DRUG USE PATTERNS AND ASSOCIATED PROBLEMS AMONG RACIAL/ETHNIC MINORITY GROUPS, ESPECIALLY AMERICAN INDIANS AND ALASKAN NATIVES (AI/ANs), IN THE US:

THREE NATIONAL ALCOHOL SURVEYS 2000-2010

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FURTHER BACKGROUND

Although the genetic risk component in Native Americans appears similar in magnitude to that of other populations, studies of genes coding for alcohol-metabolizing enzymes suggest many AI/ANs lack protective variants found in other populations (Ehlers & Gizer, 2013):

- Ehlers & Gizer argue that this lack, together with childhood trauma, early onset of use and environmental disadvantage may help account for elevated risks of consumption disorders.
- AIAN and non-Hispanic White adults in 2011 were among those groups with the highest prevalence, frequencies and intensities of binge drinking, versus other racial/ethnic populations (Office of Minority Health & Health Equity, 2015).

Edward S. Curtis – Tenokai-Apache
SOURCE: http://www.firstpeople.us

Edward S. Curtis – Taos Girl
SOURCE: http://www.firstpeople.us

Edward S. Curtis – Zuni Governor
SOURCE: http://www.firstpeople.us

RESEARCH FRAMING & QUESTIONS

- The National Alcohol Survey (NAS) provides highly detailed data about alcohol intake patterns, including Maximum in any day (prior 12 months), alcohol-related social and health consequences, and alcohol dependence.
- In bivariate and multivariate models we examined drinking patterns and problems for self-reported AI/AN and other racial/ethnic groups using a pooled sample of the three most recent waves of the NAS representing the US general adult population from 2000 to 2010.
NAS IRB-APPROVED CONSENT SCRIPT:

- Informed potential participants that: a) the study is funded by the National Institutes of Health; b) questions are about health-related issues such as the experience of injuries, violence, and some background questions such as your age and marital status...as well as attitudes, opinions and use of alcoholic beverages or use drugs; c) they were randomly selected as “one of more than 7,000 persons”; d) the information provided is important for treatment and policy on health-related issues; e) participation is voluntary; f) they have a right to skip questions if uncomfortable, and g) a right to postpone or end the interview at any time; h) answers will be confidential and “entered into the computer in a form that does not allow any answer to be identified with any personal identifying information [and] grouped with those of all the other participants”; i) the survey will take about 20-45 minutes. Further, a telephone number was provided if they wanted more information. Hot-line numbers were also given.

DATA ON AMERICAN INDIANS/ALASKA NATIVES

OVERALL DESCRIPTIVE BIVARIATE RESULTS

<table>
<thead>
<tr>
<th>Percentages of Current (12 Month) Drinkers vs Abstainers by Racial/Ethnic Group</th>
<th>2005</th>
<th>2010</th>
<th>p2</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>22,950</td>
<td>34,916</td>
<td>0.04**</td>
</tr>
<tr>
<td>Black</td>
<td>10,160</td>
<td>16,532</td>
<td>0.01***</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2,500</td>
<td>2,800</td>
<td>0.19</td>
</tr>
<tr>
<td>Asian</td>
<td>1,900</td>
<td>1,895</td>
<td>0.05</td>
</tr>
<tr>
<td>AI/AN</td>
<td>2,300</td>
<td>2,300</td>
<td>0.37</td>
</tr>
</tbody>
</table>

Pooled sample of the 2000, 2005, & 2010 US National Alcohol Surveys (n=22,500; 349 AI/ANs)
- CATI interviews with a randomly-selected sample of U.S. adults using RDD.
- Targeted oversamples of Black and Hispanic respondents and residents from low-population states (where many AI/AN live).
- The 2010 NAS used Dual-frame Sampling; coverage of 97.5% of US households.
- Data were weighted to the general population of the US using Census data, taking account of age, sex, ethnic group and geographic area.

MEASURES

- The Maximum number of drinks consumed on any day in the last 12 months by current drinkers (Greenfield et al., 2006).
- The measure asked: 24 or more (24+) drinks, 12-23, 8-11, 5-7, 3-4, and 1-2 drinks.
- Risky Drinking is defined as exceeding the US NIAAA "low-risk" drinking guidelines (Greenfield, Ye, & Kerr, 2012). National Institute on Alcoholism and Alcohol Abuse. 2000.
- The NAS Alcohol Dependence measure used has 17 items that assess 7 domains of dependence symptoms. Consistent with DSM-IV criteria (American Psychiatric Association, 1994).
- The Tangible Consequences (production) indicator is positive if 1 of 15 items was affirmed, including workplace, legal, health, and interpersonal problems (Midanik & Greenfield, 2000).
- Demographics: marital status (married/living with partner, never married, and other—single, separated or divorced, education (less than high school, high school graduate, some college, college graduate or more); employment (employed, unemployed, or other—retired, homemaker, student, unemployed, other); and some background questions such as your age and marital status...as well as attitudes, opinions and use of alcoholic beverages or use drugs.

DATA: 3 NATIONAL ALCOHOL SURVEYS

MEASURES

- The Maximum number of drinks consumed on any day in the last 12 months by current drinkers (Greenfield et al., 2006).
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OVERALL DESCRIPTIVE BIVARIATE RESULTS

Percentages Among Current Drinkers by Racial/Ethnic Group

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<th>2000</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>173,300</td>
<td>182,400</td>
</tr>
<tr>
<td>Black</td>
<td>82,100</td>
<td>89,500</td>
</tr>
<tr>
<td>Hispanic</td>
<td>10,100</td>
<td>10,500</td>
</tr>
<tr>
<td>Asian</td>
<td>7,100</td>
<td>7,100</td>
</tr>
<tr>
<td>AI/AN</td>
<td>10,000</td>
<td>10,000</td>
</tr>
</tbody>
</table>

Note: For women, Br, 12+ excess drinking and daily low-risk guidelines (p < .05) and weekly guidelines (p < .05) significant; for men Br, exceeding daily limit and both tangible consequences and alcohol dependence all significant (p < .001).
For example, 4.2% drank 24+, as compared to 2.6% for Hispanics, 53% AI/ANs exceeded low-risk guidelines vs. 48% for Whites.

AI/ANs (19%) and Hispanics (17%) had higher levels of alcohol problems.

Exception: AI/AN women drinkers exceeded other groups in rate of 12+ drinks on any day in the prior 12 months.

Regression analyses examined the overall distribution of the maximum among drinkers.

In a model adjusting for age, gender and even family history, there was a significant difference between AI/AN and all other groups combined (Beta = 0.026, t = 3.146, p = .002).

However, in a full model, with independent variables similar to those in the logistic regressions, the result was rendered non-significant (Beta = 0.009, t = 1.090, p = .276).

RESULTS: BIVARIATE VS ADJUSTED LOGISTIC REGRESSION MODELS

- Fewer AI/ANs were 12-month drinkers (54% men, 45% women vs. overall 64% and 56%, respectively)
- But when drinking they consumed larger amounts than other groups:
  - For example, 4.2% drank 24+, as compared to 2.6% for Hispanics, 2.1% for both Asians and Blacks, and 1.8% for Whites.
  - 53% AI/ANs exceeded low-risk guidelines vs. 48% for Whites.
  - AI/ANs (19%) and Hispanics (17%) had higher levels of alcohol-related tangible consequences vs. 11% for Whites and alcohol dependence (7.2% and 7.5%, respectively, vs. 3.6% for Whites).
- When socio-demographic variables and family alcohol problem histories were controlled, most differences between AI/AN and other groups on drinking and problem outcomes were reduced to non-significance.
  - Except: AI/AN women drinkers exceeded other groups in rate of 12+ drinks on any day in the prior 12 months.

MAXIMUM DISTRIBUTION: BIVARIATE VS ADJUSTED FINDINGS

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- When socio-demographic variables and family alcohol problem histories were controlled, most differences between AI/AN and other groups on drinking and problem outcomes were reduced to non-significance.
  - Exception: AI/AN women drinkers exceeded other groups in rate of 12+ drinks on any day in the prior 12 months.
DISCUSSION

- This is our first (pooled) NAS analysis on AI/AN group and among the few National studies of this self-identified population
- Results suggest mainly a social determinants interpretation for the descriptive differences observed between AI/AN and other populations.
- That does not diminish the devastation of alcohol and alcohol related problems in AI/AN groups
- Offsetting this to some degree are high rates of abstinence; however, we still have to look at the prior heavy drinking group that quit versus lifetime abstinence

LIMITATIONS

- Cross-sectional, self-report results, including ascertainment of racial/ethnic group.
- Small proportion (≈ 1%) and numbers (n=349) of AI/ANs (even smaller ns for drinkers).
- Other vulnerabilities, e.g., childhood trauma and early drinking onset not considered yet.
- Individual drinking histories and prior problem drinking and treatment also not considered yet, to be the focus of future work.

CONCLUSION

- On a national, descriptive basis, AI/AN drinkers consume alcohol more heavily and have a higher prevalence of associated harms than other groups.
- However, controlling for family drinking problems and other socio-demographics suggest that family history and current social determinants may largely account for many of the descriptive disparities observed in heavy drinking and alcohol-related harms among AI/AN drinkers compared to those in other racial/ethnic groups.
- Still, even after such adjustments, AI/AN drinking women appear to have significantly higher risks of ever drinking 12 or more drinks in a day.
- Attending to historical, cultural, and other risk factors affecting these disparities, and to AI/AN women’s extreme drinking, should help plan more effective prevention and treatment strategies.

REFERENCES


REFERENCES CONTINUED