
Alcoholism Prevalence and Utilization of Medical Services by Mexican Americans

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Background. Alcoholism is a common disorder that often results in increased use of medical services. Research describing alcoholism among both outpatients and ethnic minorities has been sparse.

Methods. In this study, the Short Michigan Alcoholism Screening Test was used as part of a health screening interview of patients attending a South Texas family health clinic. Screening was used to detect alcoholism and identify the health care needs in this predominantly Mexican American population.

Results. Consistent with other studies, alcoholism was more prevalent among men than among women. The prevalence of 24.4% among Mexican American men was similar to that among men from other ethnic backgrounds. The 4.2% prevalence among Mexican American women was comparable to that among other women. Equal percentages of alcoholics were identified

in the primary care clinic and the "walk-in" clinic. Compared with nonalcoholic patients, alcoholic patients were more often unemployed or disabled, and reported more hospitalizations during the previous year.

Conclusions. These findings suggest that alcoholism is as prevalent and costly a disease among Mexican Americans as it is in other ethnic groups in our society. Alcoholism can readily be detected in a variety of outpatient settings when screening is used. Employment status might serve as an indicator for alcoholism screening, but ethnicity did not. Research into socioeconomic and cultural influences on alcoholism may improve the effectiveness of diagnosis and treatment of this prevalent disease.

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Alcoholism is one of the nation's major health problems. An estimated 10.5 million adult Americans have some symptoms of alcoholism or alcohol dependence, and an additional 7.2 million abuse alcohol but are not yet symptomatic.¹ In 1983, the economic cost associated with alcohol abuse was estimated at \$116.9 billion per year with a projected increase to \$150.0 billion by 1995.² There is an increasing amount of research indicating that alcoholics are high-cost and frequent users of all types of medical services.³⁻⁵ Alcoholics have more hospital admissions and longer lengths of stay for each admission.^{6,7}

Various health care settings have reported diverse prevalence figures for patients with alcohol problems. For the inpatient setting, prevalence ranges from 9% to 55%, and for outpatient clinics, between 5% and 42%.⁸⁻¹⁰ The prevalence of alcoholism among emer-

gency department patients has been found to vary from 12.5% to 36.7%.¹¹ A recent prospective study reported that 50% of patients admitted to a trauma center after vehicular accidents were legally intoxicated.¹² Despite the high prevalence of alcoholism in general, many studies repeatedly show that this disorder is underdiagnosed and undertreated.^{9,13-15} Patterns of alcohol and drug use have been reported to differ among various racial and ethnic minority groups.¹⁶ To date there is little research reporting the patterns of alcoholism in Hispanics, a heterogeneous ethnic group of broad cultural diversity that constitutes the second largest and fastest-growing ethnic minority group in the United States.

The present study had three purposes. First, to assess the prevalence of alcoholism among various ethnic groups attending a publicly funded family health center in South Texas. Second, to determine whether alcoholic patients were more likely to schedule a clinic visit or to present to the clinic's minor emergency area for an unscheduled visit. It was hypothesized that the prevalence of alcoholism in the "walk-in" clinic would be higher than that in the appointment-based clinic because a

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higher percentage of trauma patients are seen on a walk-in basis. The third purpose was to examine the relation between alcoholism and the use of various medical services. Alcoholics have been found to overutilize health care services.³⁻⁵ Mexican Americans have been reported to underutilize health care services compared with non-Hispanic white and black reference groups in the United States.^{17,18}

Methods

This study was conducted during July and August 1987 in the Family Health Center (FHC), a family-oriented continuity clinic located in an urban, county-funded community health center in South Texas. The clinic facility serves a large Mexican American population and functions as the primary outpatient teaching setting for the University of Texas Health Science Center at San Antonio. The FHC is organized such that patients are seen in one of two sections of the clinic, with one area serving only patients with appointments and the other serving unscheduled patients. Appointments are scheduled to accommodate individuals or families who have enrolled to receive longitudinal care from family practice residents and fourth-year medical students supervised by faculty physicians. In the walk-in clinic, both enrolled and nonenrolled patients with minor illnesses or injuries, including those sent for emergency department follow-up care, are treated by similar medical care providers.

Before the study, clinic attendance data were analyzed by ethnicity and sex, showing a 300% overrepresentation of Mexican American women, who are considered to be a low-risk population for alcoholism.¹⁹ To sample this population in proportion to others seen in the FHC, only one in three Mexican American women were approached for study participation. All other patients 18 years and older seen in the FHC were eligible to participate in this study.

Patient interviews were conducted daily by two trained interviewers, alternating every other day between scheduled and walk-in areas of the FHC. Every effort was made to enroll all eligible patients; however, some patients were called and were asked to see their medical provider before an interviewer could meet with them. Standardized health screening interviews lasting 15 to 20 minutes were conducted in either English or Spanish, according to the patient's preference. It was explained that the information collected was confidential and would not be shared with health care providers. The interview was designed to obtain data on individual demographics, general health status, estimated alcohol consumption, and use of health care services, including

number of hospitalizations. Ethnic classification was based on patients' self-report of cultural origin and identity, categorizing themselves as Hispanic, white, black, or other. Patients of Hispanic ethnicity further classified their cultural origin as Mexican, Puerto Rican, Cuban, or other. In describing their employment, patients were asked to select the single category best characterizing their current situation. Only women had the choice of selecting the housewife category. Patients were also asked to complete the Short Michigan Alcoholism Screening Test (SMAST) unless they were identified as lifelong nondrinkers, meaning they denied alcohol consumption in the past month and denied ever drinking at least one standard drink* of alcohol per month. For patients who preferred to speak Spanish, a translation of the SMAST was provided. Patients were not asked about their use of substances besides alcohol and were not compensated for their involvement in the study.

The SMAST is a 13-item questionnaire that focuses on the frequency and pattern of drinking alcohol, as well as the social, legal, and health consequences. It is a psychometrically reliable and valid instrument that discriminates problem drinkers from "true" alcoholics.^{20,21} In accordance with the SMAST criteria of Selzer et al,²⁰ patients in this study were classified as alcoholic if they obtained a SMAST score of 3 or greater. They were classified as nonalcoholic if they scored less than 3 or had been identified as lifelong nondrinkers. In an ambulatory care setting, a score of 3 or greater on the SMAST has been shown to have a sensitivity of .49 and a specificity of .88 in detecting alcoholism as defined by the criteria of the *Diagnostic and Statistical Manual of Mental Disorders*, Third Edition, Revised (DSM-III-R).²² The Spanish translation of the SMAST has not been standardized or validated; however, the questionnaire used was reverse-translated to ensure question accuracy.

All answers to the health screening interview and SMAST results were coded and entered into a computer database. For the purposes of this study, a SMAST score of 3 or greater was the sole criterion for the diagnosis of alcoholism. Patients who were diagnosed with alcoholism were further evaluated regarding ethnicity, clinic presentation, and medical services utilization. Data were analyzed using chi-square comparisons, Student's *t* test, and the Fisher's exact test. For an alpha of .05 and a medium effect size, the power was .99 for chi-square analyses and .85 for the Student's *t* tests.

*One standard drink equals 1 oz of liquor, 4 oz of wine, or 12 oz of beer.

Table 1. Sociodemographic Characteristics of Subjects Classified by the Short Michigan Alcoholism Screening Test

| Characteristics | Nonalcoholics (n=258) | Alcoholics (n=42) |
|--|--------------------------|----------------------|
| Age, y (mean ± SD) | 42.7 ± 17.2 | 39.3 ± 14.0 |
| Male, no. (%) | 82 (31.8)* | 30 (71.4) |
| Married, no. (%) | 144 (55.8) | 17 (40.5) |
| Employment category, no. (% of total) | | |
| Employed | 80 (31.0) | 13 (31.0) |
| Unemployed | 33 (12.8)† | 12 (28.6) |
| Disabled | 23 (8.9) ‡ | 11 (26.2) |
| Other (eg, retired, student) | 43 (16.7) | 4 (9.5) |
| Housewife (women only) | 79 (30.6) | 2 (4.8) |

*P < .0001.

†P < .01.

‡P < .001.

Results

Of the 354 patients approached, 300 gave their informed consent to participate, representing a response rate of 84.7%. The study population had a mean age of 40.3 years (± 15.5 years) and 63% were female patients. The ethnic distribution of the sample was 73% Hispanic, 18% white, and 9% black. All of the patients who reported their ethnicity as Hispanic identified their cultural origin as Mexican. Forty-five patients (15%) chose to be interviewed in Spanish. Of these, 27 were asked to complete a Spanish version of the SMAST.

Of the 300 patients interviewed, 258 were classified as nonalcoholic (Table 1). This group consisted of 158 patients with SMAST scores of less than 3, and 100 patients who denied ever drinking at least one drink per month. Forty-two patients (14%) were classified as alcoholic. These patients did not differ significantly from the nonalcoholic group with regard to mean age, marital status, or current employment. Alcoholics were significantly more likely to be male ($\chi^2 = 24.27$, $P < .0001$), unemployed ($\chi^2 = 7.05$, $P < .01$), and disabled ($\chi^2 = 10.73$, $P < .001$). The percentage of women selecting the housewife category for employment was not significantly different between alcoholic (16.7%) and nonalcoholic women (44.9%) ($P = .07$, Fisher's exact test).

Alcoholism prevalence varied with respect to the ethnicity and sex of the patients studied (Table 2). White men showed the highest alcoholism prevalence (33.3%), although this prevalence was not significantly greater than that among Mexican American men or white women. Alcoholism among Mexican American women (4.2%) was significantly less prevalent than among Mexican American men ($\chi^2 = 20.26$, $P < .001$). When compared with white women, the alcoholism rate among Mexican American women was not significantly different ($P = .07$, Fisher's exact test). The alcoholism prevalence

Table 2. Alcoholism in Study Subjects, by Ethnicity and Sex

| Ethnicity/Sex | Nonalcoholic | | Alcoholic 95% Confidence Interval (%) |
|-------------------|--------------|-----------|---|
| | No. (%) | No. (%) | |
| Mexican American* | | | |
| Male | 59 (75.6) | 19 (24.4) | (14.8–33.9) |
| Female | 136 (95.8) | 6 (4.2) | (0.9–7.5) |
| White | | | |
| Male | 16 (66.7) | 8 (33.3) | (14.5–52.2) |
| Female | 26 (86.7) | 4 (13.3) | (1.2–25.5) |
| Black | | | |
| Male | 7 (70.0) | 3 (30.0) | (16.0–58.4) |
| Female | 14 (87.5) | 2 (12.5) | (0.0–28.7) |

*P < .001, alcoholism prevalence among Mexican American women as compared with Mexican American men.

rates for black men and women were similar to those for white men and women; however, the total number of black patients in the study was too small for statistical comparison.

The number of alcoholic patients seen in the primary care clinic (12.4%) was compared with the number seen in the walk-in clinic (15.1%). While a higher percentage of alcoholic patients was identified in the walk-in clinic, this difference did not achieve statistical significance ($\chi^2 = 0.43$, $P = .51$).

Reported utilization of a variety of medical services during the 12 months before the interview differed for alcoholics and nonalcoholics (Table 3). Alcoholics reported significantly fewer visits to private physicians ($t = 2.77$, $P < .01$) and significantly more hospital admissions during the previous year ($t = 1.69$, $P < .05$). Use of the county indigent clinic and local emergency centers did not differ significantly.

Discussion

This study is the first to report the alcoholism prevalence rate for a Mexican American outpatient population (14.3%). The overall prevalence of alcoholism found among all clinic patients in this study was 14.0%, which

Table 3. Use of Medical Services by Alcoholic and Nonalcoholic Patients

| Type of Medical Service | Mean Number of Patient Visits over 12 Months | |
|-------------------------|--|---------------------|
| | Nonalcoholic (n=258) | Alcoholic (n=42) |
| Private practice | 0.9* | 0.3 |
| County clinic | 5.3 | 6.8 |
| Emergency centers | 0.3 | 0.4 |
| Hospital inpatient | 0.3† | 0.5 |

*P < .01.

†P < .05.

is comparable to that reported in two other studies using the SMAST in primary care outpatient clinics.^{15,23} Our intentional undersampling of Mexican American women, who were less likely to be alcoholic (4.2%) than any other population subgroup, may have somewhat over-represented the actual prevalence of alcoholism in our population. To correct for this selective undersampling, ethnicity and sex-specific rate calculations were employed, projecting our actual outpatient alcoholism prevalence to be 9.2% and the adjusted rate in Mexican Americans to be 9.3%. Nonetheless, the demographics of our sample population approximate those obtained in a previous study involving this clinic's total population,²⁴ suggesting that the effects of selective sampling may have been minimal. Our overall alcoholism prevalence is comparable to current estimates that alcohol abuse and dependence affect approximately 10% of adult Americans.²⁵

The prevalence of alcoholism among the Mexican American men in this study population did not differ significantly from that among other men. This finding is of interest in light of previous studies reporting significantly higher rates of heavy drinking and alcoholism among community samples of Hispanic men than among other ethnic groups.²⁶⁻²⁸ Differences in reported prevalence could reflect intracultural diversity between the Mexican American population of San Antonio and that of California, where most of the previous studies have taken place. Gilbert²⁹ reported more abstention and a lower rate of frequent heavy drinking by Mexican American men in Texas compared with those in California. Variations in actual drinking habits as well as in research measures and subject recruitment make comparisons across studies difficult.

The low prevalence of alcoholism observed in Mexican American women is consistent with the prevalence of 4.6% reported in a Los Angeles household population survey, which identified alcoholism in 8.4% of non-Hispanic white women.³⁰ In our population, 65.5% of Mexican American women abstained from alcohol consumption, compared with 47% of women reported by Caetano²⁶ in a 1984 national sample of various Hispanic groups, and 86.2% reported in a 1977 survey of Mexican American women in Brownsville, Texas.³¹ Again, the diversity of these findings most likely represents variation in drinking habits as well as use of different definitions and techniques by the researchers.

A higher prevalence of alcoholism was anticipated in the FHC walk-in setting because of the strong association between alcoholism and trauma^{12,32}; however, no significant difference was found. Although trauma can be an indicator of alcoholism, our data suggest that screening for alcoholism should be a routine part of care for

FHC patients without injuries presenting to either the continuity or the walk-in setting.

Studies estimating the economic cost of alcoholism in the United States have attributed the largest percentage of that cost to lost employment and reduced productivity (61%, or \$71 billion), whereas medical care costs accounted for a much lower portion (13%, or \$15 billion).² Productivity was clearly less among the alcoholic patients identified in this study, with significantly more alcoholic patients classifying themselves as either unemployed or disabled. Previous studies have reported that alcoholics are more frequent and costly users of health care services than nonalcoholics.^{4,5,7,33,34} In our study, alcoholics were significantly more likely to have been hospitalized during the previous year and significantly less likely to have presented to a private practice for care, where immediate payment or proof of health insurance coverage is usually required.

When analyzed in relation to patient ethnicity and sex, use of medical services by alcoholics did not reveal significant differences. Two epidemiologic studies have suggested a possible link between frequent heavy drinking and decreased health care utilization among Hispanics. Unpublished analysis of data from the 1974-1975 Health and Nutrition Examination Survey (HANES), presented by Neff at the 1985 annual meeting of the American Public Health Association, found decreased use of primary care services by Hispanics who were frequent heavy drinkers. In an analysis of 1982-1984 Hispanic HANES data, Marks and co-workers³⁵ suggested, but were unable to confirm, a negative correlation between heavy drinking and recent use of health services by Mexican American men. Further research is needed to clarify whether underuse of services contributes both to underdiagnosis of alcoholism in Mexican Americans and to diagnosis delayed until a later stage of disease.

An important pitfall of using race or ethnicity as a variable in medical research is the misleading implication that race, through a genetic reason, is a more important determinant of disease incidence, severity, or outcome than is class, lifestyle, or socioeconomic status.³⁶ Ethnic categorization of our patient population did not support ethnicity as a risk marker for alcohol use; however, employment status may be a useful indicator for alcoholism screening. Our study does confirm that the recognition of alcoholism among Mexican Americans, particularly men, is as important as the awareness of this disease in other ethnic groups. Recognition and treatment of alcoholism may be more effective when health care professionals are sensitive to the disease pattern and cultural context inherent in their particular patient population; however, ethnicity may not be a major determinant of disease.

With such high prevalence rates of alcoholism in patients presenting to ambulatory as well as inpatient medical settings, primary care physicians are often in an ideal position to diagnose the problem before alcohol-related trauma or severe complications occur. It is well known that intervention can be pivotal to the patient's outcome. Early diagnosis and treatment of alcoholic patients has been shown to decrease both the mortality and the cost of caring for these patients, resulting in savings directly benefiting the individual, health care institutions, and society.^{37,38} Programs that train health professionals should be aware that early diagnosis and intervention techniques are needed in both the scheduled appointment and walk-in clinic settings.

Health care institutions must ensure that all patients are adequately screened for alcoholism. Barriers to recognition and treatment of alcoholism include limited physician education and negative attitude, patient denial or resistance, and health care system constraints.³⁹ When caring for ethnic populations, such as that served by the FHC, special barriers may arise, since screening for alcoholism may rely on fluency in another language and the use of screening instruments that have not been validated in that population. These constraints may contribute to underdiagnosis or delayed diagnosis of alcoholism.

Limitations of this study include the relatively small sample size, the use of retrospective self-report measures for examining health care utilization patterns, and potential problems with using the SMAST, an instrument that has not yet been used extensively among Mexican Americans. While the validity of verbal report of substance abuse remains controversial, Babor and colleagues⁴⁰ argued in a recent review of the literature that self-report data are inherently neither valid nor invalid; rather, the accuracy of the data depends on the methodological features of the research design and respondent characteristics. Features of this study that were likely to have increased the accuracy of the results include using the SMAST, an instrument relatively unaffected by denial²⁰; having sober respondents, anonymous screening, and young, nonthreatening interviewers. The study sample was biased toward patients who made greater use of a primary care clinic; therefore, the study conclusions about health care utilization may only apply to patients in similar settings. Health care utilization might also have been affected by seasonal variations, as the entire study was conducted during the summer.

In summary, our study indicates that the prevalence of alcoholism among Mexican American men in an outpatient family practice setting may be no higher than that among men of other ethnic groups. Alcoholism among women occurred much less often than among men. Screening for alcoholism frequently identified alcoholic

patients in both the scheduled-appointment and the walk-in clinics. Alcoholics as a group reported more hospital admissions, adding to the cost of this disease. Efforts to characterize socioeconomic and cultural influences on alcoholism and health care utilization should be continued in order to improve the effectiveness of early diagnosis and intervention.

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