COMPLEMENTARY & INTEGRATIVE APPROACHES TO OPIOID USE DISORDER

A LITERATURE SYNTHESIS

COMPILED & PRESENTED BY ALEX R. HILLMAN

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AGENDA

- Limitations & research challenges
- Overview of evidence & mechanisms
- Breakdown of CAM Tools
  - Chinese Medicine
    - Acupuncture & electro-acupuncture (TEAS)
  - Mindfulness & Psychotherapy
  - Mind-body Practices
    - Exercise, yoga, qigong, tai chi
    - Relaxation & massage
  - Nutrition & Supplementation
- CAM Study of note
- CAM/IM access disparities

LIMITATIONS & RESEARCH CHALLENGES

- Overall need for increased research funding
  - (NCCIH, VA, DOD)
- RCT model doesn't work for acupuncture when control ="sham" acupuncture/acupressure; similar across other CAM modes
- Small sample sizes, short longitudinal time frames
- Need for replication by independent researchers

WHAT ARE COMPLEMENTARY & INTEGRATIVE PRACTICES

- Have origins outside allopathic medicine
- Include multi-modal approaches
- Provider-administered care
  - Acupuncture, chiropractic, naturopathic care
- Self-administered wellness practices
  - Yoga, meditation, taking dietary supplements
- Growing in popularity for pain management & SUD regulation

PHYSIOLOGY OF ADDICTION

- Areas of the brain implicated in the pathophysiology of addiction: the prefrontal cortex and amygdala (Kalivas & Volkow, 2005)

- Default Mode Network (DMN) / "Brain Activation"

(Brewer et al., 2011)

  - Brain-based biomarkers for depression & SUD vulnerability

CAM MECHANISMS CONTRIBUTE TO OUD RECOVERY

- Increase parasympathetic nervous system response
- Decrease sympathetic nervous system's activity
- Decrease the effects of stress and strain on the body
- Increase support, connection & self-efficacy

CHINESE MEDICINE

- NADA Protocol

- Transcutaneous electric acupoint stimulation (TEAS)

MINDFULNESS & PSYCHOTHERAPY

- Meditation
- Bio-feedback (as add-on to CBT or Twelve-step)
- Mindfulness-Based Cognitive Therapy (MBCT)
- Dialectical Behavioral Therapy (DBT)

EXERCISE & MOVEMENT

- Yoga (No definitive protocol—spiritual vs. secular?)
- Qigong & Tai Chi
- Walking

RELAXATION & HEALING TOUCH

- Therapeutic Massage
- Naturopathic & Osteopathic Manipulation

NUTRITION & SUPPLEMENTATION

- Magnesium
- Ibogaine

CASE STUDY: MINDFULNESS-BASED RELAPSE PREVENTION (MBRP)

- Witkiewitz K, Bowen S. (2010). Depression, craving, and substance use following a randomized trial of mindfulness-based relapse prevention
- 8-week, group-based psychoeducational intervention
  - combines traditional cognitive-behavioral relapse prevention with meditation training and mindful movement
  - goal is to help patients tolerate uncomfortable states, difficult emotions, without automatically reacting
- Delivered after intensive stabilization
- Efficacy RCT; control was treatment-as-usual
- N=168 patient with SUD, **mean age 40.45 years, *SD* = 10.28; 36.3% female; 46.4% non-White**
- Measures: depression relative to Beck's depression scale, **substance use via Timeline Follow-Back instrument**
- Results showed the MBRP group had significantly less substance use at 2-month follow-up, explained by a weakened association between depressive symptoms and craving

CAM ACCESS & DISPARITIES

National Health Interview Survey (2011) Data Indicates:

- CAM use increases with income and educational attainment
- CAM/IM used most often by Non-Hispanic Whites (36%), followed by Hispanics (27%), then Non-Hispanic Black (26%) individuals
- Controlling for other socio-demographic factors the study found that Hispanic & Black patients use CAM less frequently, and are less likely to disclose to PCPs if they are using CAM
- Gardiner, et al., found that Non-Hispanic Whites are most likely to use herbal medicine, relaxation techniques, and Chiropractic care and attributed this to their relatively high costs and lacking insurance coverage
- Neiberg et al., has hypothesized these demographic differences of CAM/IM use are most associated with differences in availability, familiarity, transportation, and public health policies

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ELECTRO-ACUPUNCTURE PILOT STUDY

Meade, CS, Lucas, SE, McDonald, LJ, Fitzmaurice, GM, Eldridge, JA, Merrill, N, Weiss, RD. (2010). A randomized trial of transcutaneous electric acupoint stimulation as adjunctive treatment for opioid detoxification. Journal of Substance Abuse Treatment.

•Pilot RCT, *N* = 48, randomly assigned to active or sham TEAS

•Received three 30-minute treatments daily for 3 to 4 days

•Methods: In active TEAS, current was set to maximal tolerable intensity (8–15 mA); in sham TEAS, it was set to 1 mA

•Result: 2 weeks post-discharge, participants in active TEAS were less likely to have used any drugs (35% vs. 77%, $p < .05$); Improvements in pain interference & physical health

•TEAS is an acceptable, inexpensive adjunctive treatment and feasible implementation to inpatient detoxification protocols, particularly for opioid regulation

AURICULAR ACUPUNCTURE

Chang, B. H., & Sommers, E. (2014). Acupuncture and relaxation response for craving and anxiety reduction among military veterans in recovery from substance use disorder. *The American Journal on Addictions*

- Three-arm RCT, randomly assigned to acupuncture, Rest-Relaxation (RR) technique or usual care
- Measured reduction in craving and anxiety following 10-week intervention among homeless veterans who were in recovery from SUDs
- N=67, acupuncture (n=23), RR (n=23), usual care (n=21)
- Methods: Participants in the two intervention groups rated their degree of craving on a scale of 1–10 & anxiety on a scale of 1–4 before and after each intervention session
- Results: Craving and anxiety levels decreased significantly following one session of acupuncture

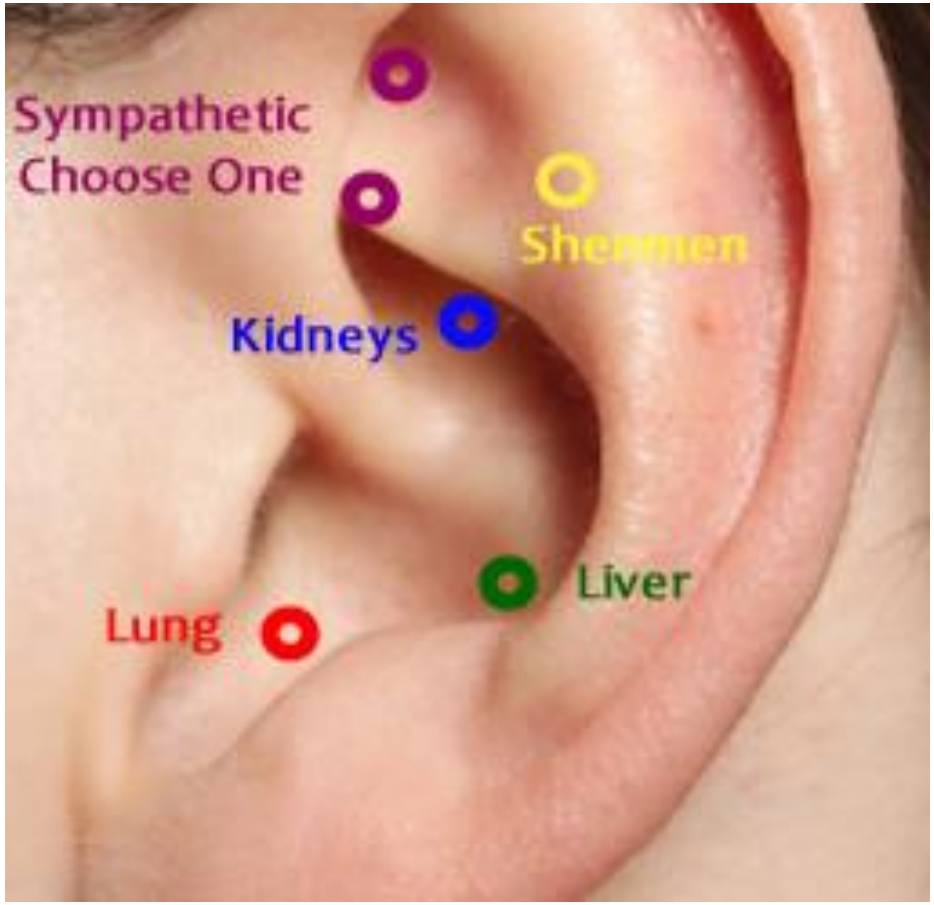
  (−1.04, $p = .0001$; −8.83, $p < .0001$) or RR intervention (−.43, $p = .02$; −4.64, $p = .03$)

  - The level of craving continued to drop with additional intervention sessions

    (regression coefficient $b = -.10$, $p = .01$, and $b = -.10$, $p = .02$ for acupuncture and RR groups)
  - Number of daily practice days of RR-eliciting techniques is also associated with reduction in craving ratings

    ($b = -.02$, $p = .008$)

NADA PROTOCOL



YOGA

- Reddy, Dick, Gerber, & Mitchell. (2014). The effect of a yoga intervention on alcohol and drug abuse risk in veteran and civilian women with posttraumatic stress disorder. *The Journal of Alternative and Complementary Medicine*
- 2 arm-RCT, N=38, 12-session yoga intervention (n=20), control (n=18), looking at women 18-65 with PTSD
- Methods used the AUDIT & Drug Use Disorders Identification Test (DUDIT) at baseline, post-intervention period and one-month follow-up
- Results both the yoga and control groups experienced improvements in re-experiencing PTSD symptoms
  - Substance use decreased in the yoga intervention group, while it remained stable in the control group
  - the yoga group demonstrated improvements in hyperarousal symptoms too
  - Despite strong reported interest in seeking psychotherapy support for SUD only 2 participants in the yoga group followed through on their desire to seek psychotherapeutic support

MASSAGE FOR HEROIN ADDICTION

Yang, L., Wu, Z., Chen, J., Chen, N., Yan, T., Shi, X., & Sun, L. (2013). Clinical observation of acupuncture and massage therapy combined with Chinese medicine in heroin addicts. *Chinese Journal of Drug Dependence*.

- This study looked at a combination of Acupuncture, massage, and herbs for treatment of heroin withdrawal, all subjects met DSM-III diagnosis of opioid dependence
- 2 arm RCT, N=109; 1st arm used Paidu-Yangsheng (herbal supplement) only, second arm was given the supplement plus acupuncture & massage
- Outcome measures via the Opioid Withdrawal Syndrome Scale (OWS) at time of baseline, post-intervention, 12-days follow-up & 3-month follow up
- Results showed that withdrawal symptoms in the acupuncture & massage group were superior to the mono-therapy group, particularly for reduction in abdominal pain, musculoskeletal pain, and insomnia regulation during withdrawal
- The retention rate was also higher (37.5%) in the Ac.+Massage group vs. (28.5%) in the mono-therapy group. There was a statistically significant difference between the two groups ($P < 0.05$)

MASSAGE THERAPY

Margaret Reader, Ross Young, and Jason P. Connor. Massage Therapy Improves the Management of Alcohol Withdrawal Syndrome. The Journal of Alternative and Complementary Medicine. May 2005.

- RCT comparing massage therapy to a "rest" control condition in patients undergoing alcohol detoxification in a in-patient setting
- N = 50, all patients with alcohol dependence (41 males, 9 females)
- Intervention used chair massage that covered back, shoulder, head, and neck massage
- Outcome measures included: Alcohol Withdrawal Scale, respiration, pulse rate, and subjective patient evaluation
- Massage group showed reductions in pulse rate on 3 of the 4 days of treatment. Massage was also more effective in reducing Alcohol Withdrawal Scale scores in the early stages of the detoxification process.
- Respiration in the massage group was reduced toward the end of the detoxification admission.