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Correlates of alcohol-related treatment among American Indians/ Alaska Natives with lifetime alcohol use disorder.

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Abstract

Purpose: To describe sociodemographic and selected psychiatric disorder patterns and estimate correlates of seeking alcohol treatment among American Indians, Alaska Natives (AIAN) and Non-Hispanic Whites (NHW) with lifetime alcohol use disorder (AUD).

Methods: Data come from the 2012-2013 U.S. National Epidemiologic Survey on Alcohol and Related Conditions-III. We retrospectively identified participants who completed information on lifetime AUD, race/ethnicity and seeking alcohol treatment or help for AUD. We used a generalized linear model with a log link and Poisson distribution to estimate prevalence ratios (PR) among adults with Diagnostic and Statistical Manual of Mental Disorders, 5th Edition lifetime AUD. We included the following correlates: race/ethnicity, sex, age, personal annual income, marital status, education, urban/rural status, U.S. region, any illegal drug use disorder, nicotine use disorder, select mood, anxiety, personality and trauma-related disorders.

Results: Among AIAN the prevalence of lifetime AUD was 46.6%. Among AIAN with lifetime AUD, 33.8% sought alcohol-related treatment. Among individuals with lifetime AUD, AIAN were associated with greater alcohol-related treatment seeking compared to NHW (aPR = 1.41 [95% CI 1.26-1.58]). Among AIAN with AUD, being male and age 35-64 were statistically significant correlates of seeking treatment or help for AUD.

Conclusions: A relatively higher proportion of AIAN than NHW with alcohol use disorders sought alcohol treatment. Among individuals with lifetime AUD, significant demographic and psychiatric disorder correlates of treatment are present, showing that certain groups are less likely to seek treatment or help for alcohol-related issues. Among AIAN with AUD, these correlates may reflect distinct patterns of seeking alcohol-related treatment, which can inform more effective treatment promotion efforts with this population.

Keywords

American Indians and Alaska Natives; AIAN; Alcohol Use Disorder; Alcohol-related treatment; NESARC-III

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DISCLOSURE OF POTENTIAL CONFLICTS OF INTEREST

The authors declare that they have no conflict of interest.

INTRODUCTION

In the U.S. from 2006 to 2010, there were 88,000 deaths due to excessive alcohol use, which ranked as the fourth leading preventable cause of death (Centers for Disease Control and Prevention, 2013). Alcohol Use Disorder (AUD) substantially increases risk for negative health, social and legal outcomes, and is therefore an important public health problem in the U.S. The prevalence of lifetime and past-year AUD among U.S. adults in 2014 were 29.1% and 13.9%, respectively (Grant et al., 2015a). However, AUD does not affect all individuals equally. Despite having high rates of abstinence, American Indians and Alaska Natives (AIAN) also have the highest lifetime AUD prevalence (41.5%) among all racial/ethnic groups in the U.S. (Grant et al., 2015a).

While previous research has shown that both formal and self-help (e.g., Alcoholics Anonymous) treatment are associated with improved outcomes in individuals with AUD (Dawson et al., 2006), only a fraction of these individuals seek treatment (Cohen et al., 2007, Ilgen et al., 2011, Grant et al., 2015a). Data from the NESARC-III showed that only 19.8% of those with lifetime AUD and only 7.7% of those with past-year AUD sought formal treatment or self-help (Grant et al., 2015a). Importantly, of those who do seek treatment, access, utilization and completion of treatment has been shown to be differential across racial/ethnic groups (Wu et al., 2003a, Chartier and Caetano, 2010, Vaeth et al., 2017). However, these racial/ethnic differential associations are not consistent. The treatment surveillance data from the Substance Abuse and Mental Health Services Administration (SAMHSA) Treatment Episode Data Set (TEDS) show that receipt of treatment from 2002 to 2012 increased among White individuals, remained stable with Hispanic individuals and decreased in Black individuals (Substance Abuse and Mental Health Services Administration Center for Behavioral Health Statistics and Quality, 2014). Data from the 2014 National Survey on Drug Use and Health (NSDUH) show that the percentage of adults who needed and received treatment at an inpatient or outpatient drug and alcohol rehabilitation facility, hospital or mental health center was slightly higher among AIAN (12.9%), compared to Native Hawaiians or other Pacific Islanders (11.1%), NHW (9.1%) and Blacks (8.7%) (Center for Behavioral Health Statistics and Quality, 2015). Additional literature on alcohol treatment by race/ethnicity has found that among individuals with lifetime AUD, Hispanics were less likely than Whites to utilize alcohol treatment programs or receive help from health professionals (Schmidt et al., 2007), while others have found no differences by racial/ethnic group in alcohol treatment service utilization (Keyes et al., 2008, Alvanzo et al., 2011). Yet, others have found that Blacks compared to Whites are more likely to have received alcohol treatment (Weisner et al., 2002).

However, alcohol treatment utilization by AIAN has been understudied when compared to other U.S. racial/ethnic minorities. One of the few studies with a focus on AIAN was conducted by Beals et al. (2005), who used American Indian Service Utilization, Psychiatric Epidemiology, Risk and Protective Factors Project data to estimate rates of any help-seeking for substance use disorder among individuals 15 to 54 years of age in two American Indian reservation communities. They estimated 55.8% of individuals with a substance use disorder in the Southwest and 40.1% in the Northern Plains ever sought any help. Interestingly, more individuals in the Southwest Tribe sought help from traditional healers than from mental

health professionals or medical professionals (37.7% vs. 26.1% and 19.0%, respectively) (Beals et al., 2005).

Explanations for why individuals with AUD may not seek or receive treatment include lack of health insurance and social support, the stigma of treatment, disbelief that AUD treatment will work, and denial of having an AUD (Edlund et al., 2009, Tucker et al., 2004). AIAN may experience unique barriers to seeking or receipt of treatment. Venner et al. (2012) identified lack of cultural connection and knowledge, including lack of access to traditional healing and the shame of not knowing cultural traditions, as barriers for AIAN (Venner et al., 2012). Additional AIAN-specific barriers to alcohol, drug and mental health treatment identified include negative social support, perceived discrimination, anxiety disorder, attitudes towards mental health and mental health providers including perceived lack of cultural understanding from family doctors and counselors, and the treatment sector (the Indian Health Service [IHS] vs. Tribal) (Duran et al., 2005). Importantly, these data come from those who are enrolled members of a tribe and reside on or near the reservation in order to access IHS and tribal services.

Regardless of race/ethnicity, the longitudinal correlates of adults seeking treatment for AUD, using the NESARC Waves 1 and 2, indicated that formal alcohol treatment or self-help groups was more often utilized by males, NHW, those younger and of lower income and who met criteria for a baseline drug use disorder, anxiety disorder or personality disorder (Cohen et al., 2007). Research has shown consistently that among people with AUD, individuals with more comorbid psychiatric conditions and who experience greater social harm are more likely to seek treatment (Compton et al., 2007, Grella et al., 2009). However, the dearth of research on correlates of AUD treatment utilization by AIAN has limited understanding of the specific factors that have the strongest associations with seeking alcohol treatment services in this population.

In a previous study, we estimated the odds of AUD among adult AIAN and NHW with and without posttraumatic stress disorder (PTSD) (Emerson et al., 2017). We found that the prevalence of past year AUD among AIAN was 20.2% compared to 14.2% in NHW and that AIAN exposed to PTSD in their lifetime experience a greater burden of past year AUD compared to NHW with lifetime PTSD in the general U.S. population. Given, 1.) The racial/ethnic differences in AUD (Hasin et al., 2007) and 2.) The lack of AIAN-specific AUD treatment seeking information; the next logical step would be to understand better the correlates and the covariates of seeking treatment or help for AUD among AIAN. Thus, we used data from NESARC-III to examine the sociodemographic and selected psychiatric comorbidities correlates of seeking alcohol-related treatment among AIAN compared to NHW with lifetime AUD.

METHODS AND MATERIALS

Data Source and Study Population

NESARC-III is the fourth national cross-sectional survey conducted by the National Institute on Alcohol Abuse and Alcoholism (NIAAA). The NESARC-III includes data from a multistage cluster probability sample of the non-institutionalized population 18 years and

older who were living in households and select non-institutionalized group quarters (e.g., group homes, workers' dormitories) in the contiguous U.S., Alaska and Hawaii from April 2012 through June 2013. Data were collected in face-to-face, computer-assisted personal interviews conducted in respondents' homes. The overall response rate of the NESARC-III was 60.1% (Grant et al., 2014). The final sample size was 36,309. The Institutional Review Board of the Pacific Institute for Research and Evaluation approved this paper's analyses of deidentified data. NIAAA Intramural staff and this paper's authors created and signed a Data Use Agreement for this purpose.

We retrospectively identified participants from the total NESARC-III population who completed information on lifetime alcohol use disorder, race/ethnicity and seeking alcohol treatment. Since part of our research question was race/ethnicity-specific, we further restricted our population to those who identified as either American Indians and Alaska Natives or non-Hispanic Whites. Only 1.1% of information on race/ethnicity was missing. The resulting number of NESARC-III participants who met inclusion criteria and were analyzed in this study was 6,408. We included the following potential correlates because of their significance in other studies on alcohol use disorder: race/ethnicity, sex, age, nicotine use disorder (NUD), any drug use disorder (DUD), select mood, anxiety and trauma-related disorders, education, personal annual income, marital status and urban/rural status (Hasin et al., 2007, Grant et al., 2015a). Fewer than 5% of the data on all covariates of interest were missing.

Psychiatric, sociodemographic, AUD and AUD treatment measures

Lifetime alcohol use disorder—Lifetime AUD diagnoses requires at least 2 of 11 DSM-5 criteria to be present during the time period of 12 months prior to the survey interview or else at least 2 that clustered within the same year prior to the past year (American Psychiatric Association, 2013). AUD diagnoses were established with the Alcohol Use Disorder and Associated Disabilities Interview Schedule-5 (AUDADIS-5), a diagnostic interview from the National Institute on Alcohol Abuse and Alcoholism. The variable used for lifetime DSM-5 AUD diagnosis was a derived variable in the NESARC-3 data file. The test-retest reliability for this DSM-5 standardized interview is kappa = 0.62 (Grant et al., 2015b).

Outcome variable: Seeking treatment or help for alcohol

Seeking treatment or help for alcohol use disorders was determined among those who were diagnosed with lifetime AUD by asking the question, "Have you ever gone anywhere or seen anyone for a reason that was related in any way to your drinking- a physician, counselor, Alcoholics Anonymous or any other community agency or professional?" Participants who answered in the affirmative were read a list of community agencies and professionals including: Alcoholics Anonymous or any 12-step meeting, family services or other social service agency, alcohol or drug detoxification ward or clinic, inpatient ward of a psychiatric or general hospital or community mental health program, outpatient clinic, including outreach programs and day or partial patient programs, alcohol or drug rehabilitation program, emergency room for any reason related to your drinking, halfway house, crisis center for any reason related to drinking, employee assistance program, clergyman, priest,

rabbi or any other religious counselor for any reason related to drinking, private physician, psychiatrist, psychologist, social worker or other professional, or any other agency or professional. Any affirmative answer of seeking or utilization of any of these agencies was counted as seeking treatment or help for AUD.

Correlates of alcohol use disorder treatment variables

Sociodemographic variables included were race/ethnicity, sex, age, annual income, education, U.S. region, marital status, and urban/rural status. Sex was coded as a binary variable, female or male with female being the referent group. Age was coded as a categorical variable with 6 levels (<24, 25-34, 35-44, 45-54, 55-64, and >65). Personal annual income was coded with 4 levels (US \$10,000, 10,000-24,999, 25,000-49,999, and \$50,000) with \$50,000 being the referent group. Education was coded as 4 ordinal categorical levels (less than high school, high school or GED, some college, college graduate/graduate work), with college graduate/graduate work as the referent group. Marital status was coded as 4 nominal categories (married, widowed, divorced/separated and never married). Lastly, urban vs. rural status was assessed.

Psychiatric variables included mood disorders: lifetime Major Depressive Disorder (MDD), Dysthymia (Persistent Depressive Disorder) and bipolar I. Anxiety disorders included DSM-5 Generalized Anxiety Disorder (GAD), panic disorder, agoraphobia, social phobia and specific phobia. Personality disorders included antisocial, borderline and schizotypal. Additionally, posttraumatic stress disorder (PTSD) was included in the analysis. All psychiatric variables were coded as binary (yes/no) with no previous lifetime disorder as the referent group.

Substance-related correlates other than AUD included nicotine use disorder (NUD) and any of the following DSM-5 drug use disorder (DUD): sedative/tranquilizer, cannabis, opioid amphetamine, cocaine, stimulant, hallucinogen, inhalant/solvent, club drug (e.g., ecstasy, ketamine, and 3,4-methylenedioxy-methamphetamine) and heroin use disorders. Drug-specific diagnoses were aggregated and coded binary (yes/no) into any lifetime DUD, with no previous lifetime disorder as the referent group. We considered these as independent but AUD-related factors.

Statistical analyses

First, weighted percentages were computed for select participant demographic and psychiatric disorders correlates by race/ethnicity and treatment status. Second, to estimate prevalence ratios (PRs) for the association between alcohol-related treatment and race/ethnicity, we used a multivariable model adjusting for all other sociodemographic factors/psychiatric covariates. Third, to estimate race/ethnicity-stratified PRs for the association between alcohol-related treatment and sociodemographic factors/psychiatric comorbid disorders, we used two multivariable models, one for each race. In a cross-sectional study design, the odds ratio is also referred to as the prevalence odds ratio. Weighted PRs and 95% confidence intervals (CIs) were directly estimated using PROC GENMOD with Poisson distribution for convergence, log link function and estimate statements for all correlates of seeking treatment or help for AUD, adjusting for effects of all other variables (Thompson et

al., 1998). To account for the NESARC-III complex sample design, all analyses presented were generated with PROC SURVEYFREQ and PROC GENMOD using STRATA, CLUSTER, and WEIGHT statements for appropriate variance and standard error estimates. All analyses were conducted with SAS statistical package, version 9.3, (SAS Institute, Inc., Cary, North Carolina).

RESULTS

Descriptive Statistics

Our analytic sample included 6,408 participants with any lifetime AUD, of whom 20.9% sought alcohol-related treatment or help for AUD, after the final survey weights were applied. Regarding race/ethnicity: 6,196 were non-Hispanic Whites and 212 were American Indians/Alaska Natives. Regarding seeking alcohol-related treatment or help for AUD by race/ethnicity, 33.8% of AIAN (n=78) and 20.5 % of NHW (n=1,339) sought treatment or help. Among AIAN, the group that reported seeking AUD treatment compared to the group that did not report seeking treatment significantly differed by sex. Among AIAN, the group that reported seeking AUD treatment had a higher proportion of men compared to the group that did not report seeking AUD treatment (58.2% vs. 35.8%, $p < 0.001$) (Table 1).

Psychiatric disorders stratified by race/ethnicity and alcohol treatment and help-seeking status are presented in Table 2. Among AIAN, who sought alcohol-related treatment or help for AUD, higher proportions had any drug use disorder, bipolar disorder and social phobia (42.4% vs. 26.1%, 19.2% vs. 7.3%, 22.2% vs. 6.4%, respectively).

Lower proportions of AIAN who sought treatment or help for AUD had nicotine use disorder compared to NHW (69.0% vs. 73.0%, $p = 0.05$). Higher proportions of AIAN who sought treatment or help for AUD had any mood disorder (depression, bipolar, dysthymia, persistent depression), compared to NHW (57.5% vs. 42.8%, $p < 0.001$). Specifically, higher proportions of AIAN had depression compared to NHW (36.1% vs. 33.9%, $p < 0.05$). Higher proportions of AIAN who sought treatment or help for AUD had any anxiety disorder (panic, agoraphobia, social phobia, specific phobia and generalized anxiety), compared to NHW (43.1% vs. 30.9%, $p < 0.05$). Over double the proportions of AIAN who sought treatment or help for AUD had social phobia compared to NHW (22.2% vs. 8.2%, $p < 0.001$).

Correlates of seeking treatment or help for alcohol use disorder

Table 3 shows adjusted prevalence ratios of seeking treatment or help for AUD by sociodemographic and mental health characteristics among individuals with AUD stratified by race/ethnicity. Regarding race/ethnicity, AIAN were 41% more likely to seek alcohol-related treatment compared to NHW (aPR = 1.41, 95% CI, 1.26-1.58).

Among NHW with any lifetime AUD, a number of variables were statistically significantly associated with seeking alcohol-related treatment, after adjusting for all other variables. These results are as follows: Regarding sex, men were more 39% more likely to seek alcohol-related treatment compared to women (95% CI, 1.24-1.56). Among NHW, seeking treatment or help for AUD was more likely in all groups age 25 and older compared to

individuals aged less than 25 years. Interestingly, NHW with incomes less than \$10,000 were more likely than those with incomes of \$50,000 or more to seek treatment or help for AUD. Compared to married NHW, never married, separated/divorced and widowed NHW with any lifetime AUD were more likely to seek alcohol-related treatment or help. NHW with drug use disorder and nicotine use disorder were 70% and 75% more likely to seek alcohol-related treatment or help, respectively (95% CI, 1.50-1.92; 95% CI, 1.52-2.02, respectively). Similarly, individuals with any personality disorder were 42% more likely to seek alcohol-related treatment or help (95% CI, 1.25-1.61).

Within the sample of AIAN there were sex and age differences: men were more 66% more likely to seek alcohol-related treatment or help compared to women after adjusting for all other variables (95% CI, 1.15-2.39). Regarding age, the AIAN 35 to 44, 45 to 54 and 55 to 64 age groupings were all similarly more likely to seek alcohol-related treatment or help compared to younger AIAN (less than 25 years).

DISCUSSION

AIAN drinking patterns and alcohol-related treatment are understudied. Thus, it is a critical first step to describe sociodemographic/mental health patterns by treatment seeking of AIAN and to identify and estimate correlates of seeking treatment or help for AUD among AIAN in the general US population. Our analysis produced several informative findings. First, we found that the lifetime prevalence of AUD among AIAN was 46.6%. Second, among individuals with lifetime AUD, we found that 33.8% of AIAN sought alcohol-related treatment or help for AUD compared to 20.5% of NHW. Third, AIAN with lifetime AUD were 41% more likely to seek alcohol-related treatment or help for AUD compared to NHW, after adjusting for all other variables. Fourth, among AIAN with AUD, being male and 35 to 64 years old were statistically significant correlates of alcohol-related treatment and help-seeking.

Our finding of high alcohol-related treatment and help-seeking among AIAN is consistent with results from previous studies. Data from the 2014 National Survey on Drug Use and Health reported that AIAN had the highest percentage of needing or receiving treatment from an in- or outpatient drug and alcohol rehabilitation facility, hospital of mental health center compared to other race/ethnicities (Center for Behavioral Health Statistics and Quality, 2015).

Our study's reported percentage of high alcohol-related treatment and help seeking among AIAN is also consistent as an aggregate with the data on AIAN lifetime help-seeking behavior in Southwest and Northern Plains reservation communities (Beals et al., 2005). We found that individuals who seek alcohol-related treatment were more likely to be AIAN vs. NHW. This finding is consistent with previous analysis of NESARC-I data covering the 2001-2002 time period, when it was reported that AIAN were the most likely racial group to seek AUD treatment, and also consistent with 1997 National Household Survey on Drug Abuse data (Cohen et al., 2007, Wu et al., 2003b). Further, it seems the likelihood among AIAN with AUD to seek treatment has improved since 2002 (33.8% compared to 22.9%) (Cohen et al., 2007). Our findings among AIAN are limited. In analyses that adjusted for all

demographic and clinical mental health and substance use disorders, among AIAN with AUD, we found that being male and in 35 to 44, 45 to 54 and 55 to 64 age groups are statistically significant correlates of similar magnitude of alcohol-related treatment and help-seeking. We did not find any other demographic, clinical mental health or substance use disorders to be predictive of seeking alcohol-related treatment or help in this population. We speculate that the comparatively lower treatment-seeking rate among younger AIAN is related to their reduced perception of the severity of their AUD, and resulting downplaying of the need for treatment, and is not as urgent as that of older AIAN who have the long-term understanding and firsthand experience of witnessing the full range of disturbing and destructive AUD consequences. Lastly, because “natural recovery” (stopping hazardous drinking on one’s own, without treatment) is well documented (e.g., Mohatt et al., 2008) among AIAN, our study’s focus upon treatment and help seeking should include the significant caveat that many AIAN with AUD who did not seek treatment recovered from AUD by themselves. This is true of NHW as well.

The context of community and urban/rural residence among AIAN is important for health and can vary greatly (e.g., Ponicki et al., 2018). Many tribes, as sovereign nations, have long standing laws that prohibit the sale of alcohol on reservation territory (Beauvais, 1998). Individuals within these communities may travel off reservation to purchase or consume alcohol, but these patterns are not well understood. Additionally, over 70% of AIAN reside off reservations in urban settings (U.S. Census Bureau), which complicates the community level context of correlate patterns of alcohol use and seeking treatment or help for AUD. Within many AIAN communities, substance use disorder treatment services are limited. IHS is tasked to provide these services; however, it is severely underfunded to do so. Most often, it is a combination of IHS, Tribal, and community services that provides treatment/care for substance use problems. Additionally, the majority of AIAN who live outside of these communities may have issues accessing these community level services (Zuckerman et al., 2004). In sum, caution is warranted in interpreting aggregate results regarding AIAN populations given the great variation in geography, language, culture and customs across tribes.

Future studies should consider sex, severity of AUD and types of treatment in the association of sociodemographic and selected psychiatric disorders and seeking treatment of help for AUD among AIAN and NHW.

Limitations

Among the limitations of this study is the relatively small number of AIAN who reported having sought alcohol treatment or help. Additionally, not all potential treatment sources that could be used by AIAN are listed in the NESARC-III instrument (e.g., traditional practices and healers). If they were, perhaps the rate of self-reported treatment/help use by AIAN would have been even higher. Another is the quality of information; all variables used in this study are from self-reported information. Moreover, statistical power was limited, given the smaller AIAN sample and thus, the standard errors are larger compared to NHW in the study. However, this set of analyses was able to shed some light on correlates of seeking

alcohol treatment among AIAN and others who reported symptoms that characterize alcohol use disorders at some point in their lifetime.

Conclusions

To our knowledge, this study is one of the first general national population-based studies to examine correlates of alcohol treatment and help-seeking in AIAN with lifetime alcohol use disorder. Overall, while AUD prevalence in the U.S. is high and AUD treatment and help-seeking is low, AIAN with AUD are more likely seek treatment compared to NHW. While many of the demographic, and psychiatric comorbidities, or substance use disorders were not found to be associated with alcohol treatment and help seeking in the AIAN with AUD, this may be attributed to low participant numbers of AIAN in population-based studies. Clearly, more studies focused on AIAN are needed to elucidate factors that are predictive of seeking AUD treatment by these individuals.

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Table 1.

Participant characteristics of NHW and AIAN 18 years of age and older with any lifetime AUD (n=6,408) from the National Epidemiologic Survey on Alcohol and Related Conditions-III (NESARC-III), by race/ethnicity and seeking treatment or help for AUD status^a

Characteristic	AIAN				NHW			
	No treatment (n = 134)		Treatment (n = 78)		No treatment (n = 4,857)		Treatment (n = 1,339)	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)
Sex								
Women	64.2	(3.9) ^b	41.8	(5.3) ^b	42.6	(0.79) ^b	33.4	(1.44) ^b
Men	35.8	(3.9)	58.2	(5.3)	57.4	(0.79)	66.6	(1.44)
Urbanicity								
Urban	70.0	(5.0)	69.7	(5.4)	74.9	(1.91)	76.3	(1.96)
Rural	30.0	(5.0)	30.3	(5.4)	25.1	(1.91)	23.7	(1.96)
Age, years								
< 25	20.4	(3.0)	6.8	(3.5)	15.1	(0.80) ^b	7.2	(0.92) ^b
25 - 34	19.8	(4.3)	14.1	(4.3)	22.3	(0.66)	19.4	(1.29)
35 - 44	20.5	(4.0)	24.2	(5.8)	19.0	(0.67)	18.5	(1.16)
45 - 54	20.9	(3.3)	29.2	(5.9)	19.8	(0.75)	26.6	(1.35)
55 - 64	15.6	(3.5)	22.9	(4.4)	14.6	(0.65)	18.3	(1.19)
> 65	2.8	(0.8)	2.9	(2.5)	9.3	(0.55)	10.0	(0.92)
Personal Income								
US \$50,000	16.2	(2.7)	9.6	(3.9)	29.1	(0.98) ^b	23.8	(1.33) ^b
US \$25,000-49,999	21.7	(3.3)	19.8	(5.5)	27.9	(0.88)	27.1	(1.38)
US \$10,000-24,999	29.5	(4.8)	43.7	(5.9)	24.8	(0.84)	26.8	(1.43)
US \$10,000	32.6	(3.9)	26.9	(5.5)	18.3	(0.81)	22.3	(1.25)
Marital Status								
Married/Living as if married	54.1	(5.2)	49.1	(6.3)	60.2	(0.91) ^b	48.2	(1.55) ^b
Widowed	1.9	(0.4)	0.8	(0.9)	1.9	(0.20)	3.4	(0.50)
Separated/divorced	18.5	(3.9)	24.7	(5.3)	14.1	(0.51)	25.3	(1.42)
Never married	25.4	(3.5)	25.4	(5.6)	23.8	(0.91)	23.1	(1.45)
Education								
College or graduate degree	18.6	(3.4)	11.4	(4.8)	35.0	(1.34) ^b	25.3	(1.36) ^b
Some college	37.8	(5.5)	47.4	(7.2)	35.2	(0.88)	37.1	(1.59)
High school/general educational development	28.5	(4.4)	29.3	(6.6)	123.3	(0.82)	27.3	(1.27)
< High school	15.0	(3.6)	11.9	(2.5)	6.4	(0.52)	10.3	(0.96)
U.S. Region								
Northeast	15.9	(3.1) ^b	16.9	(3.1) ^b	19.0	(1.24) ^b	21.1	(1.65) ^b
Midwest	12.8	(3.1)	26.5	(7.8)	28.8	(1.22)	26.0	(1.29)
South	28.8	(4.7)	16.6	(4.7)	31.4	(1.44)	29.6	(1.84)

Characteristic	AIAN				NHW			
	No treatment (n = 134)		Treatment (n = 78)		No treatment (n = 4,857)		Treatment (n = 1,339)	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)
West	42.5	(7.0)	40.1	(7.7)	20.8	(1.43)	23.3	(2.00)

Abbreviations: NHW, non-Hispanic White; AIAN, American Indian and Alaska Native.

^aBased on weighted data

^b $p < 0.001$ (Rao-Scott chi-square test)

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Table 2.

Characteristics of other psychiatric disorders of participants 18 years of age and older with any lifetime AUD (n=6,408) from the National Epidemiologic Survey on Alcohol and Related Conditions-III (NESARC-III), by seeking AUD treatment or help status^a

Characteristic	AIAN (n = 212)				NHW (n = 6,196)			
	No treatment		Treatment		No treatment		Treatment	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)
Drug use disorder	26.1	(4.1)	42.4	(5.4)	20.9	(0.79)	44.0	(1.64)
Nicotine use disorder ^c	55.9	(4.2)	69.0	(5.5)	48.6	(1.02)	73.0	(1.54)
Posttraumatic stress disorder	38.2	(4.5)	45.8	(5.8)	15.2	(0.70)	23.5	(1.15)
Any mood disorder ^{b, c}	42.8	(5.0)	57.5	(5.2)	35.2	(0.87)	45.5	(1.64)
Major depressive disorder ^c	34.3	(5.2)	36.1	(6.7)	29.4	(0.81)	33.9	(1.57)
Bipolar	7.3	(2.3)	19.2	(5.3)	3.8	(0.36)	8.2	(1.06)
PDD	13.4	(2.5)	19.2	(4.2)	10.2	(0.52)	18.2	(1.16)
Any anxiety disorder ^{b, c}	33.4	(4.5)	43.1	(6.2)	25.9	(0.74)	30.9	(1.51)
Panic	22.9	(4.9)	21.8	(5.2)	8.2	(0.41)	14.5	(1.03)
Agoraphobia	10.3	(3.8)	8.7	(4.2)	3.2	(0.33)	4.7	(0.71)
Social phobia	6.4	(1.2)	22.2	(6.5)	6.2	(0.45)	8.2	(0.99)
Specific phobia ^c	9.0	(3.6)	8.0	(2.6)	10.1	(0.44)	8.2	(0.88)
Generalized anxiety	23.4	(5.1)	21.9	(5.4)	12.1	(0.48)	16.7	(1.46)
Any Personality disorder ^b	40.5	(3.9)	52.6	(6.3)	21.8	(0.84)	40.1	(1.40)
Borderline	32.7	(4.9)	41.8	(6.6)	17.0	(0.71)	33.5	(1.30)
Schizotypal	20.5	(3.6)	35.4	(6.1)	6.6	(0.44)	11.0	(0.90)
Antisocial	15.8	(3.6)	30.3	(6.4)	7.0	(0.43)	17.0	(1.19)

Abbreviations: NHW, non-Hispanic White; AIAN, American Indian and Alaska Native; PDD, persistent depressive disorder

^aBased on weighted data

^bNot mutually exclusive categorization

^c $p < 0.05$ (Rao-Scott chi-square test among positive disorder and seeking treatment by race)

Table 3.

Correlates of seeking alcohol-related treatment or help for AUD of sample of participants with any lifetime AUD (n=6,408) aged 18 years and older from the National Epidemiologic Survey on Alcohol and Related Conditions-III (NESARC-III) by race/ethnicity^a

Characteristic	Alcohol-related treatment			
	AIAN (n = 212)		NHW (n = 6,196)	
	aPR	(95% CI)	aPR	(95% CI)
Race/Ethnicity	1.41	(1.26-1.58)	1	ref
Sex				
Women	1	ref	1	ref
Men	1.66	(1.15-2.39)	1.39	(1.24-1.56)
Age, years				
< 25	1	ref	1	ref
25 - 34	1.86	(0.67-5.16)	1.91	(1.48-2.46)
35 - 44	3.27	(1.20-8.93)	2.27	(1.75-2.94)
45 - 54	2.71	(1.44-9.53)	2.90	(2.23-3.76)
55 - 64	3.35	(1.55-8.30)	2.85	(2.12-3.84)
> 65	2.80	(0.53-14.72)	2.90	(2.11-3.97)
Personal Income				
US \$50,000	1	ref	1	ref
US \$25,000-49,999	1.46	(0.56-3.80)	1.08	(0.92-1.26)
US \$10,000-24,999	1.65	(0.65-4.20)	1.09	(0.93-1.28)
US \$10,000	1.25	(0.47-3.32)	1.28	(1.07-1.53)
Marital Status				
Married/Living with someone	1	ref	1	ref
Widowed	0.52	(0.09-3.08)	1.68	(1.32-2.14)
Separated/divorced	1.22	(0.70-2.10)	1.40	(1.23-1.59)
Never married	1.32	(0.79-2.20)	1.35	(1.17-1.56)
Education				
College or graduate degree	1	ref	1	ref
Some college	1.48	(0.69-3.19)	1.08	(0.93-1.26)
High school/GED	1.05	(0.47-2.40)	1.03	(0.88-1.21)
Less than High school	1.09	(0.42-2.87)	1.07	(0.86-1.33)
Urbanicity				
Urban	1	ref	1	ref
Rural	1.03	(0.63-1.67)	0.86	(0.74-0.99)
U.S. Region				
South	1	ref	1	ref
Northeast	1.03	(0.52-2.04)	1.23	(1.05-1.45)
Midwest	2.10	(1.17-3.80)	1.05	(0.91-1.20)
West	1.33	(0.73-2.44)	1.15	(1.00-1.31)

Characteristic	Alcohol-related treatment			
	AIAN (<i>n</i> = 212)		NHW (<i>n</i> = 6,196)	
	aPR	(95% CI)	aPR	(95% CI)
Drug Use Disorder	1.27	(0.82-1.97)	1.70	(1.50-1.92)
Nicotine Use Disorder	1.34	(0.94-1.90)	1.75	(1.52-2.02)
Posttraumatic Stress Disorder	1.16	(0.74-1.83)	1.10	(0.97-1.24)
Any Mood Disorder	1.27	(0.71-2.27)	1.08	(0.96-1.20)
Any Anxiety Disorder	1.15	(0.75-1.75)	0.88	(0.78-0.99)
Any Personality Disorder	0.80	(0.47-1.38)	1.42	(1.25-1.61)

Abbreviations: AUD, Alcohol Use Disorder; AIAN, American Indian, Alaskan Native; NHW, non-Hispanic White; GED, General Education Development; aPR, adjusted Prevalence Ratios

^aBased on weighted data

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