U.S. Department of Veterans Affairs

Utilizing Battlefield Acupuncture to treat housed vs. unhoused veterans with Chronic Pain

Cathy M. St. Pierre, PhD, APRN, FNP-BC, FAANP*
Alexandra Howard*
Kimberlee Flike, PhD, RN*
Jack Tsai, PhD**
*Bedford VA Healthcare System, Bedford, Mass.
** National Center on Homelessness among Veterans

Source: https://twitter.com/LPhysio/status/743867093678981120/

Disclaimer:

* The views expressed in this presentation are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States government or the National Center on Homelessness among Veterans.

Objectives:

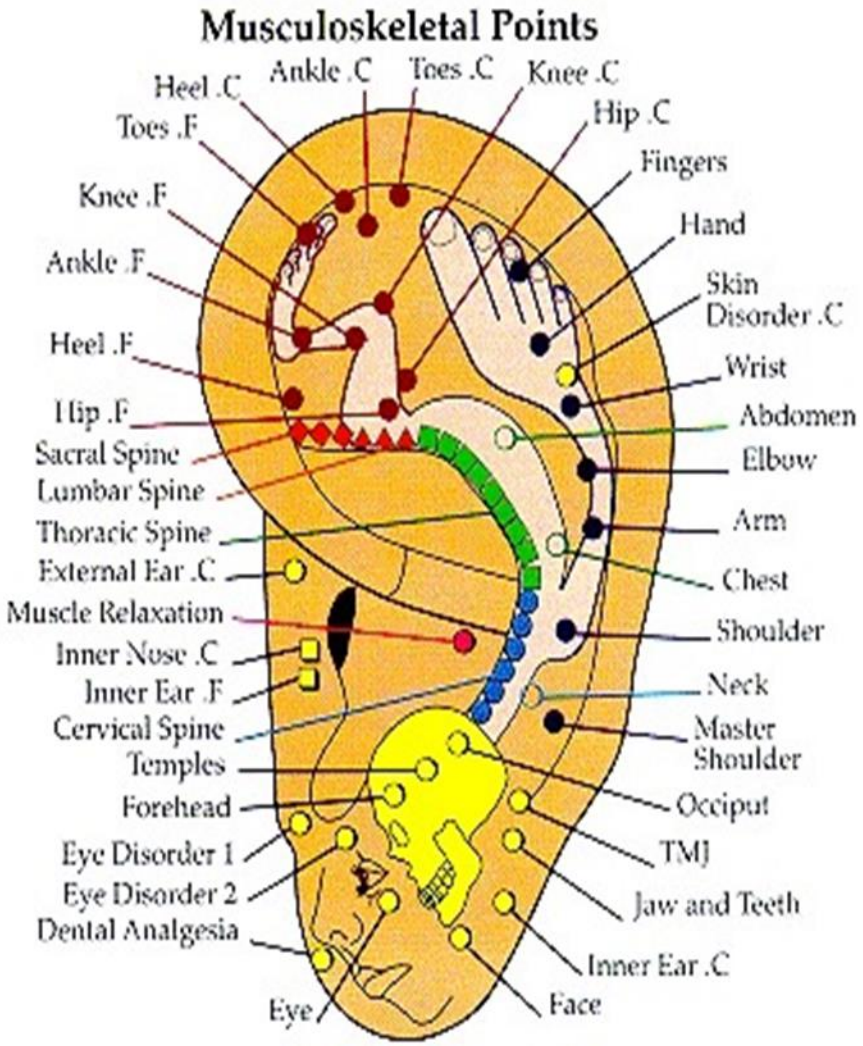
- 1) Present an overview of this Quality Improvement project which is funded thru the National Center on Homelessness among Veterans.
- 2) Provide a brief overview of the use of Battlefield Acupuncture in treating pain as a framework for this study.
- 3) Discuss the protocol for this convenience sample.
- 4) A brief overview of currently funded research study on BFA treatment for chronic pain in homeless/at risk veterans.

OVERVIEW OF BATTLEFIELD ACUPUNCTURE

Battlefield Acupuncture (BFA) is a type of acupuncture developed by Dr. Richard Nemtzow, an Air Force Physician and acupuncturist.

In 2001, he wanted to create a protocol that could be taught to medics so that they could use it to treat pain on the front lines of battle (thus the name, **Battlefield Acupuncture**).

This type of acupuncture is also known as Auricular Acupuncture because all of the treatment points are located in the ear



Source: https://www.sciencedirect.com/science/article/pii/S073567571830175X

Source: https://acuboulder.com/blog/2021/3/9/needles-in-my-ear-say-what

EAR POINTS FOR BFA AND HOW THEY AFFECT THE BODY:

- 1. Cingulate Gyrus- impacts memory and emotion with pain.
- 2. Thalamus- Communication of Nervous System to cerebral cortex, reducing shock and restoring tranquility
- 3) Omega 2- Psychosomatic d/0 & pain in limbs
- 4) Point Zero-General body homeostasis/autonomic brain controlling visceral organs.
- 5) Shen Men- Parasympathetic switch, alleviates excessive sensitivity, calming, pain reduction, insomnia-supports other auricular reflex points.

https://trialsjournal.biomedcentral.com/articles/10.1186/s13063-020-04909-8

- BFA consists of the insertion of needles into 5 locations in each ear, which remain in the ear for several days or until they fall out on their own.

- The protocol used at this clinic consisted of inserting the needles (ASP Gold needles) into 3 specified points in each ear

- The veterans were instructed to walk around for a few minutes and returned to have needles inserted into the 2 additional points

QUALITY IMPROVEMENT INITIATIVE

- This quality initiative was completed based on analysis of veterans who were being treated for chronic pain utilizing BFA as the treatment.
- Veterans were booked into a BFA pain clinic for weekly treatment visits.
- Each veteran completed a standardized pain questionnaire each visit and answered all questions based on a scale of 0-10.
- At the completion of each visit, veterans were asked to give a final overall pain score for their visit.

Date: Last name: Last 4:

ACUPUNCTURE QUESTIONNAIRE: FOLLOW UP

I attest that the following is true (please initial each box):
[ ] NOT Pregnant (for biologically female Veterans).
[ ] NOT on blood thinners.
[ ] NO active ear infection (i.e. otitis externa).
[ ] NO active infections (i.e. not being treated with antibiotics, no PICC line).
[ ] NO untreated, new pain complaints.

Section 1: Complete before receiving Battlefield Acupuncture:

1. With respect to your pain, how are you feeling now compared to before you received treatment?
_____ Very much worse
_____ Much worse
_____ Minimally worse
_____ No change
_____ Minimally improved
_____ Much improved
_____ Very much improved

2. Check off current location where you experience pain, circle right/left/both appropriately; and provide a 0-10 rating of your current pain level for each selected location:

_____	headache	_____	neck	Comments:_____
_____	shoulder (right, left, both)	_____	elbow (right, left, both)	_____
_____	wrist (right, left, both)	_____	hand (right, left, both)	_____
_____	finger(s) (right, left, both)	_____	midback	_____
_____	lower back	_____	tailbone	_____
_____	hip (right, left, both)	_____	knee (right, left, both)	_____
_____	ankle (right, left, both)	_____	foot (right, left, both)	_____
_____	toe(s) (right, left, both)			

3. Please rate your **overall current pain** by indicating the number that best describes your pain on a 0 (no pain) to 10 (pain as bad as you can imagine) scale.

0 1 2 3 4 5 6 7 8 9 10

4. Circle the one number that describes how, **during the past 24 hours**, pain has interfered with your usual **ACTIVITY**:

0 1 2 3 4 5 6 7 8 9 10

5. Circle the one number that describes how, **during the past 24 hours**, pain has interfered with your **SLEEP**:

0 1 2 3 4 5 6 7 8 9 10

6. Circle the one number that describes how, **during the past 24 hours**, pain has interfered with your **MOOD**:

0 1 2 3 4 5 6 7 8 9 10

Date: Last name: Last 4:

ACUPUNCTURE QUESTIONNAIRE: FOLLOW UP

7. Circle the one number that describes how, **during the past 24 hours**, pain has interfered with your **STRESS**:

0 1 2 3 4 5 6 7 8 9 10

8. "Please let us know how well your activities of daily living have improved from initial visit with us"

FOUR ACTIVITIES	RESTORED			
1. _____	NO	A BIT	A LOT	COMPLETELY
2. _____	NO	A BIT	A LOT	COMPLETELY
3. _____	NO	A BIT	A LOT	COMPLETELY
4. _____	NO	A BIT	A LOT	COMPLETELY

9. What number best describes your pain, on average, **over the past week**?

0 1 2 3 4 5 6 7 8 9 10

10. What number best describes how, **during the past week**, the pain has interfered with **your enjoyment of life**?

0 1 2 3 4 5 6 7 8 9 10

11. What number best describes how, **during the past week**, pain has interfered with **your general activity**?

0 1 2 3 4 5 6 7 8 9 10

Section 2: Complete during/after receiving Battlefield Acupuncture:

1. BFA Location: LEFT RIGHT BILATERAL

2. Please rate your **current pain** by indicating the number that best describes your pain on a 0 (no pain) to 10 (pain as bad as you can imagine) scale **after point 3 of BFA**.

0 1 2 3 4 5 6 7 8 9 10

3. Please rate your **current pain** by indicating the number that best describes your pain on a 0 (no pain) to 10 (pain as bad as you can imagine) scale **after point 5 of BFA**.

0 1 2 3 4 5 6 7 8 9 10

METHODS

- This study included 107 BFA clinic participants with a history of chronic pain who attended a weekly BFA clinic between September 2018-November 2022.
- Outcomes were measured with a questionnaire completed at the beginning of each visit which included:

1. Please rate your current pain by indicating the number that best describes your pain on a 0 (no pain) to 10 (pain as bad as you can imagine) scale
2. How, during the past 24 hours, pain has interfered with your usual activity?
3. How, during the past 24 hours, pain has interfered with your sleep?
4. How, during the past 24 hours, pain has interfered with your mood?
5. How, during the past 24 hours, pain has interfered with your stress?

Descriptive Statistics

-Descriptive statistics were used to describe the number of visits and the outcomes at baseline.

-T-tests were used to compare baseline characteristics between stably housed and unstably housed participants.

-5 outcomes were examined using linear mixed effects regression:

- 1) overall pain level at beginning of visit,
- 2) effect of pain on sleep,
- 3) effect of pain on activity,
- 4) effect of pain on mood and
- 5) effect of pain on stress.

- We examined the change in these outcomes over 8 weeks of the baseline visit to the BFA clinic. A timeline of 8 weeks was chosen because of the 47/51 (92%) people who had at least a second visit, occurred within 8 weeks of the baseline visit.

Methods: We used repeated measures ANOVA to examine five outcomes including overall pain score and the effect of pain on 4 areas: 1) activity; 2) sleep; 3) mood; 4) stress over the course of the first 12 visits to a weekly Battlefield Acupuncture clinic.

Results: 107 participants attended a total of 568 visits. The average number of visits was 2 visits (1-9 visits, average # days between visits =11) We found there was a significant reduction in overall pain ($F(11)=2.09$, $p=.02$) effect of pain on activity ($F(11)=3.4$, $p<.001$) , effect of pain on sleep ($F(11)=3.23$, $p<.001$) , and effect of pain on stress ($F(11)=3.13$, $p<.001$) in our population over time.

MEANS, STANDARD DEVIATIONS AND P VALUE BETWEEN HOUSED AND UNSTABLY HOUSED VETERANS

Outcome	Total M (SD)	Stably Housed M (SD)	Unstably Housed M (SD)	P Housed vs. Unstably Housed
Overall pain	5.68 +/-2.11	5.25 +/- 1.97	6.10 +/- 2.17	.03
Effect on Activity	6.11+/- 2.57	5.84 +/- 2.53	6.37 +/- 2.60	.29
Effect on Sleep	5.99 +/- 2.87	5.75 +/- 2.92	6.19 +/- 2.83	.45
Effect on Mood	5.57 +/- 2.87	5.20 +/- 2.86	5.92 +/- 2.86	.20
Effect on Stress	5.76 +/- 2.87	5.30 +/- 2.94	6.21 +/-2.76	.12

OUTCOMES FOR PAIN

- **Overall pain was the only outcome assessed which had a significant difference between stably housed and homeless veterans at baseline (5.23 vs. 6.10, p=.03).**

- **The reported effect of pain on activity, sleep, mood, and stress was not different between the stably housed and homeless veterans.**

METHODS CONTINUED

- The response scale for the four items asking how pain interfered were from 0-10 with 0 indicating “no interference” and 10 indicating “maximum interference”.
- Housing was a dichotomous independent variable where participants who had received services from VA homeless services were considered unstably housed (ex. HUD-VASH or Domiciliary Care for Veterans).

- T-tests were used to compare baseline characteristics between stably housed and unstably housed participants.

- Outcomes were examined using linear mixed effects regression where housing status and length of time since baseline visit were fixed effects and participants were included as a random effect.

CONCLUSIONS AND IMPLICATIONS

- **There were significant reductions in the reported impact of pain on activity, sleep, and stress among both unhoused and housed veterans over the 8-week time period examined .**

- **There was no difference in the number of visits or in pain outcomes between the unhoused and stably housed participants, suggesting that BFA is an acceptable CIH modality to offer veterans experiencing homelessness or housing instability**
- **Additional research examining longer time periods and more consistent BFA treatments among homeless and unstably housed veterans is warranted.**

U.S. Department of Veterans Affairs

In their own words… Patient's reflections on the impact of BFA on their Pain

Source: Unknown

“I wanted to share my experience with acupuncture, specifically Battlefield Acupuncture. As someone who has received traditional acupuncture in the past, I was curious to see if this new approach would make a difference in my level of pain.

To my surprise, I experienced a significant relief of pain after receiving the treatment. It was almost like a switch had been flipped and the pain was suddenly less intense. I felt a sense of relief that I hadn't experienced before with traditional acupuncture.

The process of Battlefield Acupuncture involves placing needles on specific points of the ear, rather than throughout the entire body. This approach is said to be effective for pain management, particularly for those experiencing chronic pain.

I was initially skeptical, but after experiencing the benefits firsthand, I am a believer in the power of Battlefield Acupuncture. It's amazing how a few small needles can make such a big difference in one's level of pain.

If you're someone who is experiencing chronic pain and looking for alternative methods of pain management, I highly recommend giving Battlefield Acupuncture a try”.

PATIENT B

- **- an 80 something veteran (regarding his reduction in pain after treatment) " I feel like a 15-yr old again! My pain is "0". I really can't believe it"**

This Photo by Unknown Author is licensed under CC BY-SA

PATIENT C

- “ I couldn't believe it. Actually, I didn’t believe it, in the beginning. I said well, they say it’s similar but just putting a needle in your ear is that going to stop the pain in my feet? It did. It surprised the
- h--- out of me.”

A) “**what I noticed is, you know at first, you know pain was still there and I had my reservations, but like I said I stuck with it and slowly but surely it was the little things that just kind of kept adding up and the little things eventually turned into bigger things and the bigger things into you know reducing my medication and those are huge steps coming from where I--from where I’ve been.**”

This Photo by Unknown Author is licensed under CC BY-NC

CURRENTLY FUNDED RESEARCH STUDY – IN PROGRESS

- **Current funded research Study (National Center for Homelessness among Veterans- NCHAV) focuses on treating chronic pain in homeless or at-risk for homeless veterans utilizing BFA.**

Research Protocol

- Mixed-Methods, convenience sample of homeless or at risk for homeless veterans with a history of chronic pain.
- The goal is to recruit 35 homeless or at-risk veterans with chronic pain to join the study. Current recruitment is n=34.
- Subjects are treated weekly utilizing the Battlefield Acupuncture (BFA) Protocol.
- Subjects complete a standardized questionnaire (developed through the VA Whole Health program) focusing on their pain level and the impact of pain on the following: usual activity, mood, stress and sleep. Their pain is also assessed after treatment.
- At weeks: 1, 4, 8 & 12 weeks, subjects also complete a questionnaire regarding their housing status and use of substances as well as current mental health status.

RESEARCH STUDY PROTOCOL CONT'D

- **<u>Qualitative Section-</u> We planned to recruit up to 12 subjects, who completed the research study to participate in a Qualitative interview about their experiences receiving BFA and its effect on their pain.**
- **Each research subject, who consents, will participate in a one-hour interview answering 10 questions about their experiences. These interviews will be recorded and transcribed. Analysis of the tapes will be completed by the team.**
- **At the completion of their interview, they will receive a $25 gift card.**
- **Currently 12 research subjects have been interviewed.**

QUESTIONS??

- **Questions?? Thanks for your Time!**

Email: Cathy.StPierre@va.gov

BIBLIOGRAPHY

- Denis, C. M., Cacciola, J. S., & Alterman, A. I. (2013). Addiction Severity Index (ASI) summary scores: comparison of the Recent Status Scores of the ASI-6 and the Composite Scores of the ASI-5. Journal of substance abuse treatment, 45(5), 444-450.

- Federman, D. G., Radhakrishnan, K., Gabriel, L., Poulin, L. M., & Kravetz, J. D. (2018). Group Battlefield Acupuncture in Primary Care for Veterans with Pain. *Southern medical journal*, *111*(10), 619-624.

- Gaudet, T. & Kligler, B. (2019). Whole health in the whole system of the veterans administration: how will we know we have reached this future state?. *The Journal of Alternative and Complementary Medicine*, *25*(S1), S7-S11.

- Hou, P. W., Hsu, H. C., Lin, Y. W., Tang, N. Y., Cheng, C. Y., & Hsieh, C. L. (2015). The history, mechanism, and clinical application of auricular therapy in traditional Chinese medicine. *Evidence-Based Complementary and Alternative Medicine*, *2015*.

- Löwe, B., Wahl, I., Rose, M., Spitzer, C., Glaesmer, H., Wingenfeld, K., ... & Brähler, E. (2010). A 4-item measure of depression and anxiety: validation and standardization of the Patient Health Questionnaire-4 (PHQ-4) in the general population. *Journal of affective disorders*, *122*(1-2), 86-95.

- Materu, J., Kuringe, E., Nyato, D., Galishi, A., Mwanamsangu, A., Katebalila, M., ... & Wambura, M. (2020). The psychometric properties of PHQ-4 anxiety and depression screening scale among out of school adolescent girls and young women in Tanzania: a cross-sectional study. BMC psychiatry, 20(1), 1-8.

- McLellan, A. T., Luborsky, L., Cacciola, J., Griffith, J., Evans, F., Barr, H. L., & O'Brien, C. P. (1985). New data from the Addiction Severity Index: reliability and validity in three centers. Journal of Nervous and Mental Disease.

- Montgomery, A. D., & Doernbecher, R. (2020). Battlefield acupuncture for chronic pain management in patients on long-term opioid therapy. *Medical acupuncture*, *32*(1), 38-44.

- Padyab, M., Armelius, B. Å., Armelius, K., Nyström, S., Blom, B., Grönlund, A. S., & Lundgren, L. (2018). Is clinical assessment of addiction severity of individuals with substance use disorder, using the Addiction Severity Index, a predictor of future inpatient mental health hospitalization? A nine-year registry study. Journal of dual diagnosis, 14(3), 187-191.

- Smith, N. B., Mota, N., Tsai, J., Monteith, L., Harpaz-Rotem, I., Southwick, S. M., & Pietrzak, R. H. (2016). Nature and determinants of suicidal ideation among US veterans: Results from the national health and resilience in veterans study. Journal of Affective Disorders, 197, 66-73.

BIBLIOGRAPHY CONT'D

- Taylor, S. L., Giannitrapani, K., Ackland, P. E., Holliday, J., Reddy, K. P., Drake, D. F., ... & Kligler, B. (2018). Challenges and strategies for implementing battlefield acupuncture in the Veterans Administration: A qualitative study of provider perspectives. *Medical acupuncture*, *30*(5), 252-261.
- Tsai, J., Mares, A. S., & Rosenheck, R. A. (2010). A multisite comparison of supported housing for chronically homeless adults:"housing first" versus "residential treatment first". Psychological services, 7(4), 219
- Walker, P. H., Pock, A., Ling, C. G., Kwon, K. N., & Vaughan, M. (2016). Battlefield acup Kroenke, K., Spitzer, R. L., Williams, J. B., & Löwe, B. (2009). An ultra-brief screening scale for anxiety and depression: the PHQ–4. Psychosomatics, 50(6), 613-621.
- .Zanis, D. A., McLellan, A. T., Cnaan, R. A., & Randall, M. (1994). Reliability and validity of the Addiction Severity Index with a homeless sample. Journal of substance abuse treatment, 11(6), 541-548.