

A pilot randomized controlled trial of acupuncture and relaxation response on homeless veterans with substance abuse

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Background

- **Substance Abuse**
 - ➔ highly prevalent among veterans
 - ➔ One of major risk factors for homelessness
- **Inconsistent effectiveness using traditional substance abuse therapies**

Background –cont.

- ❖ Acupuncture and the Relaxation response (RR) are commonly used complementary and alternative treatments
- ❖ Acupuncture and the Relaxation response each has been shown to be effective in treating substance abuse problems

What is Relaxation Response?

- ❖ A state in which individuals evoke bodily calm that has the opposite physiological effect of the fight-or-flight response
- ❖ It does not occur spontaneously, but can be learned
- ❖ It can be elicited by using various techniques

Why compare the two?

Similarity

- Both are thought to induce calm and deep relaxation in mind and body
- Similar physiological and neurological responses

Difference

- Acupuncture: administered by practitioners
- Relaxation Response: Self care practice

Study Objectives

- **Test the feasibility of conducting a 3-arm randomized controlled trial on homeless veterans in a VA residential rehabilitation program**
- **Collect pilot data for studying the effectiveness of acupuncture and the RR in reducing substance craving and improving anxiety**

The Randomized Trial

• Study population

Residents of a VA domiciliary program who self identified as having an alcohol or drug abuse/dependence problem

• VA domiciliary program

- ➔ 40-bed
- ➔ 4 months residential period
- ➔ Residents completed detoxification treatment and are in early remission
- ➔ therapeutically-oriented

The Acupuncture Intervention

- 10 weeks of 2/week 45-minute treatments
- Standardized protocol set by the National Acupuncture Detoxification Association
- 5 ear points: Shen Men, Sympathetic, Kidney, Lung, and Liver

The Relaxation Response Intervention

- 10 weekly 45-minute group

- RR techniques

Diaphragmatic Breathing

Guided Countdown

Body Scan/counting breath/repeating words

Progressive muscle relaxation

Visual Imagery

- Self practice once a day listening to a 20-minute tape

Study Outcomes

Collected at baseline and the end of 10-week study period

- **Substance craving rating**

- ➔ **Modified Penn Alcohol Craving Scale**

- **Anxiety scale**

- ➔ **State-Trait Anxiety Inventory for Adults**

Study Feasibility

The study was shown to be feasible

- High recruitment rate: 80%
- High intervention compliance: 75% & 80%
- Moderate drop out rate: 30%
- Positive feedbacks from the participants

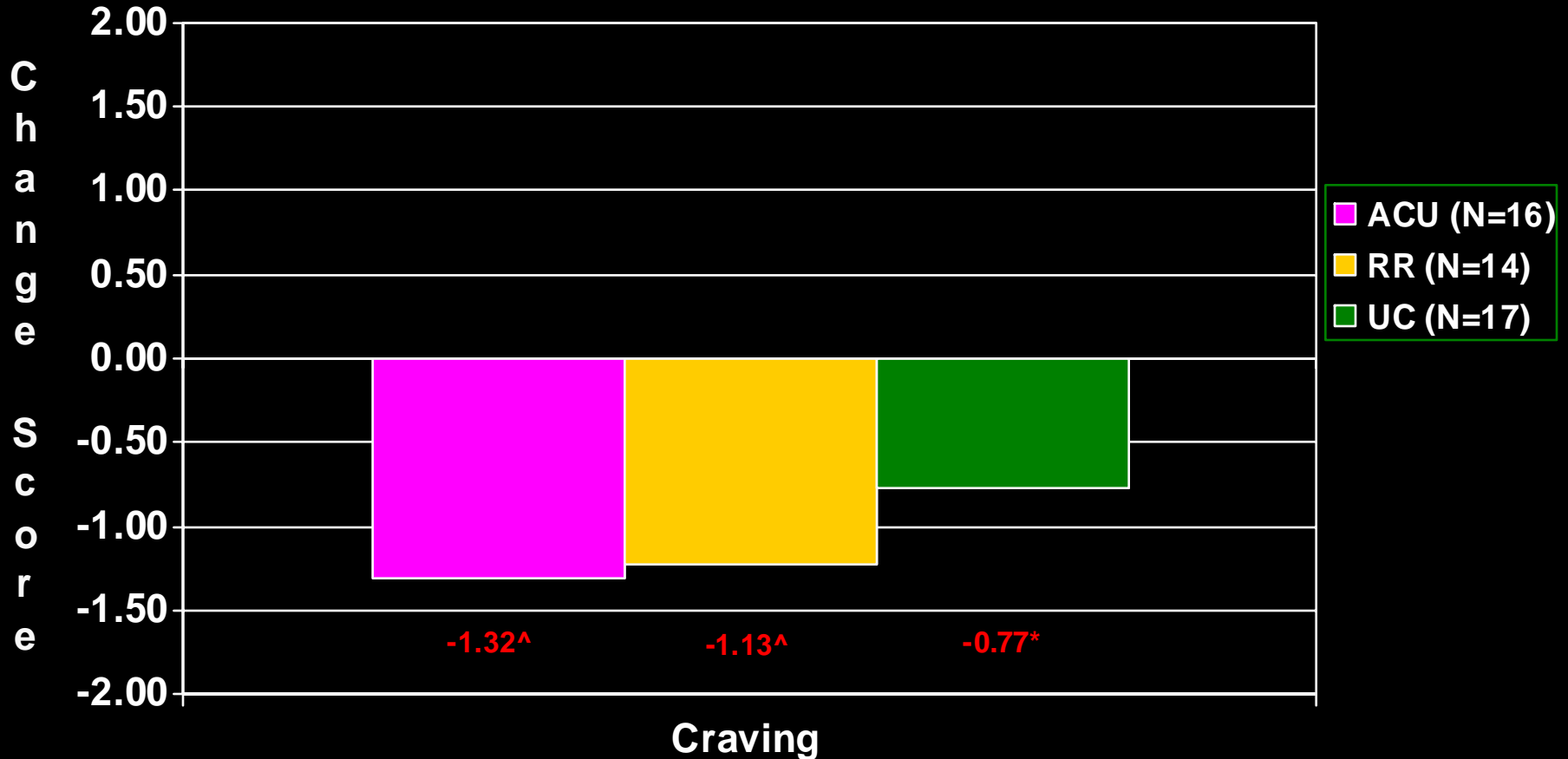
Study Participants Characteristics at Baseline

N=47

Variables	Acupuncture (N=16) Mean (S.D.)/%	RR (N=14) Mean (S.D.)/%	UC (N=17) Mean (S.D.)/%
Demographic Characteristics			
Age (year)	48.1 (8.0)	49.9 (4.9)	49.8 (6.3)
Race			
White (%)	81%	93%	82%
Education			
College and above (%)	38%	43%	41%
Primary substance			
Alcohol	10 (63%)	12 (86%)	15 (88%)
Stimulants/Heroin/Benzos	6 (37%)	2 (14%)	2 (12%)
Craving rating (0-6) [§]	1.8 (0.8)	1.9 (1.5)	2.6 (1.5)
Anxiety score (1-4)	2.6 (0.4)	2.7 (0.9)	2.7 (0.4)

§: Acupuncture and UC comparison p=.08; RR and UC comparison p=.16

Craving Rating Adjusted Change Score[@]



[@]: Adjusted change score for a person with mean value of craving rating at baseline;
Negative values indicate improvement

All three groups had significant improvements, [^] $p < .0001$, * $p = .0015$

Change Scores Comparison on Craving Rating among the Three Study Groups

Study Group	Outcome Measures		
	Craving		
	Adjusted Mean Diff [§]	SE	P value
ACU vs. UC	-.55	.33	.10
RR vs. UC	-.35	.34	.30
ACU vs. RR	-.19	.33	.57

§ :Adjusting for baseline score; Negative values indicate improvement

Anxiety Rating Adjusted Change Score[@]



[@]: Adjusted change score for a person with mean value of anxiety rating at baseline;
Negative values indicate improvement

[^] Both acupuncture and relaxation response groups had significant improvements $P < .001$

Change Scores Comparison on Anxiety Rating among the Three Study Groups

Study Group	Outcome Measures		
	Anxiety		
	Adjusted Mean Diff [§]	SE	P value
ACU vs. UC	-.48	.17	.009
RR vs. UC	-.32	.18	.09
ACU vs. RR	-.16	.18	.38

§ :Adjusting for baseline score; Negative values indicate improvement

Conclusions

- Feasible to introduce alternative therapies to the VA system
- Trends of greater improvements for acupuncture and RR groups than usual care
- Acupuncture and RR had similar effects on reducing craving and anxiety