument

Measures state anxiety
Respondents answer questions,
-"I feel calm" with options
- not at all
- somewhat
- moderately
- very much

*Some items are reverse scored such that higher scores equal higher levels of state anxiety

CRAVINGS EXPERIENCE QUESTIONNAIRE (CEQ-S11)

11-item instrument

Measures the state intensity of cravings for substances.
- Respondents answer question, "how much did you want it?"

On a 10-point scale ranging from 0 (not at all) to 10 (extremely).

Higher scores indicate increased levels of cravings for substances.

POSITIVE AND NEGATIVE AFFECT SCALE (PANAS-SF)

20-item instrument that measures both positive and negative affect.

- Respondents answer the question, "Indicate the extent that you have felt this way"
  - "interested," and "excited" on a 5-point scale ranging from
  - "very slightly or not at all" to "extremely."

  Ten of the items measure positive, and the other 10 evaluate negative affect

  Scoring results in both positive and negative affect scores.
  - For positive affect, higher scores equal increased positive affect.
  - For negative affect, lower scores indicate decreased negative affect.

RESULTS

TABLE III. Significant Preintervention to Postintervention Changes in Affect, Anxiety, and Craving

Instrument	Preintervention mean (SD) or median (IQR)	Postintervention mean (SD) or median (IQR)	Mean or median of difference	T- or Z-statistic	P	Cohen's d or ES
PANAS positive	30.28 (9)	36.45 (8.17)	+6.17	$t_{28} = 4.2$	<.001	0.78
PANAS negative	18 (11.5)	12 (6)	−5.0[a]	$z = -4.425$	<.001	0.82
STAI	36.67 (20)	26.67 (10)	−6.67[a]	$z = -4.486$	<.001	0.78
CEQ	19 (47.5)	0 (6)	−10.0[a]	$z = -3.981$	<.001	0.69

PANAS = Positive and Negative Affect Scale; STAI = State-Trait Anxiety Inventory; CEQ = Craving Experience Questionnaire; ES = effect size.
[a]Median of the difference is not equal to difference in medians.

Results

- The second key finding (Table III) was that there were statistically significant preintervention to postintervention reductions in negative affect (measured by the PANSAS-SF negative score), state anxiety (measured by STAI: Y-6 item score), and intensity of craving (measured by CEQ score).

- Additionally, there was a significant increase in positive affect (measured by PANAS positive score). These results are consistent with studies of EAIs for adults in various populations, which have provided evidence of reduction of anxiety and depressive symptoms.

RESULTS

TABLE IV. Significant Predictors of Preintervention to Post-intervention Changes in Psychological Instrument Scores

Predictor	Predicted	Coefficient	*P*
Recent suicide behaviors 30–90 days PTA	Higher PANAS positive scores postintervention	16.680	<.001
Recent suicide behaviors > 90 days PTA	Higher PANAS positive scores postintervention	12.581	<.001
Higher preintervention PANAS negative score	Higher postintervention PANAS negative score	0.03	<.001
Higher preintervention STAI scores	Higher postintervention STAI scores	0.022	<.001

PTA = prior to admission; PANAS = Positive and Negative Affect Scale; STAI = State-Trait Anxiety Inventory.

DISCUSSION

- The intervention was safe and feasible to utilize as there were no adverse outcomes to patients, staff, or equines.
- The State-Trait Anxiety Inventory, Craving Experience Questionnaire, and Positive and Negative Affect Scale revealed preliminary findings of significant preintervention to postintervention decreases in anxiety, negative affect, and craving, as well as increased positive affect.
- While this study does not demonstrate a causal relationship, the finding of improvements in the domains of anxiety, affect and the unique finding of decreased craving suggest that EAIs may have broad-spectrum effects in this population.
- Presence or absence of a history of suicide attempts and/or suicidal ideation were predictive of some postintervention scores.
- Minimalist and easy to use
- First investigation to report decreased intensity of substance use craving associated with an EAI
- First to report demographic and diagnostic factors
- May serve as predictors of response to such interventions.

A PILOT REPLICATION STUDY OF IMPLEMENTING AN EQUINE-ASSISTED SERVICES PROGRAM WITHIN A VA RESIDENTIAL SUBSTANCE USE DISORDER TREATMENT PROGRAM

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INTRODUCTION

- The first aim of this study was to replicate the previous study assessing the safety, feasibility, and preliminary outcomes of this intervention.
- The second aim was to examine the effect of participants attending multiple intervention sessions.

METHODS

- 94 Veterans, 87 males and 7 females
- One to Six 3- 4 hour sessions

- Combined equine assisted learning and equine-assisted psychotherapy during an admission to a residential substance abuse treatment program.

- Pre- and post-session administration of the Positive and Negative Affect Scale, State-Trait Anxiety Inventory, and Craving Experience Questionnaire was utilized to assess changes in affect, anxiety, and craving. Wilcoxon signed-rank or paired two-tailed t-tests were utilized for pre-to post-session comparisons of the outcome measures for sessions 1–4.

- Generalized linear mixed-effects (GLME) models were constructed to determine the impact of dosage. GLME models were constructed to determine the impact of dosage.
- PATH International Standards for EAL/EAP Adhered to before during and after

PRE AND POST INTERVENTION OUTCOMES

TABLE II. Pre- to Post-intervention Outcomes

Instrument	Session	Pre-intervention mean (SD) or median (IQR)	Post-intervention mean (SD) or median (IQR)	Mean or median of the differences	*t*- or *z*-statistic	Cohen's *d* or PS_{dep}
PANAS positive	1[t]	30.778 (7.864)	36.383 (8.706)	−5.605	$t_{80} = -6.845$ $P < .001$*	0.825
	2[t]	29.639 (8.351)	34.934 (9.522)	−5.295	$t_{60} = -6.895$ $P < .001$*	0.591
	3[w]	28 (6.5)	31 (14)	−4	$z = -2.635$ $P = .004$	0.7
	4[w]	23.5 (8)	29.5 (16.5)	−1.5	$z = -1.220$ $P = .111$	0.666
	1 to last[t]	30.570 (7.652)	35.048 (9.771)	−4.443	$t_{78} = -5.45$ $P < .001$*	0.506
PANAS negative	1[t]	19.630 (8.369)	14.284 (6.157)	5.346	$t_{80} = 7.437$ $P < .001$*	0.728
	2[w]	16 (12)	12 (6)	4	$z = 5.487$ $P < .001$*	0.907
	3[t]	20.710 (7.152)	15 (6.135)	5.06	$t_{30} = 4.102$ $P < .001$*	0.760
	4[w]	19 (9.5)	12.5 (6.75)	3	$z = 1.833$ $P = .033$	0.813
	1 to last[w]	17 (9.5)	12 (5)	4	$z = 6.230$ $P < .001$*	0.877
STAI	1[t]	37.099 (12.341)	28.813 (10.333)	8.286	$t_{90} = 7.288$ $P < .001$*	0.728
	2[t]	38.125 (12.342)	29.797 (10.297)	8.328	$t_{63} = 6.402$ $P < .001$*	0.733
	3[t]	41.387 (9.715)	35.710 (13.736)	5.677	$t_{30} = 2.845$ $P = .008$	0.477
	4[w]	40 (9)	33 (18.25)	3	$z = 2.125$ $P = .017$	0.846
	1 to last[t]	37.341 (12.408)	29.784 (10.451)	7.557	$t_{87} = 6.007$ $P < .001$*	0.659
CEQ	1[w]	7 (31.5)	0 (5)	1	$z = 4.885$ $P < .001$*	0.863
	2[w]	5 (23)	0 (5)	2	$z = 3.348$ $P = .001$*	0.804
	3[w]	10 (27.5)	0 (3.5)	0	$z = 2.178$ $P = .015$	0.833
	4[w]	2 (17)	0 (7.25)	0	$z = 1.841$ $P = .033$	0.889
	1 to last[w]	9.5 (31.25)	0 (5)	1.5	$z = 4.445$ $P < .001$*	0.8

Abbreviations: CEQ = Craving Experience Questionnaire; PANAS = Positive and Negative Affect Scale; STAI = State-Trait Anxiety Inventory; [t] = paired *t*-test; [w] = Wilcoxon signed-rank test.
*Statistically significant after correction $P < .0025$.

RESULTS

- As with our previous study, the intervention was safe and feasible to utilize for this population.
- There were statistically significant pre- to post-session improvements, with medium-to-large effect sizes, for sessions 1–3 for negative affect and sessions 1 and 2 for positive affect, anxiety, and craving.
- The GLME models revealed no statistical significance for any of the predictors.
- This finding is consistent with our other studies indicating that EAS interventions can be used safely with veteran populations.
- This study also supported the feasibility of implementation, with some consideration that this requires the use of expensive equine facilities, horses, and appropriately trained staff suggests that needed resources could be unavailable or cost prohibitive at other sites.
- To move the field forward, it is critical to determine the number of doses required to achieve the maximum benefit from various EAS interventions
- Lastly, there were no statistically significant demographic or diagnostic predictors for any of the outcome variables, other than base-line predictors for affect, anxiety, and craving. This finding suggests that this intervention can be used without the need for tailoring it to specific subgroups.

SUMMARY

- Taken together, this study and the previous investigation of this equine-assisted services intervention suggest that it is safe and feasible to utilize for veterans admitted to a residential substance abuse treatment program and we have now found short-term benefits in two separate studies.

- Thus, a randomized controlled trial of this intervention is warranted to demonstrate cause and effect and determine whether longer-term benefits are associated with the intervention.

- The finding that there was no additional benefit from attendance at more than two intervention sessions suggests that dose–response relationship studies of equine-assisted services interventions for veterans are needed.

THANK YOU

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