

# Drum-Assisted Recovery Therapy for Native Americans (DARTNA): Can drumming be used as an effective substance abuse intervention for Native Americans?

Daniel Dickerson, D.O., M.P.H., *Inupiaq*

Assistant Research Psychiatrist  
UCLA, Integrated Substance Abuse Programs (ISAP)

Addiction Psychiatrist  
American Indian Counseling Center (AICC)  
Los Angeles County Department of Mental Health

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# Substance Abuse and American Indians/Alaska Natives (AI/ANs)

- Substance abuse among American Indians/Alaska Natives (AI/ANs) has been persistently high throughout United States history.
- AI/ANs experience significantly higher rates of alcohol and drug abuse among AI/ANs compared to the general U.S. population (17.3% and 7.6% vs. 6.8% and 2.8%, respectively) (NSDUH, 2012).
- In 2013, AI/ANs aged 12 or older had the 2<sup>nd</sup> highest rate of current illicit drug use in the U.S., compared to other groups (SAMHSA, 2014), and AI/ANs tend to initiate drinking at younger ages.

# Historical Trauma and AI/AN Cultural Identity



- Many U.S. historical actions, i.e., removals and relocation acts, have resulted in a fragmented AI/AN community
- Many AI/ANs may have lost some of their cultural identity.
- Lost of cultural identity may contribute to increased drug and alcohol use.
- Conversely, strong cultural identification may help youth and adults to be less likely to use drugs/alcohol.
- AI adolescents who identify with Indian culture may be less likely to be involved in alcohol use than those who lack this sense of identity.

# AI/AN Communities want traditional healing services

- Currently available substance abuse treatments, i.e., evidence-based treatments (EBTs), may not be fully addressing the culturally-relevant treatment needs of AI/ANs.
- Utilization of indigenous healing methods (i.e., drumming, bead making, sage preparation, etc.) has long been proposed by AI/AN community leaders for AI/ANs with substance abuse problems.

(Coyhis & Simonelli, 2008; TIE, 2002).

- AI/AN community members consistently expressed the need for the provision of traditional based treatments for AI/ANs with substance abuse problems in 2 large, community-based projects (Dickerson et al., 2012; NAHC, 2012).



# Benefits of traditional healing services

- Participating in traditional activities may enhance and renew AI/AN sense of personal and cultural identity.
- Studies have shown a renewed pride in AI/AN cultural heritage, feeling motivated to learn more about their cultural heritage, and coming to feel “worthy” of participating in cultural events.
- Opportunity to learn about healthier cultural ideals, views, and traditions which may aid in substance abuse recovery.

# Challenges in receiving traditional based treatments



- Opportunities to receive traditional-based treatments within the clinical setting are often limited.
- One reason is due to the reimbursement challenges clinics experience for these services.
- In order to facilitate changes which could allow for reimbursement of traditional based services, more studies are needed focusing on the development and analysis of traditional based treatments.
- Studies demonstrating the effectiveness of traditional based treatments may assist toward facilitating policy changes that could allow for the provision and reimbursement of these treatments.



# American Indians/Alaska Natives and Drumming

- The drum is a sacred instrument among AI/AN tribes.
- The drumbeat symbolizes the heartbeat of indigenous nations and the heartbeat of Mother Earth.
- The drum is used in sacred ceremonies, social dances, feasts, in preparation for hunting.
- Drumming was and is still used to help heal the sick and as a way of carrying songs and prayers.
- A way of bringing AI/AN communities together.

# Historical Perspective of Drumming



Rock Art (Univ. Arkansas)



## Drumming and AI/AN



- May offer a connection with the spirit world, ancestors, and culture and identity.
- Certain types of beats are said to carry special healing powers into the human body.
- A sick person's psychological and physiological states are believed to be altered by the rhythmic drumbeats and accompanying song.

# Women and drums



- In many tribes, drumming is not the role traditionally prescribed for women. For example, men usually are seated in a circle around a drum, while women stand around or outside of the circle singing and/or dancing.
- “Culture always changes. It’s controversial, and it’s something I think is pretty interesting,” Amber Annis, president of UND’s Indian Studies Association.
- “We don’t compete against our men; we are equals with our men,” she said. “This drum is about women healing.” Jermaine Tremmel, Red Drum Women Society Singers. (Indian County News, 2008)
- Some cultural leaders have concerns with further dilution of AI/AN cultures by offering women the opportunity to drum where men typically drum (i.e. pow-wows)
- In various tribes, women drum and sing solo, i.e., healing songs.

# Therapeutic effects of drumming

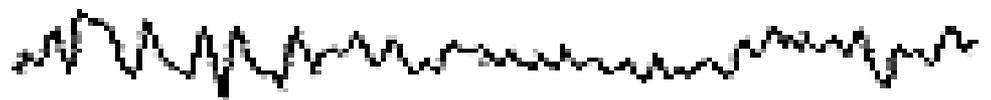
- Several studies have demonstrated physical and psychological effects associated with drumming (Winkelman, 2003).
- Drumming may also have biological effects that may mitigate various behaviors.
- Rhythmic auditory stimuli (including drumming, singing, and chanting) may generate auditory drive leading to increased alpha and theta wave production, which may contribute to a desired meditative state (Wright, 1991).
- This response is produced by activation of the limbic brain's serotonergic circuits to the lower brain that synchronize the frontal areas of the brain with ascending discharges.
- Integration of nonverbal information from lower brain structures to frontal lobe regions has the ability to enhance insight.



BETA:  
Alert/Working



ALPHA:  
Relaxed/Reflecting



THETA:  
Drowsy/Daydreaming



DELTA:  
Sleep/Dreaming



DELTA:  
Deep, Dreamless  
Sleep

**"The drum connected me** with something I hadn't known before, and I felt a huge lump in my throat that was equal parts sorrow, gratitude and joy. When I was coaxed out for my first inter-tribal dance, **I closed my eyes and felt the drum and began to move my feet. It was magic.** I could dance. It would be a few years before I was graced with the drum teachings of my people, but **there was a spiritual connection** nonetheless. Once I felt the drum in my chest, the hollowness I'd carried as a displaced Indian kid was gone. In its place was belonging."

From the book *One Native Life*. © 2008, by Richard Wagamese.  
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# Questions relating to drumming and AI/ANs

- Can the use of the drum be used in a culturally-appropriate manner for substance abuse tx?
- How important culturally is it to accompany singing with drumming?
- Roles of AI/AN females in drumming?
- Approaching diversity of AI/AN drumming traditions (562+ federally-recognized tribes)

# Drum-Assisted Recovery Therapy for Native Americans (DARTNA) Treatment Program



- Two versions: 6 and 12 week versions

## 3- hour session format

**60 minutes:** Education/cultural discussion: drumming, teaching of songs, Medicine Wheel, 12-steps, White Bison concepts

**90 minutes:** Drumming activities corresponding to Medicine Wheel concepts

**30 minutes:** Talking Circle/Processing Group

- Each week focusing sequentially on the 12-steps of AA/NA and concepts of the Medicine Wheel



**WEEKS 10-12**  
STEPS 10-12 OF AA/NA

**MENTAL**

**SPIRITUAL**

**WEEKS 1-3**  
STEPS 1-3 OF AA/NA



**PHYSICAL**

**WEEKS 4-6**  
STEPS 4-6 OF AA/NA



**WEEKS 7-9**  
STEPS 7-9 OF AA/NA



**EMOTIONAL**

# Primary DARTNA Grant Activities

- 1) Series of focus groups (treatment providers, AI/AN patients, CAB) to discuss initial treatment format
- 2) Pretest of DARTNA among 10 AI/ANs
- 3) Follow-up focus group to finalize protocol.
- 4) Preparation for randomized clinical trial to analyze its effectiveness.

# Initial Focus Groups

- Focus groups conducted among
  - 1) AI/AN substance abuse providers (n=9),
  - 2) AI/ANs with substance abuse hx. (n=9)
  - 3) Community Advisory Board (n=4)
- Purpose to obtain feedback with regard to the preliminary DARTNA treatment protocol.
- Feedback received to be used for a follow-up pretest of DARTNA

# DARTNA focus group overarching conceptual themes

- (1) drumming can be especially beneficial for AI/ANs with substance abuse issues
- (2) assuring a culturally-based focus is necessary as it relates to drumming for AI/ANs with substance abuse issues
- (3) providing a treatment format which will provide a foundation of cultural ideals which cross the landscape of diverse tribes while recognizing tribal diversity is necessary
- (4) addressing gender roles as it relates to drumming activities must be addressed within the treatment setting.

## Focus Group Quotes

*“...So by being more connected to the culture is really going to help them whether they’ve drummed before or whether they’ve ever had any knowledge about their tribal culture. I think it’s their first step that will really help.”*

*(CAB member)*

*“People understand that it (education) has to be covered before they start making those drums and singing. If there’s no foundation, there’s no building.”*

*(Substance Abuse Provider)*

# Focus Group Quotes

- *“...if you’re going to integrate our culture and the drum into this, it needs to be done in a proper way-in the way it was intended to be. Because that healing power is there in the drum and the songs if we use it in the right way...”*

*(CAB member)*

- *“The urban Indians are really Natives not learned in their cultures and where they are...Urban Indians need teachings also as well as the people from the reservation.”* (AI/AN patient)

## After treatment quote (CAB)

*“The tools that they use in treatment should be implemented in their lives. It’s up to them to continue to go to Pow Wows or to sweat...to cultivate it in their lives and for drumming to be a part of their lives. It will be the responsibility of the service providers to create opportunities for the clients after their participation in treatment.”*

## Focus group: Community Advisory Board (CAB) member quote

*“You want to teach definitely the significance of drumming and Native people feel the drumming is sacred. It’s the heartbeat of the earth and mother earth. The target is also educating and hands on experience and to have your own creativity to you making the drum and on top of that teaching how to create the drum.”*

# Pretest of DARTNA and Follow-up focus groups

- 10 AI/ANs with current substance use disorders (5 males, 5 females) will be provided the preliminary treatment protocol.
- Follow-up focus groups among participants, providers and CAB will be conducted to aid in the development of the final treatment protocol.

# Assessments for Pretest

- *American Indian/Alaska Native Cultural Identity Scale*
- *Functional Assessment of Chronic Illness Therapy (FACIT)-Spiritual Questions Only-Expanded*
- *Functional Assessment of Chronic Illness Therapy (FACIT)-Fatigue*
- *Functional Assessment of Cancer Therapy-Cognitive Function (FACT-C)*
- *The General Alcoholics Anonymous Tools of Recovery (GAATOR 2.1)*
- *The Brief Symptom Inventory*
- *The Addiction Severity Index (ASI)*

# DARTNA pretest participants

- The age range was 19-67 years of age.
- Six participants were male and 5 were female.
- Education level ranged from 10<sup>th</sup> grade to Masters Degree.
- Nine participants reported alcohol as being their drug of choice and 2 participants reported marijuana as their drug of choice. With regard to marital status, six were divorced, four were single, and one was married.
- With regard to employment, seven were employed (either full time or part time), three were unemployed, and one was on disability.

Assessment	Baseline Score (n=8, 5)	6-week Score (n=8)	12-week Score (n=5)
ASI-alcohol use	0.18, 0.18	0.07	0.14
ASI-DRUG USE	0.06, 0.04	0.01	0.02
ASI-legal	0.12, 0.17	0.12	0.04
ASI-psychiatric	0.26, 0.30	0.10*	0.09
ASI-medical status	0.36, 0.46	0.18	0.14*

**Table 1b. Results from DARTNA completers on additional measures (n=5)**

FACIT-Spiritual Questions Only-Expanded	68.2/92	76.8/92	81.2/92
-subscale "Meaning/Peace"	21.6	26.4	27.6**
-subscale "Spiritual Subscale"	68.1	77.2	81.8
FACT-Cognitive	89.4/132	94.4/132	94/132
-subscale "TOI"	88.2	96.8	100.8*
-subscale "Fatigue"	42.4	47.6	49.8

# Preliminary Pretest Findings

- Promising results suggest benefits of drumming in the following areas:
  - improved psychiatric status
  - improved medical status
  - increased functioning levels
  - enhanced spirituality

# Feedback from participants after participating in DARTNA

- “I’m grateful it’s my time to reconnect with the cultural, traditional way of life to find out who I really am and where I come from.”
- “With constant distraction in my path, drumming is a way to look up from stress, take care of things, get them out of the way.”

## Participant feedback continued:

- “I feel serenity, peace...”
- “It’s uplifting and the drum itself is spiritual. I never thought of doing drugs or drinking.” “(I) start to feel spiritual connection. This is where I need to be, where I should be. I feel at home...”

## Two video clips

- First video: drum-making activity
- Second video: drumming session

# Future directions

- Follow-up grant recently submitted to conduct a clinical trial in order to further analyze benefits of DARTNA
- Very few clinical trials have been conducted analyzing traditional based treatments.
- Effective, culturally-appropriate strategies are needed when conducting clinical trials among AI/ANs.
- Dialogue with policy makers.

## Barriers to conducting research investigating traditional-based treatments.

- Unethical research having been conducted in the past on AI/ANs.
- Stigma of research in AI/AN communities.
- Concerns of being “experimented on”
- Shortage of established research centers specifically for AI/AN studies within communities.
- Ethical and pragmatic considerations doing clinical trials in AI/AN communities

# Barriers to conducting research investigating traditional-based treatments

- Sacred nature of traditional based activities.
- Concerns with regard to “advertising or educating” private ceremonies outside of the tribal community.
- Concerns with regard to “diluting or exploiting” traditional based activities.

Approaches to conducting research that analyze traditional based treatments.

- Utilize community-based participatory research (CBPR) approach
- Starting slow and purposeful with qualitative (group discussions) research in order to gain community perspectives.
- Education with regard to the value of research must be provided to AI/AN communities
- Recognition of the sacred nature of traditional based treatments needs to be fully appreciated by researchers.

# Conclusions

- Work conducted in this study highlights a process of conceptualizing and developing traditional-based treatments for AI/ANs with substance use disorders.
- Drumming may be useful for AIs/ANs with substance use disorders.
- Strategies to conduct successful clinical trials among AI/ANs need to be established.
- Further research investigating traditional-based healing strategies are needed.

# Contact Info

- Daniel Dickerson, D.O., M.P.H.
- Phone: 562-277-0310
- E-mail: [daniel.dickerson@ucla.edu](mailto:daniel.dickerson@ucla.edu)

