orders in three communities. Arch Gen Psychiatry 41: 959–970 (1984).
4. American Psychiatric Association, Task Force on Nomenclature and Statistics: Diagnostic and statistical manual of mental disorders. American Psychiatric Association, Ed. 3, Washington, DC, 1980.
5. Folstein, M.D., Folstein, S.E., and McHugh, P.R.: Mini-mental state: a practical method for grading the cognitive state of patients for the clinician. J Psychiatry Res 12: 189–198 (1975).
6. Blazer, D., and Williams, C.D.: Epidemiology of dysphoria and depression in an elderly population. Am J Psychiatry 137: 439–444 (1980).
7. Klerman, G.L., et al: Birth-cohort trends in rates of major depressive disorder among relatives of patients with affective disorder. Arch Gen Psychiatry 42: 689–693 (1985).
8. Blazer, D.G., Bachar, J.R., and Manton, K.R.: Suicide in late life—review and commentary. J Am Geriatr Soc 34: 519–525 (1986).
9. Klerman, G.L.: Problems in the definition and diagnosis of depression in the elderly. *In* Depression and aging: causes, care and consequences, edited by L.D. Breslau and M. R. Haug. Springer Publishing Co., New York, 1983.
10. Holland, J.C., et al: Comparative psychological disturbance in patients with pancreatic and gastric cancer. Am J Psychiatry 143: 982–986 (1986).
11. Mayeux, R., et al: Depression and Parkinson's disease. Adv Neurol 40: 241–250, (1984).
12. Wells, C.E.: Pseudomentia. Am J Psychiatry 136: 895–900 (1979).
13. Folstein, M.F., and McHugh, P.R.: Dementia syndrome of depression. *In* Alzheimer's disease, edited by R. Katzman, R.D. Terry, and K.L. Bick. Raven Press, New York, 1978.
14. Kahn, R.L., et al: Memory complaint and impairment in the aged. Arch Gen Psychiatry 32: 1569–1573 (1975).
15. Carroll, B.J., et al: A specific laboratory test for the diagnosis of melancholia. Arch Gen Psychiatry 38: 15–22 (1981).
16. McKeith, I.G.: Clinical use of the DST in a psychogeriatric population. Br J Psychiatry 145: 389–393 (1984).
17. Wurtman, R.J.: Alzheimer's disease. Sci Am 253: 62–74, November 1985.
18. Heston, L.L., et al: Dementia of the Alzheimer's type: clinical genetics, natural history and associated conditions. Arch Gen Psychiatry 38: 1085–1090 (1981).
19. Coyle, J.T., Price, D.L., and DeLong, M.R.: Alzheimer's disease: a disorder of cortical cholinergic innervation. Science 219: 1184–1190 (1983).
20. Mohs, R.C., et al: Oral physostigmine treatment of patients with Alzheimer's disease. Am J Psychiatry 142: 28–33 (1985).
21. Liptzin, B.: Dementia—a treatable syndrome? South Med J 74: 1213–1216 (1981).
22. Larson, E.B., et al: Dementia in elderly outpatients: a prospective study. Ann Intern Med 100: 417–423 (1984).

Women's Health: Issues in Mental Health, Alcoholism, and Substance Abuse

Alcoholism and Women's Health

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Synopsis

There are a variety of reasons why women are believed to be more susceptible than men to the effects of alcohol. Physical factors, such as body water content and hereditary predisposition to alcoholism, differentiate women from men. Social factors include secretive drinking, role model in the family, and a perceived increase in promiscuity. Societal stigmas make it difficult for alcoholic women to seek help, yet the mortality rates are high for those women who continue to drink.

In ancient Rome, the use of alcohol by women was forbidden. Women were put to death by stoning or starvation for the offense of having been caught drinking. Perhaps the most interesting thing about Roman law was that the prohibition on women's drinking was written in the same sentence as the prohibition on adultery by women. There has been an association in the Western mind between women who drink to excess and women who are sexually dangerous, lascivious, or promiscuous, a term which seems to be applied mainly to women and perhaps to men only to describe homosexual activities.

There has always been interest in women and alcohol. In 1798, Emmanuel Kant, the German philospher, wrote about alcoholism in women, which he compared to alcoholism in Jews. Both groups, he

said, had fewer drinking problems than Christian males. He attributed this to the fact that both of these groups owed their special place in society to being, at least in theory, responsible to a higher code of conduct than those about them. Therefore, intoxication would be a scandal and was not acceptable for them.

Interest in this problem has not been manifested in research, treatment, and prevention programs for women alcoholics, but rather in stigmatization of the alcoholic woman, who bears a triple stigma. There is first the stigma that is attached to every alcoholic, borne by men and women alike. There is, secondly, the stigma that attaches particularly to women, who are held, as Kant said, to a higher standard. If you doubt the double standard, consider the example of the expression, "drunk as a lord", a rather cheerful description. But "drunk as a lady" carries an entirely different meaning. Finally, perhaps the most destructive of all, is that stigma of promiscuity or lasciviousness. This is not only accepted by society at large, but by the alcoholic woman, herself, who, filled with self-loathing, tends to become the hidden alcoholic.

Yet the research evidence we have might confound this stigma. An interesting recent study, funded by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) was conducted by Sharon Wilsnack and her colleagues at the University of North Dakota *(1)*. They sampled nearly 1,000 women nationwide, oversampling the heaviest drinking 20 percent, and they compared the group to 500 males. Questions were asked not only about drinking patterns and problems, but also about sexuality and the relationships between sexuality and drinking. The women answered the following question: Have any of the following ever happened to you?

First, the stigma question: "You became less particular in your choice of sexual partner when you had been drinking." An astounding 8 percent answered yes (4 percent of the lightest drinkers, 11 percent of the moderate drinkers, 12 percent of the heavy drinkers).

On the other hand: "Someone who was drinking became sexually aggressive toward you." This question received a 60 percent positive response, about the same percentage for all types of drinkers.

So it is not the woman who drinks who is the sexual aggressor. She is more likely to be the victim. That is, in fact, what is seen in the real world.

In recent years a more constructive interest in women and alcohol has developed. Much of this change can be attributed to the women's movement, which stimulated interest in women's problems, including alcoholism. Scientists and clinicians began to look at earlier research studies and found that, as in so many other fields, the studies had been done on men. Those who have studied the physiology textbooks have seen curves of blood alcohol content over time—a single dose of alcohol is administered at time zero and the blood alcohol rises and falls in a predictable way. Those curves were plotted using men, and not until the mid-1970s was it discovered that the curves were different for women. Charts and tables are available that allow one to calculate blood alcohol. The calculations consider the number of drinks, body weight, and time elapsed, and can determine when it is safe for an individual to drive. But the tables apply to men, and they are not equally applicable to women.

One reason is that body water content differs between men and women. When alcohol is consumed, it is distributed in total body water, and even for the same weight, men have a higher water content than women. Hence, if you give a woman an equivalent does of alcohol per pound of body weight, it will be mixed in less water and she will have a higher peak blood alcohol level. But that is not the only difference. It was also discovered that the same women, given the same does of alcohol, under standard conditions, day after day, would have variable blood alcohol peak values. These variations partly correlated with the menstrual cycle, but not well enough to make them predictable. The basis for the variation is still unexplained. It is clear, however, that women drink less than men. That is true of social drinkers and it is also true of alcoholic women. This is an important fact: Women drink less than men.

A clinician who diagnoses alcoholism based only on how much a person drinks might miss many alcoholic women. For example, a study by the Rand Corporation in 1976 *(2)* surveyed women entering federally funded treatment programs. These women reported drinking only slightly more than half as much as men (4.5 oz of absolute alcohol per day in the 30 days before admission compared with 8.2 oz per day for men), although their symptom levels were equivalent to the male patients. In addition, alcoholic women are twice as likely to combine their alcohol dependence with dependence on a sedative drug. Women who come in appropriately for alcoholism treatment often do not drink huge amounts of alcohol. An alcoholic may be thought of as someone who takes a morning drink. For a woman it is often a morning Valium, a morning tranquilizer, or a morning sedative. She may not use any alcohol until evening.

'Women alcoholics start drinking and begin their pathological drinking patterns later than men, but they come into treatment at the same age and with about the same problem severity.'

To diagnose alcoholism, one must consider the effects of drinking on a woman's psychology, health, and functioning, and not only the quantity of intake.

There are many other differences between men and women in the effects of alcohol, such as differences in the biology, psychology, sociology, and patterns of alcohol problems. The latest data available on hereditary predisposition to alcohol problems, which come from adoption studies done in Sweden, seem to show that hereditary transmission patterns of alcohol problems differ between men and women (*3*). One form of transmission seems to be a male-only pattern. The biological fathers of the adopted-away sons in the study had severe alcohol problems and criminal records. The sons of these fathers, although adopted-away early in life, had nine times the incidence of alcohol problems of the male adoptee comparison group. The biological mothers and the daughters of these same fathers did not have an increase in alcohol problems. This pattern shows a very strong hereditary influence.

On the other hand, a second type of inheritance, observed in both men and women adoptees, combines both hereditary and environmental factors. This predisposition is passed through the biological father, or mother, or both, and it increases the risk for alcohol problems by a factor of two to three. This is a new finding which needs replication and further study.

Much of the research now being done with children of alcoholic parents, looking for biological markers for this hereditary predisposition, uses male subjects. Thus, we will not know how applicable the findings are to the daughters of alcoholic parents without further work.

Findings about alcohol and psychology differ for men and women. What little we know about the psychological antecedents of alcohol problems of women in longitudinal studies shows very different predisposing factors. For example, a 28-year follow-up of college drinkers studied in the 1950s showed that the women who were most likely to have drinking problems in adulthood were the women who drank to feel better in college (*4*). They were not the women whose drinking problems had already been identified, but were the women who drank to feel more adequate, to increase their self-esteem, and to feel better on dates. This was in contrast to the males, who had different antecedents.

The sociology of drinking is also different. Men and women drink differently. This is true in every culture and subculture in this country. Men, for example, drink in all-male groups or in mixed male and female groups. Women tend to drink primarily in mixed groups.

There is reason to believe that the beverage industry has targeted women as a "growth market", perhaps because they drink less than men. The industry may feel that the male market is saturated in this country. Years ago, the alcoholic beverage ads seldom showed women. Now we see well-dressed, beautifully groomed women drinking together. This is not the predominant custom in this country, but just as those who treat alcoholism are trying to develop the custom of a designated driver at the drinking function, the industry may be trying to encourage the custom of women drinking with other women.

There are also differences in alcohol problems between the sexes. The study by Sharon Wilsnack and her group has provided new data about who is most at risk for alcohol problems in the female population (*5*).

The group of highest risk varies with age. Behavior that is sensitive to changes in society, such as drinking and drug use, must be considered in an age-related way. The highest rate of alcohol problems overall was in the youngest women in the survey, ages 21 to 34 years. Wilsnack characterized the highest-risk women in this group as "roleless" or women without a role. These were women who had never married and who were employed part-time or were unemployed. In the age group 35 to 49 years, the women at highest risk were characterized as the "lost role" group. These women were either divorced or separated. If they had children, the children were not living at home. In the age group 50 to 64 years, "role entrapment" characterized the highest risk group. These were women who were married, who had no children living at home, and who were not employed outside the home. This may be what has been referred to as the "empty nest."

When we look at alcohol problems in women, we must not only consider age, but also cohort, because there is evidence now that the cohort of women that was born since the mid-1950s, women who are now in their 20s, are a genuinely heavier-drinking cohort than women born earlier were at the same ages.

They may well produce for us a generation with greater alcohol problems than we have seen before.

What do alcohol problems look like in women? Women alcoholics start drinking and begin their pathological drinking patterns later than men, but they come into treatment at the same age and with about the same problem severity. Thus we talk about a "telescoped" course of the disease; once it starts, alcoholism progresses faster and more severely, and there is some evidence to indicate that such physical complications as cirrhosis of the liver develop more rapidly and at lower intakes of alcohol in women than in men.

Women alcoholics are more likely to relate the onset of pathological drinking patterns to life events—divorce, childbirth, or a change in job or location. It would be an error to consider these statements to be rationalizations. They are observations, and they are very useful in treatment.

Women are less often binge drinkers than men, and they are more often solitary drinkers. If there is any one trait that characterizes the woman alcoholic, it is the solitary, hidden nature of her drinking. She drinks in the bedroom or in the kitchen and, since she is likely to be divorced or separated, the only people who may know about her drinking may be minor children who are not in a position to intervene.

Compared with the male alcoholic, she is more likely to attempt suicide and less likely to be successful at it, as is true for women in general. She will report more symptoms of anxiety and depression and lower self-esteem and she is twice as likely to be dependent on prescription drugs along with her alcohol dependence.

Finally, women have the special problem of fetal alcohol syndrome (FAS) and fetal alcohol effects. FAS is now considered one of the three leading causes of birth defects associated with mental retardation (others being Down's syndrome and spina bifida). Of those three, only FAS is completely preventable, were the effort made.

That statement leads to perhaps the most important point of public policy—were the effort made. Estimates of how many alcoholic women there are in this country are poor. There have been various national surveys of drinking problems and, depending on how the numbers are counted and categorized, the ratio of men to women with alcohol problems is between 2 and 3 to 1. But national data on treatment show that women in treatment nationally are outnumbered 4 to 1 by men. Why is that so? Why these hidden alcoholics? Why is the effective treatment now available not being applied adequately to women? There are a few possible answers. First, there are three established structured intervention models that are effectively in place in this country: employee assistance programs on the job, drinking driver rehabilitation programs through the courts, and public intoxicant programs, which have substituted treatment for incarceration. What do these three have in common? They are all predominantly male-oriented programs. The male to female ratio is about 9 to 1 among drinking drivers, and is similar among those in public intoxicant programs. In general, employee assistance programs have been more effective in identifying alcoholism in males than females.

If we want to reach out to women, where do we look? Studies that have asked women in treatment how they got there and compared their answers to those of men have found that men identify the top two initial motivators as trouble on the job and trouble with the law. This reflects the structured programs mentioned previously. For women, the most common answers are problems with health and trouble with family. So we find women in doctor's offices, hospitals, and health clinics. They are patients in obstetric practices and gynecologic clinics. They are in family and social service agencies. They are in lawyers' offices. Divorce lawyers could be good casefinders if they would allow themselves to do so.

But sufficient effort is not being made in an organized way at this moment. What is the prognosis? The best recent study available is by Dr. Elizabeth Smith and colleagues at the Washington University in St. Louis (*6*). She followed 103 alcoholic women who had been treated in two hospitals in St. Louis, over an 11-year period, and compared them with 69 women treated for depression in the same hospitals. After 11 years, 31 percent of the alcoholic women had died. They had a mortality rate 4.5 times the expected and lost an average of 15 years from expected lifespan. Half of them died from violence or cirrhosis or by suicide. The good news is that those who attained abstinence had a normal lifespan. The opportunity is clear.

Additional information on this subject can be found in "Women and Alcohol," Research Monograph 16, NIAAA, Rockville, MD 20857.

References

1. Klassen, A.D., and Wilsnack, S.C.: Sexual experience and drinking among women in a U.S. national survey. Arch Sexual Behav. 15:363-392, October 1986.
2. Armore, D.J., Polich, J.M., and Stambul, H.B.: Alcoholism and treatment. Wiley and Sons, New York, 1978.
3. Cloninger, C.R., et al.: The effects of changes in alcohol use between generations on the inheritance of alcohol abuse. *In*

Alcoholism: medical disorder, edited by R. Rose. Raven Press, New York. In press; 1986.
4. Fillmore, K.M., Bacon, S.D., and Hyman, M.: The 27 year longitudinal panel study of drinking by students in college. Final report to NIAAA, contract ADM 281-76-0015, Washington, DC, 1979.
5. Wilsnack, R.W., and Cheloha, R.: Women's roles and problem drinking across the lifespan. Presented at the 35th Annual Meeting of the Society for the Study of Social Problems, Washington, DC, August 1985.
6. Smith, E.M., Cloninger, C.R., and Braderd, S.: Predictors of mortality in alcoholic women: prospective follow-up study. Alcohol Clin Exp Res, 7: 237-243 (1983).

Women's Health: Issues in Mental Health, Alcoholism, and Substance Abuse

Substance Abuse and Women's Health

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Synopsis

The prevalence of illicit drug use is higher among men than women, but new drug use occurs at twice the rate for females as for males. Recent data from emergency rooms and medical examiners support this pattern, but females were more likely than males to report use of tranquilizers, antidepressants, and some nonbarbiturate sedatives. Recent data show that men outnumbered women in drug treatment admissions for all drugs except tranquilizers. However, the 1984 National Institute of Mental Health Epidemiologic Catchment Area Survey shows drug abuse and dependence to be the second most commonly reported disorder for women.

Smoking is the most common form of drug dependence in our society, and it has a major impact on women's health. Lung cancer is now the leading cause of cancer deaths among women. Smoking poses a special risk of coronary heart disease for women using oral contraceptives. The incidence of emphysema among women has also risen sharply. Smoking during pregnancy carries special, serious risks.

Research strongly suggests that the use of marijuana during pregnancy carries significant risks, including low birth weights and fetal abnormalities. Opiate addiction among women is uncommon, but it carries disproportionate health risks for these women and their offspring; infants born of addicted mothers have much higher morbidity and mortality rates than infants in general. Acquired immune deficiency syndrome is a grave risk to women using intravenous drugs and to their children. There are a number of health problems associated with psychoactive drug use among elderly women.

In addition to research, the National Institute on Drug Abuse has focused a number of its activities on the special problems and needs of women. The Institute is collaborating with the health care community to place increased emphasis on prevention and treatment services for women and is working with organizations in the public and private sector to ensure that current information about drug use is effectively disseminated.

THE SUBJECT OF SUBSTANCE abuse among women deserves our attention. In fact, it is one of the most significant health issues facing both men and women today. The National Institute on Drug Abuse (NIDA) is eager to share its knowledge about the problem and to learn from other sources as well.

Since NIDA was established in 1974, it has focused on a number of issues related to women and drug abuse. Those issues have changed over the years, but the interest has remained strong. Current authorizing legislation clearly states that NIDA must increase its efforts on drug abuse research and services relating to women. Every effort is being made to do that, given Federal budgetary restraints. There is a great deal more to do in this area, for NIDA and many other organizations.