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Alcohol Dependence and Health Care Utilization in African Americans

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Abstract

Objective—Ethnic and cultural differences in patterns of alcohol use disorders must be understood in order to address improvement in prevention of such disorders and accessibility to health care services. The purpose of this study was to evaluate factors that influence the utilization of medical and mental health services among alcohol-dependent and non alcohol-dependent African Americans.

Method—A cohort of 454 African Americans was evaluated. Alcohol-dependent participants were recruited from various inpatient treatment facilities in the Washington, DC, metropolitan area and through advertisement and word of mouth. Non-alcohol-dependent participants were recruited by advertisements. Each participant was administered the Semi-Structured Assessment for the Genetics of Alcoholism to assess alcohol dependency and the Family History Assessment module to access family history of alcoholism. χ^2 Test and analysis of variance were used to analyze the data.

Results—Alcohol dependence was more prevalent among men, those with lower income, those with less education, and they utilized mental health counseling as opposed to medical-based therapy. Increased reports of medical conditions such as migraine ($p < .001$), loss of consciousness ($p = .001$), and sexually transmitted diseases ($p < .001$) were also associated with alcohol dependency. Other factors, including visits to inpatient treatment programs, were directly related to incidence of alcohol dependency regardless of gender status ($p < .001$).

Conclusions—This study suggests an association exists among alcohol dependence, medical conditions, health care, and mental care utilization among African Americans. Future research may benefit from investigating if an association exists between alcohol use disorders and health care utilization for other ethnic groups.

Keywords

African Americans; health care utilization; substance abuse/use; gender

INTRODUCTION

A serious problem in the United States is that alcohol use disorders have been shown to be associated with individuals receiving inadequate health and behavioral care services.^{1,2}

Others have indicated that approximately 10 million Americans abuse alcohol.³ The association of alcohol use and alcohol dependence with both medical and mental conditions is an area of concern for the medical community. In the United States, minority populations such as African Americans, Hispanics, and Native Americans experience the health impact of alcoholism and alcohol use disorders disproportionately when compared to the Caucasian population.⁴⁻⁶ It has been shown that African American and Hispanic minorities have a higher incidence of alcohol-related mortality.⁷ Chronic medical disorders such as cardiovascular disease and liver disease have also been linked to alcohol dependence.⁸ Recent studies have shown that racial and ethnic minorities experience a lower quality of health care utilization, which may play a role in the higher rates of mortality and morbidity that exist.⁹ A report by Smedley and colleagues¹⁰ noted that minorities tended to receive services of inferior quality, were less likely to receive even routine medical services, and experienced poor outcomes of medical care. Several research studies suggested that there are lower rates of mental health utilization by minorities.¹¹⁻¹⁵ Cook¹⁶ reported that the mental health care system continues to provide less care to minorities, including African Americans and Hispanics.

Racial and ethnic minority populations face many challenges related to health care utilization. These include societal determinant factors and risks that may be attributed to the lifestyle accompanying the usage of alcohol. Attempts to determine why one population is more vulnerable than another to alcohol use disorders, health care disparities, and health care utilization have been areas of research spanning many decades. A common theoretical framework for analyzing health service utilization is the behavioral model of health care utilization developed by Ronald Anderson.¹⁷ This model suggests that health care utilization is influenced by 3 major factors, including predisposing factors, enabling factors, and need factors.¹⁸ These 3 major categories of factors describe predisposing factors such as demographics, beliefs, and attitudes as well enabling factors such as family income and the need influence for a particular individual such as alcohol use. Using Anderson's model, Hines-Martin and colleagues¹¹ reported on 3 major enabling factors that focused on the ability to secure mental health services among African Americans. These 3 major enabling factors include family, valued others such as friends, colleagues, social service agents, previous users of mental health services, and beliefs. Enablers are the significant others or the participant's beliefs that motivated, propelled, or directed the subject toward problem recognition and solving through mental health service use.¹¹

Gender may also affect alcohol use disorders. It has been shown that the development and progression of alcohol use disorders are different between men and women. Literature suggests that women with alcohol use disorders have a higher incidence of depression, panic disorders, eating disorders, and posttraumatic stress disorders.^{19,20} In regard to the association of gender, Green-Hennessy²¹ used a nationally representative sample to identify demographic and clinical variables that could predict use of behavioral health services among persons with substance dependence. It was found that individuals who used only mental health care services were more likely to be female, to be of higher socioeconomic status, and to have no history of involvement with the legal system.²¹ They were also more likely to have problems with alcohol or marijuana but not to perceive themselves as needing addiction treatment. Additionally, Moore and colleagues²² reported that women with both mental illness and substance abuse problems tend to present to the mental health care system, while men with similar problems are more likely to present to the substance abuse system.

Alcohol use disorders can complicate the assessment and management of many medical and psychiatric conditions. Psychiatric illnesses that commonly coexist with alcohol use disorders include depression, anxiety, and antisocial personality disorder.^{23,24} Reiger²⁵

found 37% of adults diagnosed with alcohol abuse or dependence had a comorbid psychiatric disorder, including depression, anxiety, and antisocial personality. In addition, a research study conducted by Hatzenbuehler and colleagues²⁶ compared Caucasians and African Americans with coexisting mood or anxiety disorders and substance use disorders. It was suggested that African Americans were significantly less likely to receive mental health services for mood or anxiety disorders, equally likely to receive services for alcohol use disorders, and more likely to receive some types of services for drug use disorders when compared to Caucasians.

There is not much known about factors affecting alcohol use disorders in the adult African American community. African Americans are likely to be underrepresented in clinical trials and clinical research studies in general, not just alcohol-related studies.²⁷ This raises barriers to establishing effective clinical research and treatment programs among minority populations. This study is novel in its examination of health care utilization from an alcohol dependency status vantage point within an African American cohort. African Americans are less likely to participate in clinical research programs due to differing values, beliefs, and exposures as well as historical mistrust due to past research experiences.^{28–32}

In this study, we evaluated the association of alcohol dependence with health care utilization and medical disorders among adult African Americans. We hypothesized that African Americans who are alcohol-dependent would have lower rates of both medical and mental health care services utilization. We show that lower education and income among African Americans correlated with an increase in alcohol use disorders. In addition, gender differences and health care utilization within the African American community also played a role in alcohol usage.

METHODS

Study Population

The study consisted of 454 African American participants (236 women and 218 men) whose ages ranged from 18 to 85 years. Based on *Diagnostic and Statistical Manual of Mental Disorders* (Fourth Edition, Text Revision (DSM-IV-TR)),³³ criteria, 279 of the 454 were non-alcohol-dependent and 175 were alcohol-dependent. *Alcohol dependence* was defined as any individual who met criteria of lifetime dependency for alcohol using any of the following 4 measures: (1) *DSM-IV* (2) *Diagnostic and Statistical Manual of Mental Disorders* (Third Edition Revised), (3) *International Classification of Diseases, Tenth Revision (ICD-10)*, and/or (4) best final medical diagnosis. This study protocol was approved by the Howard University institutional review board and Howard University General Clinical Research Center advisory board committee. All eligible participants gave informed consent and Health Insurance Portability and Accountability Act consent prior to inclusion in the study.

Procedures

Alcohol-dependent participants were recruited from the cohorts of 2 larger studies conducted, the Collaborative Study on the Genetics of Alcoholism and the Novel Phenotypes on the Genetic Analysis of Alcoholism Alcohol, as well as from various alcohol treatment facilities in the Washington, DC, metropolitan area and through advertisement and word of mouth. Non-alcohol-dependent participants were recruited by various forms of media advertisement, such as newspapers, radio, television, flyers, and by self-referrals. A brief presentation and preamble were given to explain the research study. Individuals interested in participating in the research study called the study's direct recruitment phone line to complete a voluntary and confidential telephone screener. This screener was used to

evaluate drinking patterns among individuals and to obtain data on age and race to determine eligibility for the study. Eligible participants completed an in-depth interview ranging from 2 to 6 hours by research staff at the Howard University General Clinical Research Center. During the in-depth interview, participants were administered the abbreviated Semi-Structured Assessment for the Genetics of Alcoholism, which was developed for use in the Collaborative Study on the Genetics of Alcoholism.³⁴ The Semi-Structured Assessment for the Genetics of Alcoholism is designed to obtain a detailed history of physical, psychological, and social manifestations of alcoholism and related disorders. Its design has demonstrated reliability and validity^{35,36} and includes collecting participant information regarding demographic, medical care utilization, mental health care utilization, types of alcohol treatment received, and medical conditions that participants have.

Study Variables

This cross-sectional study reported demographics and health care utilization rates within an adult African American sample. In examining demographic characteristics, we investigated the incidence of family history of alcoholism. A positive family history of alcohol was indicated when 1 or more first-degree relatives were diagnosed with alcoholism. The description of alcohol status is used to reference whether the participant was alcohol-dependent or non-alcohol-dependent.

Medical care utilizations were defined as the use of a hospital or clinic for medical-related illness. *Mental care utilizations* were defined as seeking help for a mental-related illness at inpatient or outpatient clinics, and mental health services involved seeing a psychologist or counselor in a clinical environment. Evaluated medical conditions included cardiovascular, endocrine, or other systemic problems. The reporting of the medical care and mental utilizations variables were by self reporting initially by yes or no if a visit had occurred. If the respondent stated yes, a visit had occurred, then the type, frequency, and year of visit were reported. Alcohol treatment, where applicable, may have been from an inpatient or outpatient clinic.

Hospital visits were defined as visits to a medical facility that were not pregnancy-related events such as childbirth, miscarriage, or abortion. Other covariate variables were defined, including *migraine* as an extremely severe headache; *loss of consciousness* as the occurrence of a loss of the body's ability to respond; *sexually transmitted diseases* (STDs) as any disease transmitted by sexual contact such as gonorrhea, syphilis, chlamydia, or genital herpes. Participants self-reported lifetime incidences of these medical conditions. In addition, mental disorders, including a history of antisocial personality disorder, chronic antisocial behavior, depression and sadness lasting for 2 weeks or more, were also self-reported. The outcome variable for the study was alcohol dependence as a dependent variable among the factors examined. Demographics, medical care utilization and conditions, and mental health utilization were all independent variables examined by gender.

Data Analyses

Statistical analyses were conducted using SPSS (version 16.5, SPSS Inc, Chicago, Illinois).³⁷ Participants were classified into 4 groups according to gender and alcohol status: male/alcohol-dependent, male/non-alcohol-dependent, female/alcohol-dependent, and female/non-alcohol-dependent. Differences in age and medical care utilization among these 4 groups were determined using analysis of variance. When significant results were obtained, Scheffe test were used for post hoc comparison. This test was selected to determine the direction of significant differences observed with the least amount of false positives. χ^2 Test was used to examine differences among the 4 groups for demographics,

mental health service utilization, types of alcohol treatment received, and medical conditions.

To adjust for variations in sample distribution of medical care utilization data, outliers (values that fell within highest 1%–4%) were removed from analysis. Medical conditions data were all adjusted for age, body mass index (BMI), and other potential confounding factors using general linear modeling. BMI was calculated as $[(\text{weight in pounds}) \cdot (703)] \div (\text{height in inches})^2$. Univariate analysis of variance general linear modeling was also used to complete a subdata analysis of significant mental health services utilization variables. The covariates were selected based on literature indicating that these covariates (age, BMI) can greatly influence medical and mental health outcomes (diagnosis of depression or antisocial personality disorder). Due to multiple comparisons of the study variables, statistical significance was established at $p < .0014$ by applying the Bonferroni correction.

RESULTS

Evaluation of the demographic variables revealed that BMI, education, and income differed across gender and/or alcohol status (Table 1). BMI was significantly higher for alcohol-dependent women (31.77 ± 7.49) compared to non-alcohol-dependent women (28.73 ± 6.96), non-alcohol-dependent men (26.74 ± 4.75), and alcohol-dependent men (28.40 ± 5.29). For income, there were differences in alcohol status but not in gender. For instance, while alcohol-dependent men (55.46%) and women (50.91%) made up most of the lowest income bracket (\$0–\$19 999), non-alcohol-dependent women (23.89%) and men (26.04%) were the smallest part of this category. However, within alcohol status, there were equal numbers of men and women for each income level. For education, among the participants who had not completed high school, most (50%) were alcohol-dependent men and the least (14.36%) were non-alcohol-dependent women. Additionally, a majority of the non-alcohol-dependent women (22.65%) vs 2.5% of the alcohol-dependent men had attained a baccalaureate or higher college degree. Other demographics—age and family history of alcoholism—were also examined, but neither had an impact on alcohol status or gender. Nevertheless, for family history of alcoholism, we found more participants in the population studied were classified as positive, based on self-reports in the family history assessment module ($n = 125$), as opposed to those considered negative ($n = 98$).

Table 2 shows significant differences in the clinical characteristics of migraine, loss of consciousness, and STDs. Self-reports of migraines were mostly among alcohol-dependent women ($p = .001$). Results show an interaction of gender for the association between migraine and alcohol dependence. Alcohol-dependent men experienced loss of consciousness more often ($p = .001$) and also self-reported more cases of STDs ($p < .001$) than non-alcohol-dependent men and non-alcohol-dependent and alcohol-dependent women. After adjusting for age and BMI, medical conditions including migraines, unconsciousness, and STDs remained statistically significant.

Table 3 shows medical care utilization analyzed across gender and dependency status. Hospital visits were adjusted for visits due to pregnancy-related events such as childbirth, miscarriage, or abortion to prevent a disproportionately higher number of hospital visits in women compared to men. In terms of admissions to psychiatric or chemical dependency programs, there were more overnight inpatient admissions for alcohol-dependent men and women compared to non-alcohol-dependent men and women ($p < .001$). Further subanalysis excluded participants ascertained from treatment sites to account for confounding due to inpatient care received while at treatment sites. As in the entire sample, differences across alcohol status remained significant. It appears that alcohol status, rather than ascertainment site, influenced rates of inpatient care in a psychiatric or chemical-dependency facility, with

the alcohol-dependent participants reporting more visits than the non-alcohol-dependent cohort. However, within alcohol dependency, there was no significant difference across gender for inpatient visits. There were no significant differences in any of the other medical utilization outcomes analyzed. Outpatient surgeries, emergency department and doctor visits in the last 6 months were similar regardless of gender or alcohol status.

There was no significant difference across gender or alcohol status for utilization of mental health services, with the exception of speaking with a counselor (Table 4). Men were more likely to have seen a counselor as a mental health provider than women ($p < .0001$). Within gender, the alcohol-dependent participants were just as likely to see a counselor as non-alcohol-dependent participants. With regards to mental health providers other than counselors, all participants were equally likely to use the mental health services of psychiatrists, psychologists, social workers, other medical doctors, and clergy. Nevertheless, it is interesting to note that quite a few of the participants had seen a psychiatrist for help. Within each subgroup, data for the alcohol-dependent men (68%), non-alcohol-dependent men (64%), alcohol-dependent women (65%), and non-alcohol-dependent women (61.1%) demonstrated that psychiatrists were among the top 2 mental health professionals seen by participants. Upon adjusting for diagnosis of antisocial personality disorder and/or depression, seeking help from a counselor was no longer significantly different. Those participants who sought a counselor's help may have done this as part of antisocial personality disorder or depressive disorder treatment rather than for alcohol dependence alone. Table 4 also shows that there were no significant differences with reference to different types of alcohol treatment received. All participants were equally likely to seek treatment in Alcoholics Anonymous, outpatient programs, or inpatient programs. Also of interest was the finding that non-alcohol-dependent participants were just as likely to attend Alcoholics Anonymous as those who were alcohol-dependent (Table 4). This may be due to underlying alcohol abuse among non-alcohol-dependent participants since there is the possibility of non-alcohol-dependent participants endorsing symptoms of alcohol dependence without attaining the threshold of actual dependence.

While it is true that alcohol-dependent participants were recruited from treatment facilities, only the alcohol-dependent probands were recruited in this manner. Other alcohol-dependent participants may have been family members of the alcohol-dependent probands, recruited not from an inpatient facilities but as a part of the pro-band's family. They may also have been family members of non-alcohol-dependent participants recruited from the community. Hence, although alcohol-dependent participants make up most of the treatment population as expected, it was not necessarily due to the recruitment of alcohol-dependent probands from treatment facilities. Additionally, some non-alcohol-dependent participants did receive treatment for other substance use. Further analysis of a subsample of community-ascertained participants revealed mental health utilization trends similar to those observed in the entire sample of community and treatment-ascertained participants.

DISCUSSION

This study contributes valuable information to the growing body of literature on evaluating health and behavioral conditions, the utilization of health care services, and factors that influence alcohol dependence in African Americans. In comparison to many previous studies with ethnic minority samples, there was a positive association among health disparities, health care utilization, and alcohol use disorders.^{38,39} Among the alcohol-dependent cohort, there were some significant differences between men's and women's incidences of migraine, loss of consciousness, and STDs. Migraines were significantly higher in alcohol-dependent women. Additionally, alcohol-dependent men reported they were more likely than women to experience loss of consciousness and STDs. These findings

suggest that some psychosocial consequences of alcohol consumption that results from alcohol use disorders, including arrests for public intoxication, emergency department visits from alcohol-related injuries, domestic violence, increase in STDs, and driving under the influence that results from alcohol use disorders, might be a consequence of diverse and complex risky behaviors associated with some of the factors examined in this study.

All other clinical characteristics of medical conditions such as hypertension, stroke, diabetes, and seizures were equally as prevalent across gender and alcohol status. These findings indicate that the level of alcohol usage by persons is a crucial determining factor for medical and social history during health care utilization visits. Our study suggests that health care professionals should take into account individual alcohol use disorders that could be related to medical history and disorders. One finding of note is that both male and female alcohol-dependent African Americans were equally likely to utilize mental care services. This finding may be due to similarity in cultural and psychological factors, even among differing alcohol-dependency status. This will need to be explored further in a larger data set.

To address the demand for prevention and accessibility to health care services, health care professionals must have the education and clinical skills training to effectively identify alcohol use disorders, including alcohol abuse and alcohol dependence. Increased ethnic and cultural awareness in patterns of alcohol consumption for health care professionals is imperative in providing quality and competent care for patients. One main implication of this study's findings for medical practice would include providing screening, brief intervention, and referral to treatment to all patients. According to the Substance Abuse and Mental Health Administration and the Office of National Drug Control Policy, screening, brief intervention, and referral to treatment (SBIRT) is a comprehensive and integrated public health approach to the delivery of early intervention and treatment services for substance use disorders.^{40,41} The SBIRT approach reduces substance use consumption, improves population health, and promotes health equity through the effective integration of primary care with public health.⁴² Research suggests physicians believe SBIRT training is beneficial for providing optimal care for patients at risk for substance use disorders.⁴³

Although some may view a limitation of this study was that the data were based on self-report obtained by a face-to-face interview, Babor and colleagues⁴⁴ suggested self-reported alcohol-related outcomes are valid. Another possible limitation of this study was the use of a cross-sectional study design resulting in investigating only 1 point in time and not accounting for possible changes in expectations over time. Since a negligible amount of research has examined the relationship between health care utilization and mental and medical conditions and alcohol use disorders among adult African Americans, this study has important findings on the underrepresented African American population and supports the need for future prospective studies focusing on African Americans and other racial/ethnic minority groups.

In conclusion, the abuse and dependence of alcohol can have a wide range of adverse impacts on the course of medical illness. This may include lower rates of utilization for health care and poor compliance with treatment. The delivery of effective treatment for alcohol use disorders continues to be a major challenge for African Americans and other ethnic groups. This study clearly demonstrates that some medical conditions and health care utilization are associated with alcohol use disorders among African Americans. Consistent with other findings reported in the literature, an important implication of our findings is that brief screening for alcohol use disorders during health care utilization could be associated with better outcomes. Eliminating alcoholism and health disparities requires culturally appropriate public health initiatives, community support, and equitable access to quality

health care. This study serves as a preliminary investigation of alcohol use disorders, medical conditions, and the effects on health care utilization among African Americans.

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Table 1

Demographics

	Men (n = 218)						Women (n = 236)					
	Alcohol-Dependent (n = 120)			Non-Alcohol-Dependent (n = 98)			Alcohol-Dependent (n = 55)			Non-Alcohol-Dependent (n = 181)		
	Mean	SD	n	Mean	SD	%	Mean	SD	n	Mean	SD	%
Age, y	38.77	8.58		35.89	14.06		39.13	9.32		37.13	12.63	
Body mass index, ^a lb/in ²	28.49	5.29		26.74	4.75		31.77	7.49		28.73	6.96	
	n	%	n	n	%	n	n	%	n	n	%	%
Income ^a												
\$0-\$19 999	66	55.46	25	26.04			28	50.91	43	23.89		
\$20 000-\$39 999	25	21.01	28	29.17			10	18.18	50	27.78		
\$40 000-\$74 999	22	18.49	29	30.21			14	25.45	61	33.89		
>\$74 999	6	5.04	14	14.58			3	5.45	26	14.44		
Education ^d												
< High school	60	50.00	27	27.55			25	45.45	26	14.36		
High school degree	34	28.33	32	32.65			15	27.27	62	34.25		
Some college	23	19.17	26	26.53			11	20.00	52	28.73		
College degree or more	3	2.50	13	13.27			4	7.27	41	22.65		
Positive family history of alcoholism	33	27.50	20	20.41			21	38.18	51	28.18		

^a $p < .001$.

Table 2

Clinical Characteristics

Doctor said you have...	Men (n = 218)						Women (n = 236)					
	Alcohol-Dependent (n = 120)			Non-Alcohol-Dependent (n = 98)			Alcohol-Dependent (n = 55)			Non-Alcohol-Dependent (n = 181)		
	n	%	n	%	n	%	n	%	n	n	%	%
High blood pressure	28	23.33	20	20.41	16	29.09	45	24.86				
Migraine ^a	5	4.17	7	7.14	11	20.00	29	16.02				
Brain injury or concussion	6	5.00	6	6.12	3	5.45	5	2.76				
Unconsciousness ^a	19	15.83	8	8.16	5	9.09	5	2.76				
Epilepsy or seizure	3	2.50	2	2.04	1	1.82	2	1.10				
Stroke	1	0.83	–	–	2	3.64	1	0.55				
Heart disease	2	1.67	4	4.08	–	–	5	2.76				
Liver disease	2	1.67	2	2.04	4	7.27	2	1.10				
Thyroid disease	2	1.67	3	3.06	1	1.82	5	2.76				
Asthma	18	15.00	13	13.27	9	16.36	32	17.68				
Diabetes	9	7.50	3	3.06	3	5.45	9	4.97				
Cancer	1	0.83	1	1.02	2	3.64	3	1.66				
Sexually transmitted disease ^a	44	36.67	13	13.27	19	34.55	21	11.60				
Other	26	21.7	21	21.4	19	34.5	41	22.7				

^a $p < .001$.

Table 3

Medical Care Utilization^a

Utilization Variables	Men		Women		F	p
	Alcohol-Dependent	Non-Alcohol-Dependent	Alcohol-Dependent	Non-Alcohol-Dependent		
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD		
Hospital visits	1.46 ± 1.31	0.93 ± 1.27	1.48 ± 0.92	NA	5.19	.006
Outpatient surgeries	0.55 ± 0.91	0.66 ± 1.14	0.76 ± 1.24	0.91 ± 1.20	2.62	.050
Emergency dept treatment	3.16 ± 3.19	2.59 ± 2.92	2.18 ± 2.14	2.11 ± 2.88	3.28	.021
Doctor visits in last 6 mo	1.49 ± 1.75	1.30 ± 1.66	2.08 ± 1.96	1.61 ± 1.70	2.38	.069
Overnight inpatient visits in psychiatric or chemical dependency program ^b	1.83 ± 1.61	0.38 ± 0.74	1.61 ± 1.78	0.26 ± 0.93	50.35	<.001

Abbreviations: NA, not applicable; SD, standard deviation.

^aValues that fell within the highest 1%–4% of values were considered outliers and were removed from the analyses. After removal of outliers, sample size of the 5 utilization variables analyzed ranged from 240 to 451 out of a total of 454 participants.

^b*p* < .001.

Table 4

Mental Health Services Utilization

	Men (n = 218)				Women (n = 236)				p
	Alcohol-Dependent (n = 120)		Non-Alcohol-Dependent (n = 98)		Alcohol-Dependent (n = 120)		Non-Alcohol-Dependent (n = 98)		
	n	%	n	%	n	%	n	%	
Spoke to...									
Psychiatrist	34	28.33	16	16.33	26	47.27	33	18.23	.909
Psychologist	26	21.67	12	12.24	21	38.18	21	11.60	.455
Social worker	23	19.17	12	12.24	21	38.18	11	6.08	.005
Counselor ^a	40	33.33	21	21.43	27	49.09	16	8.84	<.002
Other doctor	18	15.00	6	6.12	20	36.36	21	11.60	.204
Nurse practitioner	17	14.17	4	4.08	12	21.82	5	2.76	.011
Clergy	20	16.67	6	6.12	13	23.64	19	10.50	.578
Treated at...									
Alcoholics Anonymous	88	73.33	16	16.33	31	56.36	7	3.87	.728
Outpatient alcohol program	42	35.00	7	7.14	22	40.00	1	0.55	.040
Outpatient program other than alcohol	36	30.00	5	5.10	19	34.55	2	1.10	.151
Inpatient alcohol program	88	73.33	10	10.20	30	54.55	5	2.76	.010

^a p < .001.