ALCOHOL ALERT

National Institute on Alcohol Abuse and Alcoholism No. 55 January 2002

Alcohol and Minorities: An Update

Patterns of alcohol use and its consequences vary widely among minority groups. Although more research is needed, evidence suggests that prevention and treatment efforts may be more effective when based on an understanding of the ethnic context of drinking behaviors and their development (1,2). This *Alcohol Alert* summarizes research on differences in alcohol use and problems, selected determinants of drinking, and the development of targeted prevention and treatment programs with respect to the four main minority groups in the United States: African Americans; Hispanics; Asian Americans and Pacific Islanders (AAPIs); and American Indians/Alaska Natives (AI/ANs). It is important to note that these categories include hundreds of distinct ethnic or racial populations which differ markedly in cultural characteristics and drinking behavior. Consequently, research does not support broad generalizations about specific subpopulations, many of which have not been studied individually (3).

Ethnic Differences in Drinking Patterns

Data from nationwide surveys of adults show that both current drinking (defined as consumption of 12 or more drinks in the past year) and heavy drinking[1] are most prevalent among AI/ANs (4) and Native Hawaiians (5) and lowest among AAPIs (4). Alcohol use is increasing significantly among Asian Americans, who constitute one of the fastest growing U.S. minority populations (6). Among adolescent minorities studied nationwide, African Americans show the lowest prevalence of lifetime, annual, monthly, daily, and heavy drinking, as well as the lowest frequency of being drunk (7). Hispanic adolescents have the highest annual prevalence of heavy drinking, followed by Whites (7). Among all age and ethnic groups, men are more likely to drink than are women, and to consume large quantities in a single sitting (7,4).

[1] Heavy drinking is defined as five drinks on a single day at least once a month for adults (4) and five drinks in a row at least once during the previous two weeks for adolescents (7).

Ethnicity and Alcohol Problems

Medical Consequences. Research on alcohol's health effects on minority groups has concentrated largely on cirrhosis, a progressive and often fatal liver disease usually attributable to long-term heavy drinking. Analysis shows a strong correlation between death rates from liver cirrhosis, regardless of cause, and drinking levels nationwide (8). Consistent with this association, deaths from chronic liver disease and cirrhosis are about 4 times more prevalent among AI/ANs than among the general US population (3). However Hispanics are approximately twice as likely as Whites to die from cirrhosis (8), despite a lower prevalence of drinking and heavy drinking (9). The reason for this discrepancy is unclear. Evidence exists that Hispanics tend to consume alcohol in higher quantities per drinking occasion than do Whites, resulting in a higher cumulative dose of alcohol (9). In addition, Hispanics have a higher prevalence than do Whites of hepatitis C,

a serious infectious liver disease that greatly increases the risk for liver damage in heavy drinkers (10).

Social Consequences. According to data from a nationwide survey, the prevalences of drinking and driving in the past year were 19 percent among AI/ANs, 11 percent for both Whites and Hispanics, 7 percent for African Americans, and less than 6 percent for AAPIs (4). Alcohol-related fatal crashes are 3 times more prevalent among AI/ANs than among the general population (3), constituting 1 of the 10 leading causes of death among AI/ANs, along with alcohol-related suicide, homicide, and cirrhosis (11).

Contributors to Ethnic Differences

Social Factors. The availability of alcohol, as measured in terms of the geographic density of alcohol sales outlets, has been linked to patterns of alcohol-related traffic crashes in communities (12). Studies have shown that greater densities of liquor stores are found in segregated minority neighborhoods (13). However, the apparent association between minority status and alcohol problems in some areas may reflect the disproportionate concentration of alcohol outlets in low-income communities (12) rather than ethnicity per se.

Another factor contributing to minority drinking patterns is acculturation, the partial or complete adoption of the beliefs and values of the prevailing social system. Through acculturation, the original drinking pattern of an ethnic group tends to change to resemble more closely that of the overall population. However, acculturation also is influenced by gender, religious beliefs, family traditions, personal expectations, and country of origin (14). Some researchers have advanced the concept of "acculturation stress," whereby drinking increases in response to the conflict between traditional values and beliefs and those of the mainstream culture. Conversely, others have pointed out that many people, especially youth, learn to draw on support and resources from both cultures for protection against alcohol problems (5).

Biological Factors. People vary in their vulnerability to the effects of alcohol. Some of these differences result from genetically determined variations in the body's ability to break down (i.e., metabolize) and eliminate alcohol (15). For example, after drinking, many Asian subpopulations experience flushing of the skin, nausea, headache, and other uncomfortable symptoms. Those symptoms result primarily from inactivity of aldehyde dehydrogenase-2 (ALDH2), an enzyme involved in a key step of alcohol metabolism (16). A study of Asian males born in Canada and the United States found that those who had inherited the gene for the less active form of this enzyme drank two-thirds less alcohol, had one-third the rate of binge drinking (i.e., consumption of more than 5 drinks per day), and were three times more likely to be abstainers than a group of Asian males who possessed the more active enzyme (17). However, some people develop alcohol problems despite possessing the inactive form of ALDH2, demonstrating the importance of additional factors in the development of drinking patterns and consequences (17).

Among some African Americans, genetically determined variability in another alcohol-metabolizing enzyme, alcohol dehydrogenase-2, appears to affect the degree of vulnerability to alcoholic cirrhosis and alcohol-related fetal damage (15).

Prevention

Some alcohol prevention programs that have demonstrated success in the general population have been modified to be more culturally relevant for specific ethnic groups. The following two programs have been scientifically evaluated to compare the effectiveness of the culturally sensitive version with that of the generalized version for the populations in question.

School-Based Prevention. The school-based Life Skills Training (LST) program was designed to help adolescents cope with social influences that encourage use of alcohol and other drugs (AODs). Researchers compared the standard LST program with a modified version based on both the traditional and current cultural heritages of African American and Hispanic inner-city youth (1). Data collected two years after program initiation indicated that participation in either program produced significant decreases in measures of alcohol consumption. However, the culturally focused approach produced significantly greater improvement than did the generalized LST approach (1).

Family Based Prevention. Since its inception as a generic program for White and multiethnic children of alcohol- or other drug-abusing parents, the Strengthening Families Program (SFP) has been modified for use with specific ethnic populations. The modified program generally has been found effective in reducing family problems and alcohol use among rural and urban African Americans and to a lesser extent with urban Hispanics (2). Among Native Hawaiians, however, comparison of the generic SFP with a culturally modified format produced inconclusive results (2).

Alcohol Availability. The high density of alcohol outlets in minority neighborhoods is noted above. However, the effect of limiting alcohol availability to reduce drinking problems among specific minority groups is not known. An exception to this situation is found among Alaska Natives, where geographic isolation and diversity of local alcohol control policies have combined to enable controlled research on naturally occurring experiments.

Studies of local alcohol control laws in remote Alaska Native communities have shown that prohibiting the sale, importation, and possession of alcohol by adults as well as by adolescents (i.e., dry communities) is associated with total (18) and alcohol-involved (19) injury-related death rates and alcohol-related outpatient visits (20). In contrast, a study of American Indian reservations in the northwestern United States suggests that alcohol-related deaths may be reduced more effectively by restricting the sale and use of alcoholic beverages rather than by prohibiting them (19). This conclusion is supported by results of a study that mapped the locations of alcohol-related deaths in a "dry" Navajo reservation in New Mexico. Most such deaths occurred among intoxicated pedestrians along roads leading to border towns, suggesting that those residents were returning from places outside the reservation where they had gone to obtain alcohol (21).

Treatment

The Community Reinforcement Approach is a highly flexible treatment intervention that can be adapted to ethnic or cultural minorities through cooperation with family and community networks. The program has experienced some initial success in treating alcoholic members of a Navajo subpopulation in New Mexico who had not responded to previous alcoholism treatment approaches. An integral part of the program was the inclusion of American Indian spiritual traditions to encourage abstinence (22). However, no randomized, controlled studies have been performed to prove that incorporating traditional cultural and spiritual beliefs and practices would enhance treatment in other AI/AN cultures (3). In particular, the growing urban AI/AN population tends to be highly acculturated with little or no knowledge of reservation or native village cultural traditions (23).

Alcohol and Minorities-
A Commentary by NIAAA Director Enoch Gordis, M.D.

In the previous *Alert* on this topic, I noted that the increasing number of studies of alcohol problems among minorities had produced important findings and important new questions to answer. This continues to be the case. For example, we know that Hispanic males have the highest rates of cirrhosis mortality among all groups, but we do not know why. We have begun to

identify biological mechanisms that may increase vulnerability to alcohol-related fetal damage in some African Americans. More complete knowledge of these mechanisms brings new hope for pharmacotherapy to aid the already indispensable prevention methods in reducing risk. Finally, although we have begun to look at the effects of society and culture on alcohol problems among US minority groups, the heterogeneity of such groups presents a future research challenge and opportunity.

A Personal Note

As many readers know, I retired as Director of the National Institute on Alcohol Abuse and Alcoholism (NIAAA) as of December 31, 2001. I would like to take this opportunity to thank the scientists and NIAAA staff who have worked on putting together the *Alcohol Alert* since its inception in 1988 and the many counselors, policymakers, and interested members of the public who read and use the information in the *Alerts*.

As a personal observation, the alcohol field has changed tremendously since I entered it in the 1960s. My predecessors as NIAAA Director and I have been gratified to see the field's growth over the years into the well-respected, science-based field of medicine that it is today. We have made much progress, but as long as alcohol remains the number one drug of abuse in our Nation with such heavy personal, social, and economic costs, we have much to do. I believe we are up to the challenge, and I wish each and every one of you success in the coming years.

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