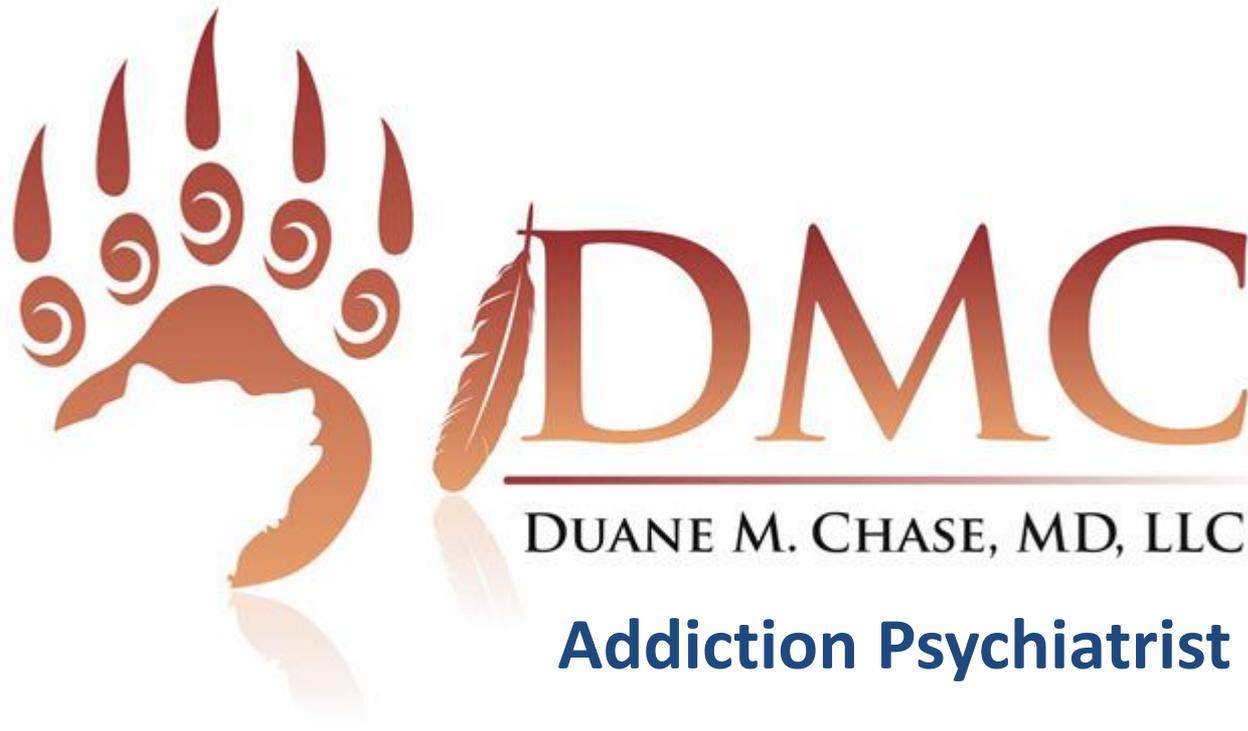


# Alcohol Abuse and Dependence in Native Americans

Its link to suicide and medication treatment  
options



DUANE M. CHASE, MD, LLC

**Addiction Psychiatrist**

# Objectives

- Will discuss alcohol's role in suicide with the limited data we have.
- To briefly discuss current medications available for the treatment of alcohol dependence.
- To briefly discuss the role of culture in treating addictions.

- Alcohol is commonly involved as a precipitating factor in many suicides.
- Numerous studies have demonstrated that alcoholics have much higher annual and lifetime rates of suicide and suicide attempts than do those in the general population.
- Furthermore, those with several types of mental disorders (e.g. depression) also have higher rates of suicide that are frequently alcohol related.

## Suicide

- Suicide is the eighth leading cause of death in the United States and is the third leading cause of death for young people aged 15-24.
- Males are four times more likely to die from suicide than females.
- 60% of suicide deaths, among men, involved the use of a firearm. This is true among all suicide deaths as well.
- Suicide rates are highest among White males and second highest among Native American/Alaskan men.

- However, based on the most recent data from IHS, the overall age-adjusted suicide rates in the Native American/Alaskan population are approximately 72% higher than in the U.S. population (19.3 per 100,000 compared to 11.2 respectively; IHS, 1998-1999).
- This is an improvement over the suicide rates in the 1970's where the rates reached 100% or 2 to 1 ratio.

## Suicide and Alcohol among Natives

- Among Native Americans and Alaska Natives, a more frequent relationship between alcohol use and suicidal death has been documented.
- In Alaska, a study<sup>1</sup> reported that more alcohol related suicides occurred among Natives than non-Natives(79% vs. 48%).
- Also,of those that completed suicide, blood alcohol concentrations above intoxication (0.1) were seen with greater frequency among Natives (54%) than non-Natives (20%).
- A similar finding was reported in Oklahoma<sup>2</sup> in 1991.

- In at least 29 other studies of completed suicide among Natives, the average of alcohol involvement was 69% with a range from 30%-100%.
- The studies that compare Native to non-Native populations within the same geographic region of the United States and Canada have found almost universally that alcohol involvement is higher among Native suicides than among the local, non-Native populations.
- Therefore, studies of Native suicide indicate a more frequent relationship between alcohol and suicidal death than published articles concerning non-Native populations

## Alcohol and Suicide in New Mexico

- A study was carried out in NM which covered the years between 1980 and 1998.
- It was intended to examine and document whether alcohol was a significant factor in completed suicides among Natives in NM.
- It also looked at whether Native suicides were more likely to be alcohol related than among others in New Mexico

- Suicide among Natives was found to be highly alcohol related (69%) which is similar to what has been reported in past studies.
- For all three Native cultural groups, alcohol was not only present in a majority of suicides, but the average blood alcohol concentration was very high (0.198).

- As was stated before, 69% of Native suicides was found to be related to alcohol compared to the statewide rate of 44%.
- Seventy-one percent of Native male suicides were alcohol related compared to 50% for females.
- A somewhat surprising finding was that the BACs for both groups pre-suicide were similar (0.199 for males vs. 0.181 for females). Clearly, female decedents who drank prior to suicide also drank heavily.

# Medications

1. Naltrexone (including long acting depot)
2. Disulfiram
3. Acamprosate
4. Topiramate
5. Pregabalin?
6. Oxcarbazepine?

# Naltrexone

- Acts through blockade of the mu-opioid receptor. Mice who lack the mu-opioid receptor do not self administer alcohol.
- When alcohol is consumed the reward pathway is triggered by release of endogenous  $\beta$ -endorphins. This results in release of dopamine from dopaminergic neurons originating from the Ventral Tegmental Area to the Nucleus Accumbens.

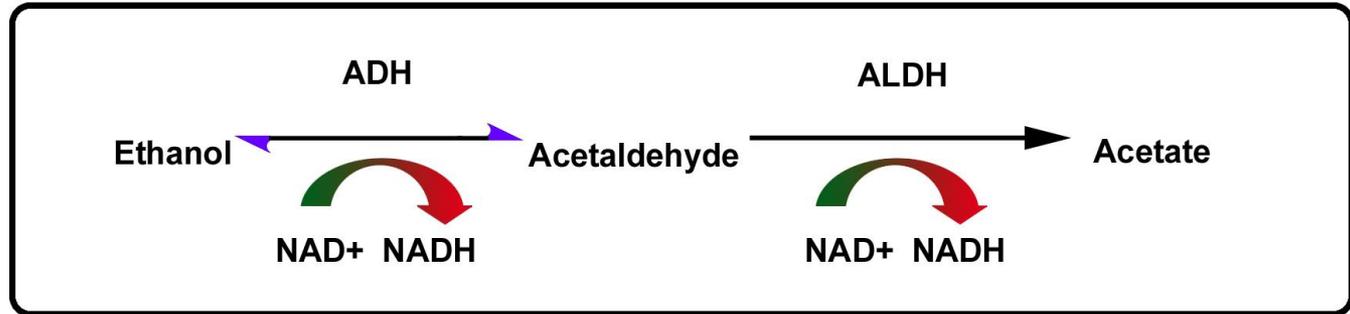
- Naltrexone appears to have its greatest efficacy in the short term 12-16 weeks.
- It decreases time to first drink, reduces the number of heavy drinking days, and reduces number of drinks consumed in one setting.
- However, the effect distinguishes over time.
- The typical dose is 50 mg po daily, however, in the COMBINE study they used 100mg po daily.

- The most common side effects is nausea, vomiting, decreased appetite and somnolence.
- These side effects, especially nausea and vomiting, lead to decreased adherence with taking the oral naltrexone.

- Long acting depot naltrexone appears to be better tolerated than oral naltrexone because there is more of a steady state as opposed to the peak and valleys seen with oral medications.
- In one study there was a 25% relative reduction in heavy drinking days ( $\geq$  5 drinks per day) which some people believe is the sine qua non of alcoholism.
- No reported hepatotoxicity.
- Disadvantage—EXPENSIVE!!! (over \$900 for shot of 380mg...Holy schnikes!)

# Disulfiram

- Inhibits the enzyme aldehyde dehydrogenase in the metabolism of alcohol.



- The increased concentration of acetaldehyde results in the disulfiram-ethanol reaction (DER).
- The intensity of the DER varies with both the dose of disulfiram and the volume of amount of alcohol ingested.
- Symptoms of DER are flushing of the skin, especially the chest and face; increased HR, palpitations and decreased blood pressure.
- Other symptoms may include nausea, vomiting, SOB, diaphoresis, dizziness, blurred vision, and confusion.

- DERs are usually self limited to 30 minutes, but occasionally DERs may be severe with marked tachycardia, hypotension or bradycardia. Rarely there can be cardiovascular collapse, convulsions and death.
- Severe events are more associated with high doses (>500mg daily) of disulfiram combined with greater than 2 ounces of alcohol.

- Data is pretty weak, but in a few studies it does seem to help some.
- May be useful for the highly motivated individual who is also receiving therapy.
- Starting dose is 250mg po daily and may be increased to 500mg po daily.

# Acamprosate (Campral)

- Is an amino acid derivative that increases GABA neurotransmission and is also thought to modulate the excitatory neurotransmission, particularly glutamate, at the NMDA receptor.
- It was approved by the FDA based largely on three European studies which showed efficacy on total abstinence and reduced drinking.
- Two studies in the United States, particularly the COMBINE study (which was a multicenter randomized control study comparing naltrexone, acamprosate, and placebo with and without behavioral therapies), failed to show an advantage of acamprosate over placebo.

- Acamprosate is FDA approved at a dosage of 1998 mg per day, or 666mg po TID.
- Acamprosate is excreted unmetabolized, so that renal function is the rate limiting factor in the drug's elimination.

## Topiramate (Topamax)

- Thought to reduce alcohol reinforcement and propensity to drink by facilitation of GABA function and inhibition of glutaminergic pathways in the corticomesolimbic system.
- Topiramate was significantly more efficacious than placebo at reducing the percentage of heavy drinking days (14 week study) 20 vs 42 for placebo.
- Target dose of 300mg appears to be effective.
- Needs to be titrated over 6-8 weeks

- Most common side effects are parathesia, taste perversion, anorexia, and difficulty with concentration/attention.
- The parathesias is thought to be secondary to the commonly observed metabolic acidosis produced by antagonism by topiramate of carbonic anhydrase.
- And of course, with all anti-epileptic medications, warnings of increased suicidal thoughts or actions.

## Lyrica (Pregabalin)

- A few studies show its effective and its action also appears to be very similar to topiramate.

## Areas of research

- Baclofen, a GABA-B agonist, has shown some promise in several small and short term studies.
- Role of corticotropin-releasing factor in alcohol dependent states.
- Cannabinoid CB-1 receptor antagonists.

## Treatment and Cultural Recovery

- Treatment requires more than availability in the community. One study found that a particular ethnic group did not seek alcohol or drug treatment from a local program because the program did not have staff that included members of the same ethnic group.
- Staff composition is critical in developing treatment programs, particularly with treatment initiation and retention.

## Treatment and Cultural Recovery

- Hiring qualified staff of the same ethnic background may dramatically increase patient access and initiation into treatment.
- Patients should have access to treatment facilities and counselors in their own community rather than in remote treatment locations.
- However, in small rural communities ease of access may reduce the ability to keep treatment confidential.

# Cultural Recovery

- One aspect of recovery that is often overlooked is that of cultural recovery.
- Cultural recovery involves regaining a viable ethnic identity and acquiring a functional social network committed to the person's recovery; making a religious, spiritual, or moral recommitment; reengaging in recreational or vocational activities; and gaining a social role in the recovering community, society at large, or both.
- Those individuals who fail to make a satisfactory cultural recovery are at risk for re-addiction.

## Other important aspects of treatment

- Family involvement is an important focus in working with Native American communities.
- Both the patient's immediate family and extended family are significant and should be involved in the intervention process because alcohol and drug abuse can erode important family and social ties, and restorative efforts to repair an individual's familial and social network can buffer the effects of alcohol or drug abuse.

“The community is the treatment center.”

- Finally, the community must reestablish a culturally integrated fabric, only part of which may be related to drug and alcohol use.
- These efforts must precede, or at least parallel, the development of a meaningful intervention; efforts must combine basic community cultural values with the most recent advances in treatment intervention.
- For example, the Alkali Lake community in British Columbia achieved a reduction of alcoholism from 95% to 5% over 10 years through revitalization of tradition and the establishment of a community atmosphere that no longer tolerated alcoholism.

# Conclusion

- The problems that drugs and alcohol bring to communities are multidimensional. Treatment interventions should be designed with input from the community. It is this task of community healing that hope is rekindled, and it is this hope that initiates and drives the healing process. Tribal governments and groups, families, traditional healers, religious entities, legal authorities, and local health care providers should all be involved in the healing and recovery process.

Thank you!